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ABSTRACT

Gender Norms, Stereotypical Beliefs, and Competitiveness*

Using an online experiment with 5,762 US participants, we investigate whether individuals who seek competition face inaccurate perceptions of their behaviors and personality and whether women are held to different standards than men. We find that evaluators perceive competitive women as less social, more career-oriented, and less (stereotypically) feminine and more (stereotypically) masculine than they actually are or state to be. However, competitive men face similarly inaccurate beliefs and hence belief accuracy does not differ for men and women. Nevertheless, our findings point to social penalties that competitive women may experience - not for seeking competition itself (which is socially accepted), but because the behaviors associated with seeking competition violate gender-specific norms. Meanwhile, men encounter a double-edged sword: while seeking competition earns them esteem, both, behaviors associated with seeking and avoiding competition can lead to social penalties.

JEL Classification: J16, D90, C90, D83
Keywords: gender, competitiveness, beliefs, stereotypes, norms

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1 Introduction

People who are more competitive select more challenging study majors, enter more high-paying occupations, and are more likely to hold leadership positions.[1] Although fewer women than men still opt into competitive environments, it is now widely accepted in many societies for women to do so – and in turn, to assume leadership positions. This shift is especially important, as evolving gender norms are major contributors towards closing gender gaps in labor market outcomes (Fields and Schuman, 1976; Fernandez, 2007; Fernández, 2013). For example, a majority of US Americans believe that women are just as capable as men in leading political institutions and businesses, and that there are too few women in such leadership roles (Pew Research Center, 2015; 2023). Similarly, in a UK-based survey we conducted, the vast majority of participants agreed that women should behave competitively in the workplace – and believed that others shared this view.[2] But even though it is accepted that women behave competitively, women who do so still often face criticism for violating traditional gender norms. Long-standing findings in social psychology highlight that women displaying traits traditionally associated with men face social penalties (e.g., Rudman and Glick, 1999, 2001) and that a narrower range of behaviors is socially acceptable for women than for men (e.g., Carli, 1990; Rudman and Glick, 1999). Prominent examples of such critiques are female political leaders like Hillary Clinton, Theresa May, and Angela Merkel, who have been labeled "unfeminine".

The aim of this study is to investigate two interrelated questions to shed light on gender biases in the evaluation of competitive individuals. Our first research question is whether individuals who seek competition – both men and women – face inaccurate perceptions regarding their behaviors and personalities, and whether these perceptions differ by gender – contributing to the recent research agenda that investigates believed gender differences in attributes and behaviors (see, e.g., Exley and Nielsen, 2024; Exley et al., 2025). Identifying such differences is a first step toward understanding whether competitive women may face social penalties, in the form of, for example, unjustified and systematic criticism. Further, on a broader level, understanding inaccurate beliefs and stereotypes is important because they may contribute to unequal labor market outcomes and discrimination of women (for an overview, see, e.g., Mengel, 2024). However, women may face social penalties even in the absence of gender differences in belief accuracy. For example, if both men and women who seek competition are (incorrectly) perceived to be assertive, one might assume they face

[1] Niederle and Vesterlund (2007) found that men are more likely to select into competition than women. A growing follow-up literature documents and discusses the consequences of women shying away from competition for education and career choices and resulting labor market outcomes such as the gender wage gap (for a survey see Lozano et al., 2022). Competitiveness predicts education outcomes (Buser et al., 2014, 2017, 2024; Almås et al., 2016), occupation choices (Buser et al., 2022), earnings expectations (Reuben et al., 2017), and income (Reuben et al., 2019; Buser et al., 2024).

[2] See Appendix A.1 for details. Similarly, Buser et al. (2021) and Haeckl et al. (2023) also find no gender-specific norm against seeking competition.

similar consequences. Yet, if societal norms dictate that women should be submissive and gentle, the penalties for (inaccurate beliefs about) assertiveness may be disproportionately more severe for women. Thus, our second research question is whether women are held to different standards than men, so that women who seek competition are perceived to violate gender-specific norms.

To address these research questions, we conduct an online experiment with 5,762 participants from the US. In the *Behavior Study*, participants first decide whether they want to seek or avoid competition – building on the design of Niederle and Vesterlund (2007). Thereafter, participants make a range of incentivized decisions in economic games related to social preferences, answer questions about how they navigate trade-offs between career opportunities and personal or work relationships, and make statements about their personal characteristics, including both stereotypically female and male traits. In the *Belief Studies*, we elicit the beliefs of evaluators about the decisions and characteristics of men and women in the *Behavior Study*, asking about both individuals who seek competition and individuals who avoid competition. Finally, in the *Norms Studies*, we elicit, using the method of Bicchieri and Xiao (2009), the second-order beliefs of evaluators about the social appropriateness of each of the decisions in the *Behavior Study* and the desirability of each of the personal characteristics for men and for women. The elicitation of beliefs and norms is incentivized.

To address our first research question, we investigate the extent to which the beliefs that evaluators hold about the behaviors and stated personal characteristics of women and men who seek competition deviate from their actual behaviors and self-reported personal characteristics, and whether there is a gender gap in belief accuracy. We observe that beliefs are inaccurate. Evaluators believe that women who seek competition are less social, more career-oriented, less (stereotypically) 'feminine' and more (stereotypically) 'masculine' than they actually are or state to be. Yet, evaluators hold similarly inaccurate beliefs about men – with the exception of the male personal characteristics for which evaluators falsely believe that there is no gender gap.

Similar patterns for gender differences in belief accuracy arise in the evaluation of individuals who avoid competition. However, evaluators perceive individuals who avoid competition as more social, less career-oriented, more feminine and less masculine than individuals who seek competition. Overall, the belief inaccuracies about individuals who avoid competition are smaller than the belief inaccuracies about individuals who seek competition.

Considering the social norms regarding behaviors and desirable personal characteristics, we find – as expected – a universal norm that non-social behavior in the economic games is stigmatized for both genders. Otherwise, our data reveal that norms are gender-specific. Women are held to tougher standards when it comes to appearing feminine and to prioritizing relationships over career choices; men are held to tougher standards when it comes to appearing masculine.

Combing these findings with the insights from above, namely that seeking competition is, in comparison to avoiding competition, more often associated with non-social behaviors, with

prioritizing the career, and with exhibiting masculine rather than feminine traits, our results suggest that the behaviors and traits associated with individuals who seek competition can violate norms. While the norm violation arises for both genders, it is greater for women than for men. As a consequence, inaccurate beliefs, while similar for men and women, may asymmetrically affect competitive women compared to competitive men. As a result, competitive women are more likely to face social penalties based on the behaviors and traits associated with competitive individuals.

Consequently, the observation that both, seeking and avoiding competition, is socially appropriate for women (i.e., no strong norm exists for this behavior in itself) may mask the social penalties that women may still face for being competitive – also in more gender equal societies. Hence, norms of competitiveness may be rather shallow norms for women.

For men the picture looks different, and is nuanced – possibly reflecting evolving gender norms for men (for a discussion, see, e.g., Valsecchi et al., 2023; Horowitz and Parker, 2024). Unlike women, who face somewhat consistent gender norms that may penalize behaviors associated with competitiveness, men face norms where both seeking competition and avoiding competition come with trade-offs. Seeking competition is a norm for men, as it is viewed as more socially appropriate than avoiding competition. Yet, at the same time, men have to balance both stereotypically male and female characteristics ("be a gentle and assertive leader"). Hence, men who seek competition are perceived as conforming to traditional masculinity norms but risk being seen as overly career-focused and lacking communal (female) traits – though norms related to the latter two are weaker for men than for women. When men avoid competition, they face the opposite trade-offs.

Finally, once we aggregate our results to the gender level using the beliefs about the shares of competitive individuals, a gender gap in belief accuracy emerges – in line with Exley et al. (2025) who document a gender gap in belief accuracy related to social preferences in a similar setting as ours. Our results offer a new perspective on their finding. The gender gap in belief accuracy arises even though people correctly catch gender gaps for subgroups; what evaluators get wrong is group membership – for example because representative, or stereotypical, types are at the top of their mind and hence overweighted (Bordalo et al., 2016). Specifically, in our case, a key driver of the gender gap in belief accuracy is that men are believed to be much more competition seeking than women, i.e., the gap arises because of another gender gap in belief accuracy, which is about the share of people seeking competition.

Related literature In one of the most influential lab experiments of the last two decades, Niederle and Vesterlund (2007) found that men are more likely to select into competition than women. Numerous studies replicated a gender gap in the willingness to compete (for surveys see Croson and Gneezy, 2009; Niederle and Vesterlund, 2011; Dariel et al., 2017). Recent studies suggest that the gap can be explained by women being less confident and more risk averse than men, once measurement error is properly accounted for (Gillen et al.,

2019; Van Veldhuizen, 2022).

Competitiveness relates to a range of characteristics. Relevant for our context is the observation that measures of competitiveness relate to motivations such as enjoyment of competition and a desire to win (Buser and Oosterbeek, 2023); and to social preferences (Teyssier, 2008; Bartling et al., 2009; Dohmen and Falk, 2011; Balafoutas et al., 2012) reflected by a tendency for more social individuals to be less likely to choose competitive reward schemes. Zhang et al. (2024) observe that assigned social roles affect the willingness to compete and can make the gender gap disappear.

A growing follow-up literature documents and discusses the consequences of women shying away from competition for education and career choices and resulting labor market outcomes such as the gender wage gap (see Footnote 1). Yet, less is known about the consequences of selecting into competition (as reflected by a person's CV, for example) for how an employee is evaluated and whether there are gender differences in the implications that the evaluation has. Reuben and Stüber (2024) examine the beliefs that evaluators hold about the productivity of men and women who seek competition compared to those who avoid competition. They observe a gender gap in posterior beliefs (but not in actual performance or prior beliefs). Specifically, evaluators believe that the performance difference between individuals who seek vs avoid competition is larger for men than for women, and that men who seek competition perform better than women who seek competition. In Heinz et al. (2016), employers take more in a dictator game from women who avoid competition than from men who do so. No such effect arises for men and women who seek competition or when participants are randomly assigned to the competitive payment scheme. Haeckl et al. (2023) observe that impartial spectators distribute less to unsuccessful men than to unsuccessful women in less competitive environments – a finding that relates to the belief that men provide less effort and that is also consistent with the observations of Cappelen et al. (2023).

A contribution of our study is to connect the beliefs that people form about competition-seeking individuals with norms regarding the behaviors and traits associated with seeking competition, showing that these may violate gender-specific norms. In doing so, it relates to the literature on gender norms. Gender norms guide the decisions of men and women, such as labor supply, education choices, fertility decisions, or upbringing of children and may contribute to gender gaps (for overviews of how gender norms are shaped and how they shape decisions or restrain women, see, e.g., Giuliano, 2020; Jayachandran, 2020; Lundberg, 2024); and gender norms may also create a double bind for women and in doing so hinder careers in, for example, politics (see, e.g., Teele et al., 2018). Bursztyn et al. (2017) observe that single female students "act wife" when their choices are observable in that they less often take actions that could advance their careers, but at the same time let them appear to be ambitious and pushy compared to married female students or compared to a situation where actions are unobservable. No such effects arise for married vs unmarried male students. Such restraining responses to norms are particularly concerning when norms are misperceived (for

misperceived norms, see, e.g., Bursztyn et al., 2020; Bursztyn and Yang, 2022; Bursztyn et al., 2023; Cortés et al., 2024; Cameron et al., 2024).

Like gender norms, descriptive or prescriptive (stereotypical) beliefs could constrain behavior, lead to backlash or even outright discrimination in the labor market (Heilman, 2012; Manzi et al., 2024; Heilman et al., 2024). For example, because women are believed to lack certain (male) characteristics that are important to advance in a job; or because women suffer social sanctions for deviating from prescriptive stereotypes or gender norms by engaging in career-oriented behavior (see, e.g., Rudman and Glick, 1999, 2001); or because women are perceived as less likable and less good hires if they demonstrate dominance (Williams and Tiedens, 2016).

As for gender norms, misperceptions arise because beliefs often are based on stereotypes (Reuben et al., 2014; Bordalo et al., 2016; Sarsons, 2017; Coffman et al., 2021). Stereotypically female characteristics typically are associated with communality (being oriented towards common goals and social relationships), while stereotypically male characteristics are associated with agency (being oriented towards personal achievement). These beliefs have only evolved slightly over time (for a meta study, see Eagly et al., 2020). While some stereotypes are accurate (Jussim et al., 2015), they often also exaggerate existing group differences (Bordalo et al., 2016; Eyal and Epley, 2017).

Not only women are constrained by gender norms and stereotypes –but men are so as well, though this is a less researched topic. De Haas et al. (2024), for example, examine adherence to "dominance masculinity norms" across different countries. They discuss a range of correlates and implications, among them that men who adhere more to a dominance masculinity norm supply more labor and are more competitive.

2 Experimental design

2.1 Procedures and overview

Our research design is based on five studies and two auxiliary studies, where we collected data on the behavior, beliefs, and norms of participants from the USA. A total of 5,762 completed the studies, which ran online on Prolific Academic using the Qualtrics survey platform. Instructions can be found in the appendix. In addition to a fixed completion payment, participants received a decision dependent bonus, as described below. The studies typically lasted between 5-10 minutes. At the start of each study, participants needed to pass some attention checks. In addition, throughout each study participants had to correctly answer comprehension questions to proceed.

2.2 Behavior Study

In the *Behavior Study*, participants face a number of tasks – one of them is randomly drawn as the task that counts for the bonus payment. First, participants face a selection into

competition task (Task 3, Niederle and Vesterlund, 2007). They decide whether they want to be paid for their performance in a test according to a piece rate ("avoid competition") or according to a competitive reward scheme ("seek competition"). The test consists of 12 Ravens matrices and participants have 3 minutes to solve as many of these matrices as possible.

If participants avoid competition, they are paid a low piece rate ($0.1 per correct answer) irrespective of the test performance of others. If participants seek competition, they are paid a high piece rate ($0.4 per correct answer) if they have the highest number of correct answers in the test in a group of four and nothing otherwise. The three other group members to which a participant is compared are randomly selected among 100 individuals who took the same test in a previous study. The individuals in this auxiliary study were paid based on the competitive reward scheme applied to groups of four from that study. That is, the choices of the participants in the *Behavior Study* and their test performance do not affect the payments of other participants, which we also explain in the experimental instructions.

After the test, participants face 21 choices in different questions and tasks, listed in Appendix A.3. We have a mixture of incentivized tasks and unincentivized survey questions. First, the participants make four binary decisions on whether to choose a non-socially oriented outcome in economic games related to social preferences, $d \in \{1, \ldots, 4\}$. They play the dictator game, the prisoners dilemma, and the trust game. The choices in these two-player games relate to altruism, cooperativeness, trust, and reciprocity. Choices are incentivized. Specifically, for eight randomly drawn participants the economic games are payoff relevant. They are matched in pairs, randomly assigned one of the three games and a player role, and paid based on the decisions in that game.

The payoffs and instructions for the games build on Exley et al. (2025).[3] In the dictator game, Player A chooses whether to split the pie so that each player receives $5; or keep more for themselves so that Player A receives $10 and Player B $0. In the prisoner's dilemma, both Player A and Player B choose whether to cooperate or defect. If they both cooperate, they each receive $15. If they both defect, they each receive $10. If one player defects, while the other cooperates, the player defecting receives $20, and the player cooperating receives $5. In the trust game, Player A chooses whether to trust the second mover or not. If Player A distrusts, each player receives $10 and the game is over. If Player A trusts, Player B can choose between rewarding trust – in which case each player receives $15 – or exploiting trust – in which case Player B receives $20 and Player A receives $5. In the trust game, participants make choices both as the first and second mover, using the strategy method with role uncertainty.

Second, participants answer seven binary questions, $b \in \{1, \ldots, 7\}$, on whether they have ever engaged, or would engage, in certain career-oriented behaviors. The questions involve

[3] In all games, participants can choose between two options – a social and a non-social one. This makes the elicitation of beliefs about behaviors easier for the participants in the *Beliefs Studies*. A trade-off is that more nuanced social actions are not captured.

trade-offs between career and prioritizing family life or the well-being of others. An example is "Have you ever taken on, or would you take on, more work commitments even if it means your partner has to handle a greater share of household or family duties?".

Finally, participants rate themselves on five stereotypically female personality characteristics, $p_f \in \{1, \ldots, 5\}$, and five stereotypically male personality characteristics, $p_m \in \{1, \ldots, 5\}$. The characteristics are selected based on items in the sex role inventory of Bem (1974) and its reassessment by Holt and Ellis (1998). An example of a stereotypically female characteristic is being gentle. An example of a stereotypically male characteristic is being dominant. In the following, for brevity, we will simply refer to these as feminine characteristics or masculine characteristics.

We code the decisions d as non-socially oriented (Y) or socially oriented (N); the behaviors b as career-oriented (Y) or non-career-oriented (N); the items p_f and p_m as conforming (Y) or not conforming (N) with the gender stereotypical characteristic.

To ensure that we end up with an equal number of women (men) who seek competition and who avoid competition, we employed a conditional sampling procedure. All participants chose whether to avoid or seek competition and took the test. Participants were admitted to the second part of the study eliciting behavior until a quota of 350 completed studies was reached for those seeking competition or for those avoiding competition, respectively.[4]

2.3 Beliefs Studies

We split the elicitation of beliefs about behaviors, decisions, and personality characteristics into two studies to avoid an overly long study. In both studies, we first describe the *Behavior Study* to participants. We present the selection into a competition task as a choice between seeking and avoiding competition and explain the payoffs, rather than describing it as a choice between selecting between a piece rate and a tournament incentive scheme. This frame is chosen to make the choice less abstract and to associate it with competitiveness. We also make clear that the competition choice does not influence the payoff of other participants.

In the *Beliefs-Behavior Study*, evaluators guess the percentage of participants in the *Behavior Study* choosing the Y option for each decision d and behavior b. In the *Beliefs-Personality Study*, evaluators guess the percentage of participants in the *Behavior Study* who have personality characteristics p_f and p_m.

Beliefs are incentivized. Participants get a bonus of \$3 if their guess for a randomly drawn question is correct – within a range of ± 3 of the true percentage. Following the recommendations of Danz et al. (2022), we state in the instructions that participants have the highest chance of earning the bonus if they report their true best guess and explain the details of the incentive mechanism in a fold-out box on which participants could click.

In both, the *Beliefs-Behavior Study* and the *Beliefs-Personality Study*, evaluators are ran-

[4]Participants who already had started part 2 before the quota was reached were allowed to finish, resulting in a few extra observations beyond the target of 350 participants for each cell.

domly assigned to either state beliefs about women (W) or about men (M). In each condition, evaluators state beliefs both for individuals who seek competition and for individuals who avoid competition.

2.4 Norms Studies

In the *Norms-Behavior Study*, we elicit second-order beliefs about the social appropriateness of decisions d, behaviors b, and behaving competitively in the workplace c. The *Norms-Personality Study* elicits second-order beliefs about the desirability of the personality characteristics p_f and p_m.

We elicit norms with the opinion-matching method of Bicchieri and Xiao (2009), applying a between-subject design. Specifically, in an auxiliary study, we ask 200 participants to state how appropriate each answer ($a \in \{Y, N\}$) from category d, b, and c is for a woman (man), using a 4-point scale. Category c is a question asking how appropriate it for women (men) to behave competitively in the work place. Further, participants state the desirability of characteristics p_f and p_m on a 4-point scale.

The answers from this *Personal Norms Study* serve as the basis for incentivizing second-order beliefs. Participants in the *Norms-Behavior Study* and the *Norms-Personality Study* get rewarded if they correctly guess the most common appropriateness/desirability judgment for an answer category $a \in \{Y, N\}$ of the decisions, behaviors, and personality characteristics among the participants in the *Personal Norms Study*. Specifically, participants in the *Norms Studies* receive \$2 if they correctly guess, for a randomly drawn question, the most common answer among the participants in the *Personal Norms Study*.

In each of the *Norms Studies*, evaluators are randomly assigned to either state beliefs about women (W) or about men (M).

3 Analysis

First, we describe the sample and provide some preliminary observations on choices and beliefs in Section 3.1. In Section 3.2 we then consider *belief accuracy* as the first main outcome variable.[5] It measures the difference between beliefs about choices or personality characteristics in the *Beliefs Studies* and actual frequencies in the *Behavior Study*. Next, in Section 3.3, we consider *norms* regarding behavior and personal characteristics in the *Norms Studies* as the second main outcome variable. We measure norms as second-order beliefs on the social appropriateness (the desirability) of conforming with or not conforming with a certain behavior (personality characteristic). Finally, in Section 3.5 we present additional analyses and results, namely robustness checks, results on individual behaviors, results aggregated at the gender level, further results on the consequences of inaccurate beliefs for normative judgments, as well as some exploratory subgroup analyses. In Section 4 we discuss the results,

[5] For details on the outcome variables see Appendix A.4.

as well as possible caveats in the design of the study (such as a possible social desirability bias) and the interpretation of the results.

3.1 Preliminaries

Sample The *Behavior Study* provides data on the behavior and traits of 720 female participants and 717 male participants, balanced across competition-seeking and competition-avoiding individuals (for participant characteristics and balance see Tables A.1 and A.2). In the *Beliefs Studies*, 1,020 participants stated beliefs about behaviors and 1,002 participants stated beliefs about personality characteristics. Half of the participants were assigned to stating beliefs about female individuals and the other half to stating beliefs about male individuals (see Table A.3). In the *Norms Studies*, 1,003 participants stated second-order beliefs about the social appropriateness of behaviors and 1,000 participants stated second-order beliefs about the desirability of personality characteristics. Half of the participants were assigned to stating norms for women and the other half to stating norms for men (see Table A.4).

Our main studies – the *Beliefs* and *Norms Studies* – employ samples that are representative of the US population in terms of age, gender, and political affiliation (see Table A.5). As we required a balanced sample of competition-seeking and competition-avoiding individuals for both men and women, we could only ensure that the *Behavior Study* is representative in terms of gender. We provide robustness checks regarding the representativeness with respect to age below.[6]

Selection into competition Given our focus on individuals who seek competition, we start with some observations about selection into competition, related beliefs and correlates of seeking competition. First, we replicate the widely documented gender gap in selection into competition (for surveys see Croson and Gneezy, 2009; Niederle and Vesterlund, 2011; Niederle, 2017). 45 percent of men seek competition compared to only 37 percent of women, as shown in Table 1.

Second, evaluators anticipate the existence of a gender gap in selection into competition, but the believed gender gap is almost twice as large as the actual gender gap. Evaluators overestimate the share of individuals seeking competition among both men and women, with the gap between the beliefs and the truth being larger when evaluating men.

Third, seeking competition is associated with specific behaviors and characteristics. Table 2 reports observed behaviors and personal characteristics. Individuals who seek competition are more career-oriented and more masculine than individuals who avoid competition. This holds both for men and women. Men who avoid competition are more feminine than men who seek competition. However, in the economic games related to social preferences there is

[6]While the study does include a significant share in all age and political orientation categories, it does not match the population weights (see Balance Tables A.1 and A.2).

no significant difference in the overall behavior of individuals who seek competition compared to individuals who avoid competition – contrary to what one might have expected from the previous literature, which however relied on smaller samples (the signs are in line with the literature reviewed in the introduction).

Gender gaps in behaviors and characteristics and beliefs about them We continue with some observations on gender differences that appear in Table 2. For behavior in the economic games we find no gender gap overall, in line with Exley et al. (2025).[7] [8] Women are less career-oriented and score lower on the reported masculine characteristics than men. These insights apply both to individuals who seek competition and individuals who avoid competition. In addition, women who seek competition score higher on the reported feminine characteristics than men who seek competition, with no gender difference for individuals who avoid competition.

Table 3, Panel A reports beliefs about behaviors and characteristics. Evaluators believe that women are more social, less career-oriented, and more feminine than men. Evaluators do not expect a gender gap in the male characteristics though. These insights apply both to individuals who seek competition and who avoid competition.

3.2 Belief accuracy

In our analysis, beliefs about competition-seeking individuals constitute the primary outcome. We also report beliefs about individuals who avoid competition and comparisons between competition-seeking and competition-avoiding individuals in secondary analyses.

Beliefs about individuals who seek competition Our main tests assess whether beliefs are accurate and whether there is a gender gap in accuracy. For these tests, we stack the questions within each category (d, b, p_f, p_m) and regress belief accuracy for each category on, depending on the test, a constant or on a constant and a gender dummy. We estimate linear regression models with OLS, clustering standard errors at the evaluator level. Table 3, Panel B reports our findings.

We observe that evaluators think that women who seek competition are less social, more career-oriented, less feminine, and more masculine than they actually are or state to be. Yet,

[7] When aggregating at the gender level, we find a borderline significant gender gap. See below and Table A.6.

[8] Croson and Gneezy (2009) provide an overview of the early experiments on gender differences in social preferences. The results are mixed and do not show a clear pattern of women having different social preferences than men. More recent and highly powered studies also show no coherent picture. Kerschbamer and Müller (2020) finds no clear pattern of men and women having different social preference types – though there is a weak tendency for women to be more inequity averse. For samples in the US and Norway Almås et al. (2020) observe gender differences in the willingness to accept inequality.

Table 1: Selection into competition

	Selection into competition		
	Choices	Beliefs	Beliefs-Truth
	(1)	(2)	(3)
$SeekCompetition(F)$	37.34	54.09	16.75***
			(0.83)
$SeekCompetition(M)$	45.13	68.05	22.92***
			(0.68)
Δ	-7.79***	-13.96***	-6.17***
	(2.37)	(1.07)	(1.07)

Notes: We estimate linear regression models with OLS and robust standard errors (shown in parentheses). For the Δ row we regress the choice whether to seek competition on a female dummy. Column (1) presents the percent of female participants selecting into competition (see $SeekCompetition(F)$), the percent of male participants selecting into competition (see $SeekCompetition(M)$), the difference in these percentages (see Δ), and the standard error on the difference in these percentages. Column (2) presents the corresponding average beliefs of evaluators. Column (3) presents the average beliefs of evaluators demeaned by the true value. Choices are from 1,739 participants who selected how to be paid for the test and took the test in the *Behavior Study*. Beliefs are from 1,020 evaluators in the *Beliefs-Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table 2: Participants' choices in the *Behavior Study*

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ	(5)	(6)	Δ	(7)	(8)	Δ
$C(F)$	40.82	40.51	0.31	42.13	36.89	5.25***	88.59	89.40	-0.81	65.76	57.43	8.33***
			(2.68)			(1.45)			(1.47)			(2.18)
$C(M)$	44.73	43.63	1.10	46.47	41.71	4.76***	81.85	87.59	-5.74***	70.56	63.27	7.29***
			(2.76)			(1.44)			(1.79)			(2.18)
Δ	-3.91	-3.12	-0.79	-4.34***	-4.82***	0.49	6.73***	1.81	4.92**	-4.80**	-5.84**	1.04
	(2.73)	(2.71)	(3.84)	(1.42)	(1.46)	(2.04)	(1.70)	(1.57)	(2.31)	(2.08)	(2.27)	(3.08)

Notes: We stack the questions within each category of behavior or characteristics and estimate linear regression models with OLS, clustering standard errors at the individual level (shown in parentheses). For the Δ row we regress the choices on a female dummy, For the Δ columns we regress the choices on a dummy for seeking competition. The table presents the average choice of female participants (see $C(F)$), the average choice of male participants (see $C(M)$), the row and column differences in these averages, respectively (see Δ), and the standard error on the difference in these averages (in parentheses). The data are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

evaluators also think like this about men who seek competition. As a result, no gender gap in belief accuracy arises when looking at individuals who seek competition.
For most categories evaluators catch the sign and magnitude of the gender gap in actual choices. An exception are the male personality characteristics. Here the evaluators' beliefs imply no gender gap when there actually is a gender gap. That is, when it comes to personality characteristics, women face a more inaccurate perception than men because evaluators believe that women who seek competition are more masculine than they see themselves.

Beliefs about individuals who avoid competition Evaluators also hold inaccurate beliefs about individuals who avoid competition. Yet, evaluators overestimate the prevalence of non-socially oriented behaviors, career-oriented behaviors, and masculine characteristics for competition-seeking individuals more than for competition-avoiding individuals; and they underestimate the prevalence of feminine characteristics for competition-seeking individuals more than for competition-avoiding individuals.[9] Overall, evaluators thus hold more inaccurate beliefs about individuals who seek competition than about individuals who avoid competition.
Evaluators get the gender gap right for the economic games and career-oriented behaviors. That is, they are similarly inaccurate for men and women who avoid competition when it comes to beliefs about behavior. Yet, a gender gap in belief accuracy arises for the male and female characteristics. Evaluators underestimate the prevalence of self-reported female and male characteristics more for men who avoid competition than for women who avoid competition.

3.3 Norms

To test whether there are gender differences in norms, we draw on data from the *Norms Studies*. Results are reported in Table 4. Participants report their second-order beliefs about the social appropriateness of a behavior a and its alternative a' or their second-order beliefs about the desirability of a personal characteristic a and its alternative a'.
The difference between the average rating for a and its alternative a' provide a measure of the pressure that norms put on individuals to conform with a behavior or characteristic a. If the ratings are close, there is no norm or only a weak norm for a behavior or characteristic; if the difference in ratings is large, there is a strong norm. We say that conforming with a brings *esteem* if this difference is positive and carries *stigma* if this difference is negative.
As expected, norms regarding behaviors in the economic games are universal in the sense that society rates non-socially oriented behavior with the same stigma for men and women. Otherwise norms are gender specific. Not prioritizing one's career over relationships brings esteem for women – it does so also for men, but the norm for women is stronger. As we

[9]Evaluators overestimate the prevalence of masculine characteristics for individuals who seek competition and underestimate their prevalence for individuals who avoid competition.

Table 3: Evaluators' beliefs in the *Beliefs Studies*

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking (1)	Competition avoiding (2)	Δ	Competition seeking (3)	Competition avoiding (4)	Δ	Competition seeking (5)	Competition avoiding (6)	Δ	Competition seeking (7)	Competition avoiding (8)	Δ
Panel A. Evaluators' beliefs												
$B(F)$	64.54	50.02	14.52***	62.96	37.85	25.10***	53.65	70.29	-16.64***	77.13	45.36	31.77***
			(0.88)			(0.82)			(0.89)			(0.91)
$B(M)$	68.72	53.42	15.31***	67.62	43.12	24.49***	46.51	64.04	-17.52***	78.32	46.06	32.27***
			(0.91)			(0.76)			(0.96)			(0.94)
Δ	-4.18***	-3.39***	-0.79	-4.66***	-5.27***	0.61	7.14***	6.25***	0.89	-1.19	-0.70	-0.5
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)
Panel B. Evaluators' beliefs - truth												
$B(F) - T(F)$	23.72***	9.52***	14.21***	20.82***	0.97*	19.85***	-34.94***	-19.11***	-15.83***	11.36***	-12.07***	23.43***
	(0.72)	(0.83)	(0.88)	(0.47)	(0.51)	(0.82)	(0.74)	(0.68)	(0.89)	(0.57)	(0.73)	(0.91)
$B(M) - T(M)$	23.99***	9.79***	14.20***	21.15***	1.41***	19.74***	-35.34***	-23.55***	-11.79***	7.76***	-17.21***	24.97***
	(0.67)	(0.84)	(0.91)	(0.51)	(0.47)	(0.76)	(0.71)	(0.69)	(0.96)	(0.54)	(0.80)	(0.94)
$\Delta - T(\Delta)$	-0.27	-0.27	0.00	-0.33	-0.44	0.12	0.40	4.44***	-4.04***	3.60***	5.14***	-1.54
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)

Notes: We stack the questions within each category of behavior or characteristics and estimate linear regression models with OLS. clustering standard errors at the individual level (shown in parentheses). For the Δ rows we regress the beliefs or belief accuracy on a female dummy. For the Δ columns we regress the beliefs or belief accuracy on a dummy for seeking competition. Panel A presents the average belief of evaluators about female participants (see $B(F)$), the average belief about male participants (see $B(M)$), the row and column differences in these averages, respectively (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average beliefs about female participants demeaned by the true value for female participants (see $B(F) - T(F)$), the average beliefs about male participants demeaned by the true value for male participants (see $B(M) - T(M)$), the row and column differences in these averages, respectively (see Δ), and the standard error on the difference in these averages (in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study* and 1,002 evaluators in the *Beliefs-Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

discuss below, there are however some nuances when considering specific kinds of career trade-offs.

Conforming with stereotypically female personality characteristics brings esteem for women. Doing so is also desirable for men, but the norm is stricter for women. Correspondingly, there also is a strong norm for men to conform with stereotypically male personality characteristics. Yet, and in contrast to the feminine traits, it appears that no strong norm exists for women in this dimension – having male characteristics is rated as just as desirable for women as not having them. Looking at the individual masculine characteristics however reveals a more nuanced picture as we discuss below.

Lastly, seeking competition brings esteem for men. For women there exists no strong norm when it comes to seeking competition. While it is viewed as socially appropriate to seek competition, avoiding competition is viewed as just as socially appropriate for women.

3.4 Discussion of results

Individuals who seek competition, both men and women, are believed to be less social and feminine, but more career-oriented and masculine than they actually are or state to be. These beliefs are inaccurate – and they are more inaccurate than for individuals who avoid competition. Yet, the beliefs about competitive individuals are, in most categories, equally inaccurate for men and women. While this may suggest that both genders are equally affected by inaccurate beliefs, society judges the behaviors and characteristics associated with competitive individuals against different social norms for women than for men.

Specifically, our study reveals that the relevant norms typically are gender specific – except the norms about behaving socially in the economic games. That is, women who seek competition face larger social penalties than men who do so because the behaviors associated with individuals who seek competition bring more stigma for women than for men. Inaccurate beliefs may exaggerate such stigma (we look at this in the next section) as competitive women (men) are (from the viewpoint of the individual) wrongly believed to be rather unfeminine and are stigmatized for that.

If one only looked at the direct norm regarding competitiveness – asking whether it is appropriate for women to seek (avoid) competition – one would conclude that seeking competition neither brings stigma nor esteem for women and that competitive women do not face social penalties. Yet, our analysis reveals that the behaviors associated with being competitive are stigmatized for women. Our results thus suggest that the competitiveness norm is a shallow norm for women. Although there are no explicit social penalties for competitiveness, seeking competition alters the way others perceive a woman in a way that often is less aligned with expectations about how a woman ought to be.

Are men who avoid competition harmed in the same way? They face stigma for being perceived as unmasculine and for not competing, but receive esteem for appearing communal or feminine – though this esteem is smaller than for women. Thus, overall, men appear to

Table 4: Evaluators' second-order beliefs about personal norms in the *Norms Studies*

	Non-socially oriented behaviors		Career-oriented behaviors		Female personality characteristics		Male personality characteristics		Seeking competition	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Evaluators' second-order beliefs about personal norms										
$N(F)$	-0.15	0.62	-0.04	0.37	0.80	-0.68	0.09	-0.00	0.19	0.20
$N(M)$	-0.14	0.60	0.12	0.25	0.62	-0.56	0.56	-0.45	0.37	0.00
Δ	-0.00	0.02	-0.16***	0.12***	0.18***	-0.13***	-0.47***	0.44***	-0.17***	0.19***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)
Panel B. Within-subject differences between evaluators' second-order beliefs for Yes and No categories										
$Esteem/stigma(F)$	-0.77***		-0.41***		1.49***		0.09***		-0.00	
	(0.03)		(0.02)		(0.02)		(0.03)		(0.05)	
$Esteem/stigma(M)$	-0.74***		-0.13***		1.18***		1.01***		0.36***	
	(0.03)		(0.02)		(0.03)		(0.02)		(0.04)	
Δ	-0.02		-0.28***		0.31***		-0.91***		-0.37***	
	(0.04)		(0.03)		(0.03)		(0.04)		(0.06)	

Notes: We stack the questions within each category of behavior or characteristics and estimate linear regression models with OLS, clustering standard errors at the individual level (shown in parentheses). For the Δ rows we regress the second-order beliefs on a female dummy, For the Δ columns we regress the second-order beliefs on a dummy for seeking competition. Following Krupka and Weber (2013), second-order beliefs for each evaluator are transformed into numerical scores using the following scale: very inappropriate/not at all desirable = -1; somewhat inappropriate/somewhat undesirable = -0.33; somewhat appropriate/somewhat desirable = 0.33; very appropriate/extremely desirable = 1. Panel A presents the average second-order belief of evaluators about how appropriate a behavior/how desirable a characteristic is for a woman (see $N(F)$), for a man (see $N(M)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average of the within-subject differences between evaluators' second-order beliefs for the *Yes* and *No* categories for a woman (see $Esteem/stigma(F)$), for a man (see $Esteem/sigma(M)$), the difference in these demeaned averages (see Δ), and the standard error on the difference in these averages (in parentheses). There are 1,003 evaluators in the *Norms Behavior Study* and 1,000 evaluators in the *Norms Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

face more contradictory norms in that both seeking and avoiding competition come with trade-offs. Yet, another view of this result could be that men do not face conflicting norms, but that evaluators rather have context specific norms in mind. At work, men have to be "leaders" and their masculine traits are desirable; at home they have to be "fathers" and their feminine traits are desirable.

3.5 Additional analyses

3.5.1 Implications of inaccurate beliefs for normative judgments

Up to now we considered belief accuracy and norms in isolation from each other – suggesting that women who seek competition may face social penalties more often than men because their behaviors violate gender-specific norms, but not because they are perceived more inaccurately than men. Yet, inaccurate beliefs may exaggerate perceived norm violations. Combining our data on beliefs and norms allows us to get a sense of the implications that inaccurate beliefs have for normative judgments of an individual: How would people judge women (men) whom they observe to be competition seeking, based on the beliefs that they form about their behavior and characteristics and the associated gender norms? And how would that judgment change if people knew the true frequency with which women (men) engage in a certain behavior or state to have a certain characteristic?

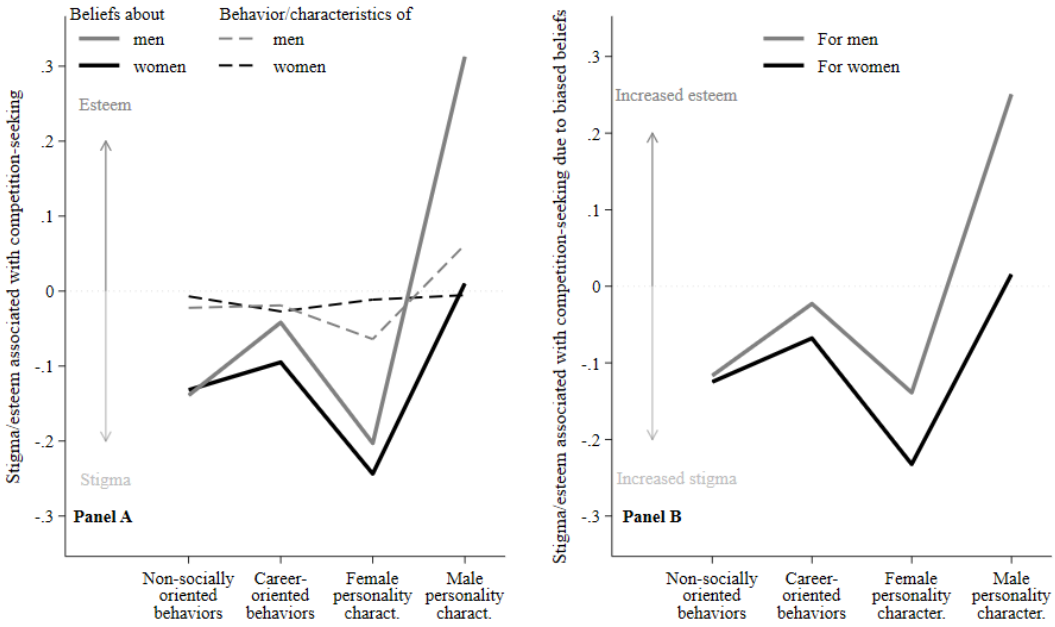
To address these questions, we compute the weighted social appropriateness (desirability) of behaviors (characteristics) associated with women (men) who seek competition. For each behavior (characteristic) $n \in \{1, ..., 21\}$ we multiply the mean social appropriateness rating $\overline{SA}_n(G, a)$ from the *Norms Studies* with the belief of evaluator i in the *Beliefs Studies* about the prevalence of category $a \in \{Y, N\}$ among individuals of gender $G \in \{M, W\}$, who seek competition $S = SC$ or avoid competition $S = AC$:[10]

$$\begin{aligned} \text{Weighted SA}_{in} &= \text{BeliefPercentage}_{in}(G, S, a = Y) \times \overline{SA}_n(G, a = Y) \\ &+ \text{BeliefPercentage}_{in}(G, S, a = N) \times \overline{SA}_n(G, a = N). \end{aligned}$$

Similarly, we compute the weighted social appropriateness (desirability) based on the true choice frequencies from the *Behavior Study*. From these measures we obtain the stigma or esteem associated with seeking competition for women by taking the difference in the weighted social appropriateness (desirability) measure associated with seeking competition and with avoiding competition.

[10]Note that the we do not elicit norms and beliefs within the same sample. The *Norms Studies* provide us with the mean social appropriateness/desirability rating, $\overline{SA}_n(G, a)$. This measure ranges from -1 (very inappropriate/not at all desirable) to 1 (very appropriate/extremely desirable). The *Beliefs Studies* provide us for each evaluator with a belief $\text{BeliefPercentage}_{in}(G, S, a)$. By weighting norms with beliefs in this way, we ignore potential correlations between the two. However, the results align closely with a procedure that preserves such correlations by using predictive mean matching to match individual evaluators in the *Beliefs* and *Norms Studies* (see Appendix A.2).

Figure 1: Stigma and esteem associated with seeking competition compared to avoiding competition



Panel A shows the esteem/stigma related to the behaviors/characteristics associated with seeking competition compared to avoiding competition, given by the difference in the weighted appropriateness ratings for individuals who seek competition compared to individuals who avoid competition. The weights are based on either the actual frequencies for behaviors/characteristics in the relevant group or the beliefs about these frequencies. Appropriateness ratings range from -1 = Very inappropriate/undesirable to 1 = Very appropriate/desirable. Panel B shows the esteem/stigma associated with seeking competition that is due to biased beliefs by taking the difference between the solid and the dotted lines in Panel A.

Panel A in Figure 1 shows the difference in normative judgments resulting from the beliefs held about a person seeking competition as opposed to avoiding competition. It provides three insights. First, for both men and women the behaviors and characteristics associated with seeking competition come with stigma compared to avoiding competition – with the exception of the male personality characteristics. For the latter, men gain esteem from seeking competition, while women experience neither esteem nor stigma. Second, in all categories, except the social behaviors, the perceived stigma from seeking competition is (significantly) larger for women than for men.[11] Third, both men and women who seek competition would be viewed more positively based on their actual behaviors or self-reported characteristics than based on the beliefs that people have about them – again with the exception of the male personality characteristics.

Panel B plots the "belief penalty" – the difference in stigma or esteem between the beliefs of the evaluators and the true frequencies. It illustrates that women are hurt more than

[11]The differences are all statistically significant at the 1-percent level or 5-percent level, except for social behaviors where there is no gender difference, based on the bootstrap distribution of the predictive mean matching described in Appendix A.2.

men by inaccurate beliefs in all categories except for the social behaviors.[12] Averaging over all categories, competitive women lose 0.1 points of esteem because of inaccurate beliefs compared to only a loss of 0.01 points for competitive men.

3.5.2 Belief accuracy at the gender level

Exley et al. (2025) elicit beliefs about the behavior of all women (men) in some of the same economic games that we also study and document a gender gap in belief accuracy related to social preferences. Evaluators believe women in general to be more socially oriented than men, while there are no consistent behavioral differences. In light of their results, it may appear surprising that we find no gender difference in belief accuracy when beliefs are stated about individuals who seek competition or about individuals who avoid competition. Yet, as we demonstrate next, Exley et al. (2025)'s and our results are consistent, and our results shed some new light on the mechanisms behind the gender gap in belief accuracy.

We aggregate choices to the gender level by weighting the choices of female participants who seek (avoid) competition with the true probability that women seek (avoid) competition. And we weight the beliefs about women who seek (avoid) competition with the belief about the probability that women seek (avoid) competition. Similarly, we weight the choices of male participants and the beliefs about male participants. Results aggregated to the gender level for choices are reported in Table A.6 and for beliefs in Table A.7.

At the aggregate level, we observe a gender gap in the accuracy of beliefs about socially oriented behaviors, about career-oriented behaviors and about female characteristics, but not about male characteristics. What appears to drive the apparent discrepancy between the gender gap in belief accuracy at the gender level vs at the group level (competition-seeking individuals or competition-avoiding individuals) is that men are thought to be much more competition seeking than women (see Table 1).

To examine further how the gender gap in belief accuracy at the gender level relates to inaccurate beliefs about group membership of the different genders, we weight the beliefs about women who seek (avoid) competition with the true probability that women seek (avoid) competition (similarly for men). Table A.8 reports the results. The gender gap in belief accuracy (the $\Delta - T(\Delta)$ row) no longer is significant for the social behaviors and is smaller for the career-oriented behaviors and feminine characteristics compared to the gap in Table A.7. For the masculine characteristics a gender gap in belief accuracy arises, where no gap arose when applying the beliefs about group membership. Overall, these results suggest that gender gaps in belief accuracy about social and career-oriented behaviors do not stem so much from gender biases in evaluators' expectations about individuals who seek competition or individuals who avoid competition (or possibly other group memberships), but that evaluators get the relative shares of the different groups wrong. To draw an analogy:

[12] Gender differences are all statistically significant at the 1-percent level, except for social behaviors where there is no gender difference, based on the bootstrap distribution of the predictive mean matching described in Appendix A.2.

while people may correctly believe that nurses are more socially-oriented than managers, they might be mislead to believe that women in general are more socially-oriented than men because they overestimate the share of women who are nurses and the share of men who are managers.

3.5.3 Results on individual behaviors and characteristics

First, we report results separately for two types of career-related behaviors b: career-family trade-offs (3 questions) and other career-related trade-offs (4 questions) – see Tables A.9-A.11. The reason for the distinction is that these two categories may capture slightly different aspects of being career-oriented in that some of the non-family career-related trade-offs involve behaviors that could potentially be perceived as unethical (such as taking credit for team work, creating pressure or not supporting colleagues to advance in ones career). We observe that our results regarding belief accuracy are aligned between the two categories.
Regarding norms, we observe that engaging in the career-oriented option is stigmatized in both dimensions for women. Prioritizing the career over the family brings slight esteem for men, while prioritizing one's career over colleagues brings stigma. Thus, overall, the norms governing this category are nuanced: there exists a strong gender-specific norm regarding career-family trade-offs, but the norm when it comes to other career-related trade-offs is not gender specific. Specifically, and in line with the universal norm that we found for socially oriented behavior in the economic games, unethical behavior is stigmatized for both, men and women.
Second, we report results separately for each choice $n \in \{1 \dots, 21\}$ – see Tables A.12-A.22. Overall, the picture is consistent – with some positive and negative deviations in the individual behaviors occurring in some categories.
Regarding norms, the most notable differences arise for women in the domain of the masculine characteristics. Here the individual questions reveal a more nuanced picture. For women, being ambitious and decisive brings esteem; being dominant and assertive carries stigma. Men receive esteem for all of these characteristics. Further, for the career-oriented behavior questions, we observe that the category where norms for men and women differ most is working full-time with a child under the age of one – doing so brings strong esteem for men and carries strong stigma for women.

3.5.4 Robustness

We summarize a range of further robustness checks reported in the appendix. Results are largely unchanged when including controls for evaluator characteristics (see Tables A.27 and A.28, and Appendix A.5 for the list of control variables). A notable exception are the second-order beliefs about the appropriateness of women behaving competitively at the workplace. Without controls, there was no strong norm in this category because seeking competition and avoiding competition were both rated as being appropriate behavior for

women; with controls behaving competitively brings stigma for women. For men the esteem from behaving competitively appears smaller with controls. The subgroup analysis outlined in the next section may explain these differences.
As mentioned above, the sample of the *Behavior Study* only is representative in terms of gender. Yet results are very similar when we re-estimate Tables 2 and 3 using the population weights for the age categories that Prolific uses (18-24, 25-34, 35-44, 45-54, above 54). See Tables A.29 and A.30,

3.5.5 Subgroup analyses

In Tables A.23-A.26, we report the results for beliefs and norms by the gender of the evaluator (male vs female) and by their competitiveness (evaluators who are more vs. less competitive). While we do not run any formal tests (as they would be underpowered), we observe no remarkable differences in that the effects have the same sign and a similar magnitude for the different groups of evaluators.
One interesting observation – relating to the observation that the inclusion of control variables matters for the norms about competitiveness – is that male raters and raters who rank high on competitiveness think that seeking competition brings (weak) esteem for women. In contrast, female raters and raters who rank low on competitiveness hold the opposite view, that seeking competition brings (weak) stigma.

4 Discussion

Conditions We asked evaluators separately about men and women; within a group we asked simultaneously about women (men) who seek and avoid competition. Exley and Nielsen (2024) and Exley et al. (2025) also elicit beliefs about the behaviors and performance of men and women. They test for robustness, asking simultaneously vs separately about the two groups, and find no difference.

Biases in behavior We interpreted the difference between beliefs and behaviors as belief accuracy – suggesting that if they diverge, beliefs are inaccurate. Yet, the inaccuracies may also stem from biases in behavior. Specifically, driven by a social desirability bias, participants may answer the unincentivized questions about behaviors and characteristics in a biased way, unanticipated by the evaluators, who may base their beliefs on the true behaviors and characteristics in the population. Recent studies that also rely on some unincentivized questions and elicit beliefs about them, such as Bursztyn et al. (2020) or Bursztyn et al. (2023), find little concern for a social desirability bias (see also Bursztyn and Yang, 2022, for a broader discussion and further examples).
When considering gender gaps in belief accuracy such effects should difference out – unless men and women reacted differently to the social desirability bias, unanticipated by the evaluators (a similar argument applies for differences between seeking and avoiding competition).

The result that there is no gender gap in belief accuracy in most dimensions speaks for the interpretation that if an asymmetric reaction was present, evaluators do not systematically misunderstand it.

Yet, there could be a concern regarding the level of belief accuracy. However, when comparing the level of belief accuracy between the social behaviors (which are incentivized and where hence social desirability bias should play less of a role) and the career-oriented behaviors (which are not incentivized), we observe that the inaccuracy of beliefs is of the same magnitude. That is, if social desirability bias is at play, then evaluators may take it into account – at least for some of the categories. Yet, still, the levels of the belief accuracy might be interpreted with some caution.

Further, the selection into competition choice may bias how participants behave in the following tasks. For example, seeking competition may make participants more aggressive in the subsequent tasks. However, while we observe some correlations between the selection in the competition choice and subsequent choices (as one would also expect from the literature), the pattern is not systematic in that, for example, social behaviors or some of the individual questions of the career-oriented behaviors, or female characteristics do not differ across individuals who seek competition and individuals who avoid competition.

Organization-specific norms We elicited norms regarding the behaviors of men and women to test whether norms are gender specific. This approach follows the ideas on gender norms brought forward in the literature and the definition of norms as "commonly known standards of behaviour that are based on widely shared views of how individual group members ought to behave in a given situation". Specifically, norms are "not defined in terms of group members' actual behaviour nor in terms of their motives, their compliance or the conditions under which compliance occurs" (see Fehr and Schurtenberger, 2018, for these definitions). Accordingly, we did not elicit norms about men (women) who seek vs avoid competition. Yet, there might be circumstances where members of a subgroup (e.g. people who work for a specific organization) may be subject to different norms than the group of all women. Thus, we see our results more applicable to how women (men) are viewed in society and whether they violate societal gender norms. Investigating organization-specific norms with a similar methodology as we apply here is an interesting avenue for future research.

Leadership vs competition seeking We elicited beliefs about individuals seeking competition vs individuals avoiding competition. The choice of the selection into competition task was motivated by its prominence in the literature and its importance for gender research, as well as by the robustness of gender differences in this task. Further, competitiveness has been associated with other relevant traits – such as taking leadership roles (as we also confirm in our study). Yet, of course, our results may not directly carry over to women in leadership roles, as seeking competition and taking on a leadership role still are different constructs. For example, women competing in sports do not necessarily take on leadership roles and thus

their behaviors may be perceived very differently than the ones of, for example, politicians who seek competition to enter leadership positions.[13]

5 Conclusion

We test, using an online experiment, whether women (men) who seek competition face inaccurate perceptions about their behaviors and personalities; and, second, whether women are held to different standards than men so that women who seek competition violate (gender-specific) norms. We observe that evaluators hold inaccurate beliefs about women who select into competition in that they are believed to be less social, more career-oriented, less (stereotypically) feminine and more (stereotypically) masculine than they actually are. Yet, evaluators hold similarly inaccurate beliefs towards men. Nevertheless, competitive women may face social penalties: while seeking competition does not violate a norm for women, the behaviors associated with competition-seeking individuals violate gender-specific norms for women to a greater extent than for men. Thus, the competition-seeking norm may be a shallow norm.

More generally, our findings suggest an important distinction between direct norm compliance and an indirect dimension of norm compliance: norm compliance may not just be about the behavior at hand, but also about how society perceives the behaviors and characteristics associated with that behavior. Thus, normative change needs to address both the direct and indirect dimensions of norms. We anticipate that these insights also apply to other examples of norms, such as meritocratic norms in education and employment, or inclusion norms in organizational behavior.

[13]Yet, a different perception of the behavior might also stem from differences in competition: in sports, women typically compete against other women, in politics women compete mainly against men and few other women. A question for future research could be whether women competing against women are perceived differently from women who compete against men. In our study, the other participants against whom the individual competed, if they chose to do so, were randomly drawn men and women from the *Pre-Study*.

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A.1 UK Survey

In a study with 850 participants from the UK on Prolific Academic, we included the question "In your opinion, should women behave competitively in the workplace?" Among the participants, 90 percent answered yes, with no gender difference in the proportion agreeing ($p = 0.42$).[14] Based on these personal opinions, we incentivized the second-order beliefs elicited with the question "What is your best guess for how many out of 100 randomly chosen study participants agree with the following statement? Women should behave competitively in the workplace." On average, participants believed that 71 percent of the other UK participants agree with the statement. Second-order beliefs of men (73 percent were believed to agree with the statement) were higher than for women (69 percent were believed to agree with the statement; $p = 0.02$).

A.2 Matching the Beliefs and Norms Studies

Figure 1 in Section 3.5.1 is based on weighting the average second-order beliefs from the *Norms Studies* with the beliefs held by individual evaluators in the *Beliefs Studies*. This exercise actually closely matches the results that we obtain when we instead use individual second-order beliefs imputed by matching the evaluators in the *Beliefs Studies* with evaluators in the *Norms Studies*, as shown in Figure A.1.

For each evaluator and category of behavior/characteristic in the *Beliefs Studies* we find a matching 'donor' in the *Norms Studies* using predictive mean matching (PMM, e.g. van Buuren, 2018). Specifically, PMM finds the n closest matches, randomly draws one of them, and takes the observed values of the donor as second-order beliefs of the evaluator in the *Beliefs Studies*. We set $n = 10$ based on simulation studies (Morris et al., 2014) and pool the 10 resulting datasets using the combination rules of Rubin (1987). For each behavior (characteristic) $n \in \{1, ..., 21\}$ we multiply the belief of evaluator i in the *Beliefs Studies* about the prevalence of category $a \in \{Y, N\}$ among individuals of gender $G \in \{M, W\}$, who seek competition $S = SC$ or avoid competition $S = AC$ with the evaluator's imputed social appropriateness rating $SA_{in}(G, a)$. To account for sampling variability, we perform 500 bootstrap iterations of the procedure.

A.3 Overview of questions and tasks

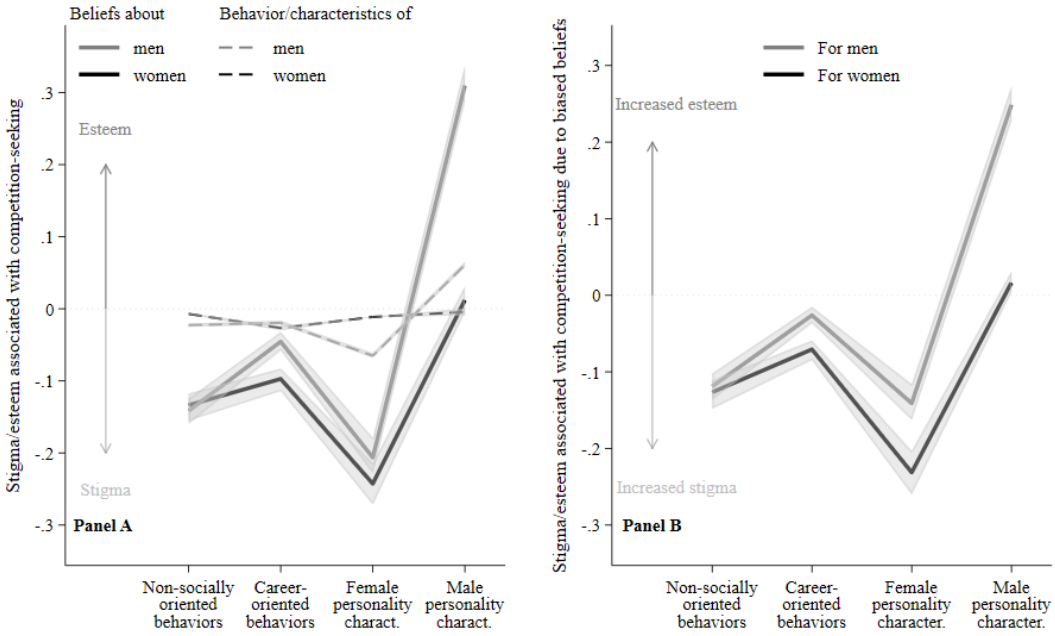
Decisions $d \in \{1, \ldots, 4\}$

1. "Keep more" (vs "Split") in a dictator game.

2. "Distrust" (vs "Trust") as first mover in a trust game.

[14] The share of yes answers among men was 90 percent and 89 percent among women.

Figure A.1: Stigma and esteem associated with seeking competition compared to avoiding competition



This figure reproduces Figure 1 based on data from predictive mean matching. The gray-shaded area shows the 95-percent confidence intervals based on percentiles from 500 bootstrap iterations.

3. "Exploit trust" (vs "Reward trust") as second mover in a trust game.

4. "Defect" (vs "Cooperate") in a prisoner's dilemma.

Questions about behaviors $b \in \{1, \ldots, 7\}$

Answer categories are "Yes" and "No".

1. Have you ever given up, or would you give up, a good job opportunity for the benefit of your family life?

2. Have you ever worked full-time, or would you work full-time, outside your home, as a parent of a child under the age of one?

3. Have you ever taken on, or would you take on, more work commitments even if it means your partner has to handle a greater share of household or family duties?

4. Have you ever held back, or would you hold back, in professional meetings to avoid appearing too dominant or assertive?

5. Have you ever created, or would you create, a high-pressure environment for yourself and your subordinates to deliver high performance and meet ambitious goals?

6. Have you ever taken, or would you take, personal credit for accomplishments that were the result of team effort, if this helps your professional advancement?

7. Have you ever invested, or would you invest, time in supporting colleagues, even if it does not contribute to your own professional advancement?

Questions about personality characteristics

I am someone ... (Answer "No" if you disagree somewhat or disagree strongly, answer "Yes" if you agree somewhat or agree strongly)

Stereotypically female personality characteristics $p_f \in \{1, \ldots, 5\}$:

1. who is eager to soothe hurt feelings
2. who is compassionate
3. who is gentle
4. who is sensitive to the needs of others
5. who is warm and affectionate

Stereotypically male personality characteristics $p_m \in \{1, \ldots, 5\}$:

1. who acts as a leader
2. who is ambitious
3. who is assertive and forceful
4. who is decisive
5. who is dominant

Question about behaving competitively in the workplace c

This question was implemented only in the *Norms Studies*. Participants were asked how appropriate it is for a men (women)

1a. To behave competitively in the workplace.

1b. To avoid competition in the workplace.

A.4 Definition of outcome variables

A.4.1 Beliefs

We first construct the belief that evluator i from the *Beliefs-Behavior Study* or *Beliefs-Personality Study* has about the percentage of participants from the Behavior Study who are of gender $G \in \{M, W\}$ (where M stands for men and W stands for women), have made selection $S \in \{SC, AC\}$ (where SC stands for seek competition and AC for avoid competition), and who choose the answer category $a = Y$ in question n (where $n \in \{1, \ldots, 21\}$):

$$\text{BeliefPercentage}_{in}(G, S, Y).$$

From this we construct the accuracy of the belief of evaluator i from the *Beliefs Studies* by demeaning the belief with the true percentage of participants choosing answer category Y in question n:

$$\text{BeliefAccuracy}_{in}(G, S, Y) = \text{BeliefPercentage}_{in}(G, S, Y) - \text{TruePercentage}_{n}(G, S, Y).$$

A.4.2 Norms

Each participant i in the *Norms Studies* states a second-order belief about the social appropriateness/desirability of answer category $a \in \{Y, N\}$ in question n for decision-makers who are of gender $G \in \{M, W\}$:

$$\text{SA}_{in}(G, a).$$

Following the approach of Krupka and Weber (2013), these responses are transformed into a numerical score using the following scale:

- very inappropriate/not at all desirable $= -1$,
- somewhat inappropriate/somewhat undesirable $= -0.33$,
- somewhat appropriate/somewhat desirable $= 0.33$,
- very appropriate/extremely desirable $= Y$.

Based on the second-order beliefs, we compute the within-evaluator difference between answer categories Y and N:

$$\Delta\text{SA}_{in}(G) = \text{SA}_{in}(G, Y) - \text{SA}_{in}(G, N).$$

A.4.3 Secondary analysis

For our secondary analysis, we also construct the within-evaluator difference in beliefs about individuals seeking competition (SC) and individuals avoiding competition (AC):

$$\Delta\text{BeliefPercentage}_{in}(G, a) = \text{BeliefPercentage}_{in}(G, S = SC, a) - \text{BeliefPercentage}_{in}(G, S = AC, a),$$

Similarly, we construct the belief gap adjusted for the true percentage of participants choosing answer category Y:

$$\Delta\text{BeliefAccuracy}_{in}(G, a) = \text{BeliefAccuracy}_{in}(G, S = SC, a) - \text{BeliefAccuracy}_{in}(G, S = AC, a).$$

A.5 List of control variables

Dummies for

- Gender (categories: male, female)
- Age ranges (categories: 18 - 30, 31 - 40, 41 - 50, 51 - 60, 61 -70, $>$ 70)
- Ethnic group (categories: white, non-white)
- Education level (categories: no college, college)
- US citizen (dropped, because everyone in the sample is a US citizen)
- Full-time work (categories: yes, no)
- Personal income ranges (categories: <$ 10,000, $10,000 - $19,999, $20000 - $29,999, $30,000 - $39,999, $40,000 - $49,999, $50,000 - $59,999, $60,000 - $69,999, $70,000 - $79,999, $80,000 - $89,999, $90,000 - $99,999, $100,000 - $149,999, >$150,000)
- Political party affiliation (categories: Democrat, Independent, Republican)
- Children (categories: yes, no)

A.6 Additional tables

Table A.1: Female participant characteristics for the *Behavior Study*

	Competition seeking			Competition avoiding		
Admitted to behavior sample[a]	Yes	No	Δ	Yes	No	Δ
Participant characteristic	(1)	(2)	(3)	(4)	(5)	(6)
Age	39.774	-	-	43.189	42.952	0.237
	(13.721)	-	-	(14.144)	(13.389)	(1.169)
NonWhite	0.333	-	-	0.325	0.285	0.040
	(0.472)	-	-	(0.469)	(0.452)	(0.039)
College education	0.655	-	-	0.568	0.561	0.007
	(0.476)	-	-	(0.496)	(0.497)	(0.042)
Works full-time	0.562	-	-	0.560	0.478	0.082*
	(0.497)	-	-	(0.497)	(0.501)	(0.042)
Income category[b]	5.754	-	-	5.265	5.197	0.068
	(3.039)	-	-	(3.140)	(3.083)	(0.263)
Democrat	0.319	-	-	0.333	0.430	-0.096**
	(0.467)	-	-	(0.472)	(0.496)	(0.041)
Republican	0.427	-	-	0.404	0.250	0.154***
	(0.495)	-	-	(0.491)	(0.434)	(0.040)
Has children	0.726	-	-	0.716	0.680	0.036
	(0.447)	-	-	(0.452)	(0.468)	(0.039)
Observations	354	0	-	366	228	594

Notes: Mean. Standard deviations are shown in parentheses. Columns 3 and 6 provide t-tests: * p<0.10, ** p<0.05, *** p<0.01. [a] All participants took the math and logic test and selected how to be paid. To obtain a balanced sample of participants seeking competition and participants avoiding competition, participants were allowed to enter the part eliciting behavior until a quota of 350 completed studies was reached for those seeking competition or for those avoiding competition, respectively. [b] Participant characteristics include categories for annual personal income 1=<$ 10,000, 2= $10,000 - $19,999, 3= $20000 - $29,999, 4= $30,000 - $39,999, 5= $40,000 - $49,999, 6= $50,000 - $59,999, 7= $60,000 - $69,999, 8= $70,000 - $79,999, 9= $80,000 - $89,999, 10= $90,000 - $99,999, 11= $100,000 - $149,999, 12= >$150,000.

Table A.2: Male participant characteristics for the *Behavior Study*

	Competition seeking			Competition avoiding		
Admitted to behavior sample[a]	Yes	No	Δ	Yes	No	Δ
Participant characteristic	(1)	(2)	(3)	(4)	(5)	(6)
Age	35.772	52.000	-16.228	39.651	41.562	-1.911
	(12.701)	-	(12.719)	(13.907)	(12.814)	(1.762)
NonWhite	0.492	0.000	0.492	0.418	0.260	0.158**
	(0.501)	-	(0.501)	(0.494)	(0.442)	(0.062)
College education	0.736	0.000	0.736*	0.654	0.712	-0.059
	(0.441)	-	(0.442)	(0.476)	(0.456)	(0.061)
Works full-time	0.683	0.000	0.683	0.665	0.726	-0.061
	(0.466)	-	(0.467)	(0.473)	(0.449)	(0.060)
Income category[b]	6.424	1.000	5.424	6.341	6.904	-0.563
	(3.311)	-	(3.315)	(3.390)	(3.132)	(0.430)
Democrat	0.278	0.000	0.278	0.380	0.288	0.092
	(0.449)	-	(0.449)	(0.486)	(0.456)	(0.062)
Republican	0.458	0.000	0.458	0.360	0.384	-0.023
	(0.499)	-	(0.500)	(0.481)	(0.490)	(0.062)
Has children	0.559	0.000	0.559	0.546	0.562	-0.016
	(0.497)	-	(0.498)	(0.499)	(0.500)	(0.064)
Observations	356	1	357	361	73	434

Notes: Mean. Standard deviations are shown in parentheses. Columns 3 and 6 provide t-tests: * p<0.10, ** p<0.05, *** p<0.01. [a] All participants took the math and logic test and selected how to be paid. To obtain a balanced sample of participants seeking competition and participants avoiding competition, participants were allowed to enter the part eliciting behavior until a quota of 350 completed studies was reached for those seeking competition or for those avoiding competition, respectively. [b] Participant characteristics include categories for annual personal income 1=<$ 10,000, 2= $10,000 - $19,999, 3= $20000 - $29,999, 4= $30,000 - $39,999, 5= $40,000 - $49,999, 6= $50,000 - $59,999, 7= $60,000 - $69,999, 8= $70,000 - $79,999, 9= $80,000 - $89,999, 10= $90,000 - $99,999, 11= $100,000 - $149,999, 12= >$150,000.

Table A.3: Balance table for the *Beliefs Studies*

Study	Panel A *Beliefs-Behavior Study*			Panel B *Beliefs-Personality Study*		
Condition	Female	Male	Δ	Female	Male	Δ
Evaluator characteristic	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.490	0.532	-0.041	0.492	0.524	-0.032
	(0.500)	(0.499)	(0.031)	(0.500)	(0.500)	(0.032)
Age	45.768	45.901	-0.133	46.166	45.766	0.400
	(15.825)	(15.884)	(0.993)	(15.967)	(16.040)	(1.012)
NonWhite	0.333	0.291	0.042	0.289	0.350	-0.061**
	(0.472)	(0.454)	(0.029)	(0.454)	(0.477)	(0.029)
College education	0.599	0.542	0.058*	0.620	0.630	-0.010
	(0.491)	(0.499)	(0.031)	(0.486)	(0.483)	(0.031)
Works full-time	0.387	0.352	0.035	0.456	0.428	0.028
	(0.488)	(0.478)	(0.030)	(0.499)	(0.495)	(0.031)
Income category[a]	5.833	5.615	0.218	6.038	6.180	-0.142
	(3.618)	(3.479)	(0.222)	(3.513)	(3.396)	(0.218)
Democrat	0.302	0.287	0.015	0.335	0.254	0.081***
	(0.459)	(0.453)	(0.029)	(0.472)	(0.436)	(0.029)
Republican	0.278	0.277	0.002	0.259	0.294	-0.035
	(0.449)	(0.448)	(0.028)	(0.439)	(0.456)	(0.028)
Has children	0.531	0.492	0.039	0.602	0.582	0.020
	(0.500)	(0.500)	(0.031)	(0.490)	(0.494)	(0.031)
Observations	514	506	1,020	502	500	1,002

Notes: Mean. Standard deviations are shown in parentheses. Columns 3 and 6 provide t-tests: * p<0.10, ** p<0.05, *** p<0.01. There are two conditions in each of the *Beliefs Studies*, one were evaluators state beliefs about female participants in the *Behavior Study* and one were evaluators state beliefs about male participants in the *Behavior Study*. [a] Evaluator characteristics include categories for annual personal income 1=<$ 10,000, 2= $10,000 - $19,999, 3= $20000 - $29,999, 4= $30,000 - $39,999, 5= $40,000 - $49,999, 6= $50,000 - $59,999, 7= $60,000 - $69,999, 8= $70,000 - $79,999, 9= $80,000 - $89,999, 10= $90,000 - $99,999, 11= $100,000 - $149,999, 12= >$150,000.

Table A.4: Balance table for the *Norms Studies*

Study	Panel A *Norms Behavior Study*			Panel B *Norms Personality Study*		
Condition	Female	Male	Δ	Female	Male	Δ
Evaluator characteristic	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.500	0.511	-0.011	0.513	0.501	0.012
	(0.501)	(0.500)	(0.032)	(0.500)	(0.500)	(0.032)
Age	44.673	45.879	-1.206	43.769	43.912	-0.143
	(16.103)	(15.753)	(1.008)	(15.392)	(15.653)	(0.984)
NonWhite	0.276	0.312	-0.036	0.295	0.321	-0.027
	(0.447)	(0.464)	(0.029)	(0.456)	(0.467)	(0.029)
College education	0.586	0.549	0.037	0.587	0.645	-0.058*
	(0.493)	(0.498)	(0.031)	(0.493)	(0.479)	(0.031)
Works full-time	0.388	0.398	-0.010	0.459	0.469	-0.010
	(0.488)	(0.490)	(0.031)	(0.499)	(0.500)	(0.032)
Income category[a]	5.664	5.869	-0.205	6.232	6.565	-0.332
	(3.440)	(3.487)	(0.219)	(3.445)	(3.459)	(0.218)
Democrat	0.264	0.322	-0.058**	0.295	0.287	0.007
	(0.441)	(0.468)	(0.029)	(0.456)	(0.453)	(0.029)
Republican	0.296	0.256	0.040	0.269	0.293	-0.025
	(0.457)	(0.437)	(0.028)	(0.444)	(0.456)	(0.028)
Has children	0.540	0.525	0.015	0.577	0.599	-0.022
	(0.499)	(0.500)	(0.032)	(0.495)	(0.491)	(0.031)
Observations	500	503	1,003	499	501	1,000

Notes: Mean. Standard deviations are shown in parentheses. Columns 3 and 6 provide t-tests: * p<0.10, ** p<0.05, *** p<0.01. There are two conditions in each of the *Norms Studies*, one were evaluators state second-order beliefs about female participants in the *Personal Norms Study* and one were evaluators state second-order beliefs about male participants in the *Personal Norms Study*. [a] Evaluator characteristics include categories for annual personal income 1=<$ 10,000, 2= $10,000 - $19,999, 3= $20000 - $29,999, 4= $30,000 - $39,999, 5= $40,000 - $49,999, 6= $50,000 - $59,999, 7= $60,000 - $69,999, 8= $70,000 - $79,999, 9= $80,000 - $89,999, 10= $90,000 - $99,999, 11= $100,000 - $149,999, 12= >$150,000.

Table A.5: Comparison of the samples with the U.S. population averages

	Study sample					
	Behavior	*Beliefs-Behavior*	*Beliefs-Personality*	*Norms-Behavior*	*Norms-Personality*	U.S. Population
Female	0.50	0.49	0.49	0.50	0.49	0.49
18 – 24	0.15	0.12	0.12	0.13	0.14	0.12
25 – 34	0.29	0.18	0.18	0.18	0.19	0.18
35 – 44	0.22	0.17	0.17	0.18	0.18	0.17
45 – 54	0.18	0.16	0.16	0.16	0.16	0.16
Above 54	0.17	0.38	0.38	0.36	0.33	0.38
Democrat	0.33	0.29	0.29	0.29	0.29	0.30
Independent	0.22	0.43	0.43	0.43	0.42	0.43
Republican	0.41	0.28	0.28	0.28	0.28	0.28

Notes: U.S. population data are the target shares that Prolific computed based on U.S. Census Bureau (2021) and the political affiliation data from Statista (2022).

Table A.6: Participants' choices in the *Behavior Study* aggregated to the gender level

	Non-socially oriented behaviors	Career-oriented behaviors	Female personality characteristics	Male personality characteristics
	(1)	(2)	(3)	(4)
$C(F)$	40.62	38.80	89.10	60.48
$C(M)$	44.12	43.84	85.02	66.54
Δ	-3.50*	-5.04***	4.08***	-6.06***
	(1.95)	(1.05)	(1.18)	(1.61)

Notes: We replicate the analyses in Table 2 for choices at the gender level by weighting the mean for competition-seeking women (men) and competition-avoiding women (men) with the the probability that a woman (man) seeks competition (see Table 1). * p<0.10, ** p<0.05, *** p<0.01.

Table A.7: Evaluators' beliefs in the *Beliefs Studies* aggregated to the gender level

	Non-socially oriented behaviors	Career-oriented behaviors	Female personality characteristics	Male personality characteristics
	(1)	(2)	(3)	(4)
Panel A. Evaluators' beliefs				
$B(F)$	57.44	50.91	62.07	62.45
$B(M)$	64.22	60.11	52.14	68.75
Δ	-6.78***	-9.20***	9.93***	-6.29***
	(0.94)	(0.57)	(0.81)	(0.82)
Panel B. Evaluators' beliefs - truth				
$B(F) - T(F)$	16.82	12.06	-27.03	1.91
$B(M) - T(M)$	20.09	16.26	-32.87	2.19
$\Delta - T(\Delta)$	-3.27***	-4.19***	5.84***	-0.27
	(0.94)	(0.57)	(0.81)	(0.82)

Notes: We replicate the analyses in Table 3 for beliefs at the gender level. For the belief data in the Female (Male) condition, we weight the beliefs about competition-seeking women (men) and competition-avoiding women (men) with the evaluator's belief about the probability that a woman (man) seeks competition. The true value is derived from the *Behavior Study* by weighting the mean for competition-seeking women (men) and competition-avoiding women (men) with the the probability that a woman (man) seeks competition (see Table 1). * p<0.10, ** p<0.05, *** p<0.01.

Table A.8: Counterfactual for evaluators' beliefs in the *Beliefs Studies* aggregated to the gender level with correct weighting for probability of seeking competition

	Non-socially oriented behaviors	Career-oriented behaviors	Female personality characteristics	Male personality characteristics
	(1)	(2)	(3)	(4)
Panel A. Evaluators' beliefs				
$B(F)$	55.44	47.23	64.08	57.22
$B(M)$	60.33	54.18	56.13	60.62
	(0.62)	(0.30)	(0.51)	(0.51)
Δ	-4.88***	-6.95***	7.95***	-3.40***
	(0.91)	(0.43)	(0.75)	(0.73)
Panel B. Evaluators' beliefs - truth				
$B(F) - T(F)$	14.82***	8.38***	-25.02***	-3.32***
	(0.66)	(0.30)	(0.55)	(0.52)
$B(M) - T(M)$	16.20***	10.32***	-28.87***	-5.94***
	(0.62)	(0.30)	(0.51)	(0.51)
$\Delta - T(\Delta)$	-1.37	-1.94***	3.85***	2.62***
	(0.91)	(0.43)	(0.75)	(0.73)

Notes: We replicate the analyses in Table A.7 using the counterfactual beliefs that would result if the correct weight for the probability of seeking competition was applied. For the belief data in the Female (Male) condition, we weight the beliefs about competition-seeking women (men) and competition-avoiding women (men) with the actual probability that a woman (man) seeks competition. The true value is derived from the *Behavior Study* by weighting the mean for competition-seeking women (men) and competition-avoiding women (men) with the the probability that a woman (man) seeks competition (see Table 1). * p<0.10, ** p<0.05, *** p<0.01.

Table A.9: Career-family trade-offs vs other career-related trade-offs: Behavior in the *Behavior Study*

	Career-oriented behaviors					
	Career-family trade-offs			Other career-related trade-offs		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ
$C(F)$	50.85	45.08	5.77***	35.59	30.74	4.86***
			(2.08)			(1.73)
$C(M)$	56.37	52.72	3.64*	39.04	33.45	5.60***
			(2.01)			(1.73)
Δ	-5.52***	-7.64***	2.12	-3.45**	-2.71	-0.74
	(2.03)	(2.07)	(2.89)	(1.74)	(1.71)	(2.44)

Notes: We re-estimate the results from Table 2 for two sub-categories of career-oriented behaviors. Standard errors are clustered at the individual level (shown in parentheses). The data are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.10: Career-family trade-offs vs other career-related trade-offs: Evaluators' beliefs in the *Beliefs Studies*

	Career-oriented behaviors					
	Career-family trade-offs			Other career-related trade-offs		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ
Panel A. Evaluators' beliefs						
$B(F)$	65.42	41.77	23.65***	61.11	34.92	26.19***
			(0.91)			(0.89)
$B(M)$	70.66	50.37	20.29***	65.34	37.69	27.65***
			(0.78)			(0.92)
Δ	-5.24***	-8.60***	3.36***	-4.23***	-2.77***	-1.46
	(0.81)	(0.86)	(1.20)	(0.80)	(0.83)	(1.28)
Panel B. Evaluators' beliefs - truth						
$B(F) - T(F)$	14.57***	-3.31***	17.88***	25.51***	4.18***	21.33***
	(0.56)	(0.61)	(0.91)	(0.53)	(0.60)	(0.89)
$B(M) - T(M)$	14.29***	-2.36***	16.65***	26.30***	4.24***	22.05***
	(0.57)	(0.61)	(0.78)	(0.59)	(0.57)	(0.92)
$\Delta - T(\Delta)$	0.28	-0.95	1.23	-0.78	-0.06	-0.72
	(0.81)	(0.86)	(1.20)	(0.80)	(0.83)	(1.28)

Notes: We re-estimate the results from Table 3 for two sub-categories of career-oriented behaviors. Standard errors are clustered at the individual level (shown in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.11: Career-family trade-offs vs other career-related trade-offs: Evaluators' second-order beliefs about personal norms in the *Norms Studies*

	Career-oriented behaviors			
	Career-family trade-offs		Other career-related trade-offs	
	Yes	No	Yes	No
	(1)	(2)	(3)	(4)
Panel A. Evaluators' second-order beliefs about personal norms				
$N(F)$	0.01	0.46	-0.08	0.30
$N(M)$	0.30	0.20	-0.02	0.28
Δ	-0.29***	0.26***	-0.06***	0.02
	(0.03)	(0.02)	(0.02)	(0.02)
Panel B. Differences between norms for Yes and No categories				
$Esteem/stigma(F)$	-0.46***		-0.38***	
	(0.03)		(0.02)	
$Esteem/stigma(M)$	0.10***		-0.30***	
	(0.03)		(0.03)	
Δ	-0.55***		-0.08**	
	(0.04)		(0.04)	

Notes: We re-estimate the results from Table 4 for two sub-categories of career-oriented behaviors. Standard errors are clustered at the individual level (shown in parentheses). The data are from 1,003 evaluators in the *Norms Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.12: Non-socially oriented behaviors: Choices

	Keep more in DG		Distrust in TG		Exploit trust in TG		Defect in PD	
	Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$C(F)$	43.22	40.44	46.61	48.63	36.44	32.51	37.01	40.44
$C(M)$	52.81	42.94	43.82	49.58	42.7	39.06	39.61	42.94
Δ	-9.59**	-2.5	2.79	-0.95	-6.2*	-6.54*	-2.6	-2.5
	(3.74)	(3.66)	(3.74)	(3.71)	(3.67)	(3.55)	(3.65)	(3.66)

Notes: We regress choices on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). The table presents the average choices of female participants (see $C(F)$) and of male participants (see $C(F)$) in the *Behavior Study*, the difference in these averages (see Δ) and the standard error on the difference in these averages (in parentheses). The choices are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.13: Non-socially oriented behaviors: Beliefs

	Keep more in DG		Distrust in TG		Exploit trust in TG		Defect in PD	
	Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A. Evaluators' beliefs								
$B(F)$	68.43	46.12	60.95	58.28	64.27	45.92	64.52	49.77
$B(M)$	72.85	51.84	63.75	60.21	70.68	49.54	67.61	52.08
Δ	-4.42***	-5.73***	-2.80**	-1.92	-6.41***	-3.62**	-3.10**	-2.31
	(1.22)	(1.53)	(1.38)	(1.53)	(1.37)	(1.53)	(1.45)	(1.62)
Panel B. Evaluators' beliefs - truth								
$B(F) - T(F)$	25.21***	5.68***	14.34***	9.65***	27.83***	13.41***	27.51***	9.33***
	(0.90)	(1.07)	(0.96)	(1.09)	(1.00)	(1.08)	(1.04)	(1.14)
$B(M) - T(M)$	20.04***	8.90***	19.93***	10.63***	27.98***	10.48***	28.00***	9.14***
	(0.82)	(1.09)	(0.99)	(1.07)	(0.94)	(1.08)	(1.01)	(1.15)
$\Delta - T(\Delta)$	5.17***	-3.23**	-5.59***	-0.97	-0.15	2.93*	-0.50	0.19
	(1.22)	(1.53)	(1.38)	(1.53)	(1.37)	(1.53)	(1.45)	(1.62)

Notes: We regress beliefs and belief accuracy on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Panel A presents the average beliefs of evaluators from the *Beliefs-Behavior Study* about the choices of female participants (see $B(F)$) and of male participants (see $B(F)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average beliefs about female participants demeaned by the true value for female participants (see $B(F) - T(F)$), the average beliefs about male participants demeaned by the true value for male participants (see $B(M) - T(M)$), the difference in these demeaned averages (see $\Delta - T(\Delta)$), and the standard error on the difference in these averages (in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.14: Non-socially oriented behaviors: Norms

	Keep more in DG		Distrust in TG		Exploit trust in TG		Defect in PD	
	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Evaluators' second-order beliefs about personal norms								
$N(F)$	-0.10	0.69	0.20	0.38	-0.43	0.67	-0.25	0.73
$N(M)$	-0.21	0.67	0.20	0.33	-0.41	0.67	-0.16	0.73
Δ	0.11***	0.02	-0.01	0.05*	-0.03	0.01	-0.09**	0.00
	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)	(0.04)	(0.03)

Notes: We regress second-order beliefs on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Second-order beliefs are transformed into numerical scores (see the notes in Table 4). The table presents the average second-order beliefs of evaluators from the *Norms Behavior Study* about about how appropriate a behavior is for a woman (see $N(F)$), for a man (see $N(M)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). The second-order beliefs are from 1,003 evaluators in the *Norms Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.15: Career-oriented behaviors: Choices

	Not give up job		Work fulltime		Take on more work		Not hold back		Create pressure		Take personal credit		Not support colleagues	
	Competition		Competition		Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
$C(F)$	18.93	23.77	62.15	55.19	71.47	56.28	42.66	46.72	63.56	51.09	24.01	15.3	12.15	9.84
$C(M)$	28.37	20.78	67.98	68.98	72.75	68.42	44.94	44.32	68.54	59	28.93	23.27	13.76	7.2
Δ	-9.44***	2.99	-5.83	-13.78***	-1.28	-12.14***	-2.29	2.4	-4.98	-7.91***	-4.92	-7.97***	-1.62	2.63
	(3.17)	(3.09)	(3.58)	(3.57)	(3.37)	(3.57)	(3.73)	(3.70)	(3.55)	(3.68)	(3.31)	(2.92)	(2.52)	(2.07)

Notes: We regress choices on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). The table presents the average choices of female participants (see $C(F)$) and of male participants (see $C(F)$) in the *Behavior Study*, the difference in these averages (see Δ). and the standard error on the difference in these averages (in parentheses). The choices are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.16: Career-oriented behaviors: Beliefs

	Not give up job		Work fulltime		Take on more work		Not hold back		Create pressure		Take personal credit		Not support colleagues	
	Competition		Competition		Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Panel A. Evaluators' beliefs														
$B(F)$	57.99	33.65	68.58	48.6	69.68	43.07	64.17	34.69	71.71	35.82	58.5	32.63	50.05	36.53
$B(M)$	61.05	37.98	77.19	65.05	73.73	48.09	66.44	37	75.16	38.72	65.38	37.04	54.37	37.99
Δ	-3.05**	-4.33***	-8.61***	-16.44***	-4.05***	-5.02***	-2.27	-2.32*	-3.45***	-2.90**	-6.88***	-4.41***	-4.32***	-1.46
	(1.30)	(1.26)	(1.29)	(1.43)	(1.07)	(1.28)	(1.41)	(1.35)	(1.09)	(1.31)	(1.38)	(1.39)	(1.31)	(1.23)
Panel B. Evaluators' beliefs - truth														
$B(F)$	39.06***	9.88***	6.43***	-6.59***	-1.79**	-13.21***	21.51***	-12.03***	8.15***	-15.27***	34.49***	17.33***	37.90***	26.69***
$-T(F)$	(0.92)	(0.89)	(0.85)	(0.97)	(0.77)	(0.91)	(0.97)	(0.94)	(0.78)	(0.90)	(0.99)	(1.00)	(0.89)	(0.89)
$B(M)$	32.68***	17.20***	9.21***	-3.93***	0.98	-20.33***	21.50***	-7.32***	6.62***	-20.28***	36.45***	13.77***	40.61***	30.79***
$-T(M)$	(0.92)	(0.89)	(0.97)	(1.06)	(0.75)	(0.90)	(1.02)	(0.98)	(0.75)	(0.94)	(0.96)	(0.97)	(0.96)	(0.84)
Δ	6.39***	-7.32***	-2.78**	-2.65*	-2.77***	7.12***	0.01	-4.72***	1.53	5.01***	-1.96	3.56**	-2.71**	-4.10***
$-T(\Delta)$	(1.30)	(1.26)	(1.29)	(1.43)	(1.07)	(1.28)	(1.41)	(1.35)	(1.09)	(1.31)	(1.38)	(1.39)	(1.31)	(1.23)

Notes: We regress beliefs on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Panel A presents the average beliefs of evaluators from the *Beliefs-Behavior Study* about the choices of female participants (see $B(F)$) and of male participants (see $B(F)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average beliefs about female participants demeaned by the true value for female participants (see $B(F) - T(F)$), the average beliefs about male participants demeaned by the true value for male participants (see $B(M) - T(M)$), the difference in these demeaned averages (see $\Delta - T(\Delta)$), and the standard error on the difference in these averages (in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.17: Career-oriented behaviors: Norms

	Not give up job		Work fulltime		Take on more work		Not hold back		Create pressure		Take personal credit		Not support colleagues	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Evaluators' second-order beliefs about personal norms														
$N(F)$	-0.17	0.45	0.12	0.61	0.08	0.34	0.21	-0.07	0.06	0.31	-0.58	0.48	-0.01	0.47
$N(M)$	-0.05	0.39	0.75	-0.06	0.21	0.28	0.29	-0.07	0.19	0.17	-0.56	0.52	0.02	0.5
Δ	-0.12***	0.05	-0.63***	0.67***	-0.13***	0.05	-0.08**	0.00	-0.13***	0.13***	-0.02	-0.04	-0.02	-0.02
	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)

Notes: We regress second-order beliefs on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Second-order beliefs are transformed into numerical scores (see the notes in Table 4). The table presents the average second-order beliefs of evaluators from the *Norms Behavior Study* about about how appropriate a behavior is for a woman (see $N(F)$), for a man (see $N(M)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). The second-order beliefs are from 1,003 evaluators in the *Norms Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.18: Female personality characteristics: Self-description

	Soothe feelings		Compassionate		Gentle		Sensitive		Warm	
	Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$C(F)$	77.4	78.14	96.33	96.45	87.29	88.25	91.81	94.54	90.11	89.62
$C(M)$	60.96	73.41	91.57	94.74	88.76	90.86	83.15	91.14	84.83	87.81
Δ	16.45***	4.73	4.75***	1.71	-1.48	-2.61	8.66***	3.40*	5.28**	1.81
	(3.41)	(3.18)	(1.78)	(1.52)	(2.44)	(2.27)	(2.47)	(1.91)	(2.48)	(2.35)

Notes: We regress choices on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). The table presents the average self-descriptions of female participants (see $C(F)$) and of male participants (see $C(F)$) in the *Behavior Study*, the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). The choices are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.19: Female personality characteristics: Beliefs

	Soothe feelings		Compassionate		Gentle		Sensitive		Warm	
	Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Evaluators' beliefs										
$B(F)$	47.09	66.56	59.62	72.09	49.88	70.07	55.68	71.77	55.99	70.95
$B(M)$	39.41	59.48	51.8	66.03	44.17	64.42	46.41	65.64	50.79	64.64
Δ	7.68***	7.08***	7.82***	6.06***	5.71***	5.65***	9.27***	6.14***	5.20***	6.31***
	(1.34)	(1.32)	(1.21)	(1.15)	(1.25)	(1.14)	(1.25)	(1.14)	(1.20)	(1.13)
Panel B. Evaluators' beliefs - truth										
$B(F) - T(F)$	-30.31***	-11.58***	-36.71***	-24.36***	-37.41***	-18.18***	-36.13***	-22.77***	-34.12***	-18.67***
	(0.97)	(0.95)	(0.87)	(0.82)	(0.90)	(0.83)	(0.89)	(0.77)	(0.86)	(0.80)
$B(M) - T(M)$	-21.55***	-13.93***	-39.77***	-28.71***	-44.59***	-26.44***	-36.74***	-25.50***	-34.04***	-23.17***
	(0.92)	(0.93)	(0.84)	(0.81)	(0.86)	(0.78)	(0.88)	(0.83)	(0.84)	(0.80)
$\Delta - T(\Delta)$	-8.76***	2.35*	3.06**	4.35***	7.18***	8.26***	0.61	2.74**	-0.08	4.50***
	(1.34)	(1.32)	(1.21)	(1.15)	(1.25)	(1.14)	(1.25)	(1.14)	(1.20)	(1.13)

Notes: We regress beliefs and belief accuracy on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Panel A presents the average beliefs of evaluators from the *Beliefs-Personality Study* about female participants (see $B(F)$), male participants (see $B(F)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average beliefs about female participants demeaned by the true value for female participants (see $B(F) - T(F)$), the average beliefs about male participants demeaned by the true value for male participants (see $B(M) - T(M)$), the difference in these demeaned averages (see $\Delta - T(\Delta)$), and the standard error on the difference in these averages (in parentheses). The data are from 1,002 evaluators in the *Beliefs-Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.20: Male personality characteristics: Self-description

	Leader		Ambitious		Assertive		Decisive		Dominant	
	Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$C(F)$	80.23	68.85	83.05	76.5	40.4	30.33	76.84	72.4	48.31	39.07
$C(M)$	80.62	78.12	86.52	77.29	45.79	37.67	80.06	77.56	59.83	45.71
Δ	-0.39	-9.26***	-3.47	-0.78	-5.39	-7.35**	-3.22	-5.16	-11.53	-6.64
	(2.98)	(3.26)	(2.70)	(3.13)	(3.72)	(3.51)	3.09)	(3.21)	(3.72)	(3.66)

Notes: We regress choices on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). The table presents the average self-descriptions of female participants (see $C(F)$) and of male participants (see $C(F)$) in the *Behavior Study*, the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). The choices are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.21: Male personality characteristics: Beliefs

	Leader		Ambitious		Assertive		Decisive		Dominant	
	Competition		Competition		Competition		Competition		Competition	
	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding	seeking	avoiding
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Evaluators' beliefs										
$B(F)$	75.34	43.16	81.15	48.30	81.15	48.30	75.23	50.53	72.79	36.52
$B(M)$	75.67	42.53	81.31	48.64	81.31	48.64	75.38	50.81	77.95	39.66
Δ	-0.33	0.63	-0.16	-0.35	-0.16	-0.35	-0.16	-0.29	-5.16***	-3.14**
	(1.02)	(1.32)	(0.93)	(1.39)	(0.93)	(1.39)	(1.01)	(1.29)	(1.03)	(1.24)
Panel B. Evaluators' beliefs - truth										
$B(F) - T(F)$	-4.89***	-25.69***	-1.90***	-28.20***	40.75***	17.97***	-1.61**	-21.87***	24.48***	-2.55***
	(0.72)	(0.91)	(0.66)	(0.97)	(0.66)	(0.97)	(0.73)	(0.91)	(0.74)	(0.83)
$B(M) - T(M)$	-4.95***	-35.59***	-5.21***	-28.65***	35.52***	10.97***	-4.68***	-26.75***	18.12***	-6.05***
	(0.73)	(0.96)	(0.65)	(0.99)	(0.65)	(0.99)	(0.70)	(0.92)	(0.72)	(0.92)
$\Delta - T(\Delta)$	0.06	9.90***	3.31***	0.44	5.23***	6.99***	3.06***	4.87***	6.36***	3.50***
	(1.02)	(1.32)	(0.93)	(1.39)	(0.93)	(1.39)	(1.01)	(1.29)	(1.03)	(1.24)

Notes: We regress beliefs and belief accuracy on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Panel A presents the average beliefs of evaluators from the *Beliefs-Personality Study* about female participants (see $B(F)$), male participants (see $B(F)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the average beliefs about female participants demeaned by the true value for female participants (see $B(F) - T(F)$), the average beliefs about male participants demeaned by the true value for male participants (see $B(M) - T(M)$), the difference in these demeaned averages (see $\Delta - T(\Delta)$), and the standard error on the difference in these averages (in parentheses). The data are from 1,002 evaluators in the *Beliefs-Personality Study.* * p<0.10, ** p<0.05, *** p<0.01.

Table A.22: Personality characteristics: Norms

	Soothe feelings		Compassionate		Gentle		Sensitive		Warm	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A: Female personality characteristics: Evaluators' second-order beliefs about personal norms										
$N(F)$	0.65	-0.57	0.89	-0.76	0.77	-0.63	0.81	-0.68	0.90	-0.79
$N(M)$	0.47	-0.44	0.75	-0.68	0.54	-0.46	0.66	-0.61	0.71	-0.60
Δ	0.18***	-0.13***	0.14***	-0.07***	0.24***	-0.17***	0.15***	-0.07**	0.19***	-0.19***
	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)

	Leader		Ambitious		Assertive		Decisive		Dominant	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel B: Male personality characteristics: Evaluators' second-order beliefs about personal norms										
$N(F)$	0.08	0.06	0.42	-0.32	-0.27	0.31	0.51	-0.43	-0.3	0.36
$N(M)$	0.72	-0.51	0.83	-0.77	0.15	-0.09	0.77	-0.65	0.33	-0.21
Δ	-0.64***	0.58***	-0.40***	0.44***	-0.42***	0.39***	-0.26***	0.23***	-0.63***	0.58***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)

Notes: We regress second-order beliefs on a female dummy, estimating linear regression models with OLS with standard errors clustered at the individual level (shown in parentheses). Second-order beliefs are transformed into numerical scores (see the notes in Table 4). The table presents the average second-order beliefs of evaluators from the *Norms Personality Study* about how desirable a characteristic is for a woman (see $N(F)$), for a man (see $N(M)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). The second-order beliefs are from 1,003 evaluators in the *Norms Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.23: Evaluators' beliefs in the *Beliefs Studies* by evaluators' gender

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ	(5)	(6)	Δ	(7)	(8)	Δ
Panel A. Female evaluators' beliefs												
$B(F)$	66.08	51.54	14.54***	63.69	37.42	26.27***	54.38	71.24	-16.85***	78.68	46.11	32.57***
			(1.23)			(1.17)			(1.23)			(1.31)
$B(M)$	68.70	53.81	14.89***	68.89	45.45	23.45***	44.39	62.53	-18.15***	78.15	46.52	31.64***
			(1.18)			(1.00)			(1.27)			(1.33)
Δ	-2.62*	-2.27	-0.35	-5.20***	-8.03***	2.83*	10.00***	8.70***	1.29	0.52	-0.41	0.93
	(1.38)	(1.65)	(1.70)	(0.95)	(0.98)	(1.54)	(1.43)	(1.35)	(1.77)	(1.14)	(1.59)	(1.86)
Panel B. Male evaluators' beliefs												
$B(F)$	63.13	48.52	14.60***	62.29	38.23	24.05***	52.93	69.32	-16.39***	75.62	44.63	30.99***
			(1.27)			(1.16)			(1.29)			(1.27)
$B(M)$	68.75	52.97	15.78***	66.17	40.49	25.68***	48.86	65.70	-16.84***	78.51	45.55	32.96***
			(1.40)			(1.16)			(1.47)			(1.34)
Δ	-5.63***	-4.45***	-1.17	-3.88***	-2.25**	-1.63	4.08***	3.62***	0.45	-2.88***	-0.92	-1.96
	(1.41)	(1.70)	(1.89)	(0.99)	(0.96)	(1.64)	(1.46)	(1.38)	(1.95)	(1.05)	(1.48)	(1.85)

Notes: We re-estimate the results from Table 3 for two sub-samples of evaluators: female and male evaluators. Standard errors are clustered at the individual level (shown in parentheses). Panel A presents the average belief of male evaluators about female participants (see $B(F)$), the average belief about male participants (see $B(M)$), the row and column differences in these averages, respectively (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the corresponding beliefs of female evaluators. The data are from 521 female evaluators and 498 male evaluators in the *Beliefs-Behavior Study* and 509 female evaluators and 492 male evaluators in the *Beliefs-Personality Study* (for 2 evaluators we do not have information on their gender). * p<0.10, ** p<0.05, *** p<0.01.

Table A.24: Evaluators' second-order beliefs about personal norms in the *Norms Studies* by evaluators' gender

	Non-socially oriented behaviors		Career-oriented behaviors		Female personality characteristics		Male personality characteristics		Seeking competition	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Female evaluators' second-order beliefs about personal norms										
$N(F)$	-0.11	0.61	-0.06	0.38	0.81	-0.68	0.14	-0.03	0.13	0.25
$N(M)$	-0.11	0.59	0.12	0.22	0.66	-0.61	0.52	-0.44	0.37	0.04
Δ	0.00	0.02	-0.18***	0.16***	0.15***	-0.07**	-0.38***	0.41***	-0.24***	0.21***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)
Panel B. Male evaluators' second-order beliefs about personal norms										
$N(F)$	-0.19	0.64	-0.03	0.36	0.80	-0.69	0.04	0.02	0.26	0.14
$N(M)$	-0.18	0.61	0.11	0.28	0.59	-0.50	0.60	-0.46	0.37	-0.04
Δ	-0.01	0.02	-0.14***	0.08***	0.21***	-0.19***	-0.56***	0.48***	-0.11**	0.18***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)	(0.05)	(0.05)

Notes: We re-estimate the results from Table 4 for two sub-samples of evaluators: female and male evaluators. Standard errors are clustered at the individual level (shown in parentheses). Second-order beliefs are transformed into numerical scores (see the notes in Table 4). Panel A presents the average second-order belief of female evaluators about how appropriate a behavior/how desirable a characteristic is for a woman (see $B(F)$), for a man (see $B(M)$), the difference in these averages (see Δ), and the standard error on the difference in these averages (in parentheses). Panel B presents the corresponding second-order beliefs for male evaluators. There are 507 female evaluators and 491 male evaluators in the *Norms Behavior Study* and 507 female evaluators and 489 male evaluators in the *Norms Personality Study* (for 2 evaluators we do not have information on their gender). * p<0.10, ** p<0.05, *** p<0.01.

Table A.25: Evaluators' beliefs in the *Beliefs Studies* by evaluators' competitiveness

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking (1)	Competition avoiding (2)	Δ	Competition seeking (3)	Competition avoiding (4)	Δ	Competition seeking (5)	Competition avoiding (6)	Δ	Competition seeking (7)	Competition avoiding (8)	Δ
Panel A. Low competitiveness evaluators' beliefs												
$B(F)$	63.82	47.43	16.40***	63.67	35.83	27.83***	49.74	70.81	-21.07***	76.12	44.25	31.87***
			(1.24)			(1.14)			(1.40)			(1.48)
$B(M)$	68.21	52.11	16.10***	69.45	42.82	26.63***	40.31	64.44	-24.14***	77.03	45.52	31.51***
			(1.30)			(1.11)			(1.23)			(1.44)
Δ	-4.39***	-4.68***	0.30	-5.79***	-6.99***	1.20	9.43***	6.36***	3.07*	-0.91	-1.27	0.36
	(1.49)	(1.76)	(1.80)	(1.02)	(0.98)	(1.59)	(1.63)	(1.38)	(1.86)	(1.30)	(1.65)	(2.06)
Panel B. High competitiveness evaluators' beliefs												
$B(F)$	65.15	52.22	12.93***	62.35	39.57	22.78***	55.57	70.04	-14.47***	77.62	45.90	31.72***
			(1.24)			(1.16)			(1.12)			(1.14)
$B(M)$	69.21	54.64	14.57***	65.89	43.41	22.48***	50.55	63.78	-13.23***	79.16	46.41	32.76***
			(1.27)			(1.03)			(1.32)			(1.25)
Δ	-4.05***	-2.42	-1.63	-3.54***	-3.84***	0.30	5.02***	6.26***	-1.24	-1.54	-0.50	-1.04
	(1.31)	(1.57)	(1.77)	(0.93)	(0.97)	(1.55)	(1.26)	(1.29)	(1.73)	(0.98)	(1.43)	(1.69)

Notes: We re-estimate the results from Table 3 for two sub-samples of evaluators: Low competitiveness evaluators have a score of 0-5 on the competitiveness question of Buser et al. (2024) and high competitiveness evaluators have a score of 6-10 on the competitiveness question. Standard errors are clustered at the individual level (shown in parentheses). The data are from 481 low competitiveness evaluators (59 percent female) and 539 high competitiveness evaluators (44 percent female) in the *Beliefs-Behavior Study* and 362 low competitiveness evaluators (64 percent female) and 640 high competitiveness evaluators (43 percent female) in the *Beliefs-Personality Study* (for 2 evaluators we do not have information on their gender). * p<0.10, ** p<0.05, *** p<0.01.

Table A.26: Evaluators' second-order beliefs about personal norms in the *Norms Studies* by evaluators' competitiveness

	Non-socially oriented behaviors		Career-oriented behaviors		Female personality characteristics		Male personality characteristics		Seeking competition	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Low competitiveness evaluators' second-order beliefs about personal norms										
$N(F)$	-0.20	0.65	-0.08	0.40	0.85	-0.75	0.06	0.03	0.08	0.28
$N(M)$	-0.19	0.60	0.12	0.26	0.63	-0.58	0.52	-0.44	0.32	0.10
$N(\Delta)$	-0.01	0.05	-0.20***	0.15***	0.21***	-0.17***	-0.46***	0.47***	-0.23***	0.18***
	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.06)	(0.05)
Panel B. High competitiveness evaluators' second-order beliefs about personal norms										
$N(F)$	-0.12	0.60	-0.01	0.35	0.78	-0.65	0.10	-0.02	0.26	0.14
$N(M)$	-0.11	0.60	0.12	0.24	0.62	-0.55	0.58	-0.45	0.40	-0.07
$N(\Delta)$	-0.00	0.00	-0.14***	0.11***	0.16***	-0.11***	-0.47***	0.43***	-0.14***	0.20***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)	(0.05)	(0.05)

Notes: We re-estimate the results from Table 4 for two sub-samples of evaluators: Low competitiveness evaluators have a score of 0-5 on the competitiveness question of Buser et al. (2024) and high competitiveness evaluators have a score of 6-10 on the competitiveness question. Standard errors are clustered at the individual level (shown in parentheses). The data are from 403 low competitiveness evaluators (58 percent female) and 596 high competitiveness evaluators (46 percent female) in the *Norms Behavior Study* and 307 low competitiveness evaluators (63 percent female) and 690 high competitiveness evaluators (45 percent female) in the *Norms Personality Study* (for 2 evaluators we do not have information on their gender). * p<0.10, ** p<0.05, *** p<0.01.

Table A.27: Evaluators' beliefs in the *Beliefs Studies* with controls

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ	(5)	(6)	Δ	(7)	(8)	Δ
Panel A. Evaluators' beliefs												
$B(F)$	64.54	50.02	14.52***	62.96	37.85	25.10***	53.65	70.29	-16.64***	77.13	45.36	31.77***
			(0.88)			(0.82)			(0.89)			(0.91)
$B(M)$	68.72	53.42	15.31***	67.62	43.12	24.49***	46.51	64.04	-17.52***	78.32	46.06	32.27***
			(0.91)			(0.76)			(0.96)			(0.94)
Δ	-4.18***	-3.39***	-0.79	-4.66***	-5.27***	0.61	7.14***	6.25***	0.89	-1.19	-0.70	-0.5
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)
Panel B. Evaluators' beliefs - truth												
$B(F) - T(F)$	23.72***	9.52***	14.21***	20.82***	0.97*	19.85***	-34.94***	-19.11***	-15.83***	11.36***	-12.07***	23.43***
	(0.72)	(0.83)	(0.88)	(0.47)	(0.51)	(0.82)	(0.74)	(0.68)	(0.89)	(0.57)	(0.73)	(0.91)
$B(M) - T(M)$	23.99***	9.79***	14.20***	21.15***	1.41***	19.74***	-35.34***	-23.55***	-11.79***	7.76***	-17.21***	24.97***
	(0.67)	(0.84)	(0.91)	(0.51)	(0.47)	(0.76)	(0.71)	(0.69)	(0.96)	(0.54)	(0.80)	(0.94)
$\Delta - T(\Delta)$	-0.27	-0.27	0.00	-0.33	-0.44	0.12	0.40	4.44***	-4.04***	3.60***	5.14***	-1.54
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)

Notes: We re-estimate the results from Table 3 with the controls variables listed in Appendix A.5. Standard errors are clustered at the individual level (shown in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study* and 1,002 evaluators in the *Beliefs-Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.28: Evaluators' second-order beliefs about personal norms in the *Norms Studies* with controls

	Non-socially oriented behaviors		Career-oriented behaviors		Female personality characteristics		Male personality characteristics		Seeking competition	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Panel A. Evaluators' second-order beliefs about personal norms										
$N(F)$	-0.29	0.62	-0.08	0.37	0.81	-0.62	0.06	0.06	0.06	0.32
$N(M)$	-0.28	0.60	0.09	0.24	0.63	-0.50	0.52	-0.38	0.25	0.11
Δ	-0.01	0.02	-0.17***	0.13***	0.18***	-0.12***	-0.47***	0.44***	-0.19***	0.20***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)	(0.04)
Panel B. Within-subject differences between evaluators' second-order beliefs for Yes and No categories										
$Esteem/stigma(F)$	-0.91***		-0.45***		1.43***		0.00		-0.25**	
	(0.06)		(0.06)		(0.05)		(0.06)		(0.10)	
$Esteem/stigma(M)$	-0.88***		-0.15***		1.13***		0.91***		0.14	
	(0.06)		(0.06)		(0.05)		(0.06)		(0.10)	
Δ	-0.02		-0.28***		0.31***		-0.91***		-0.37***	
	(0.04)		(0.03)		(0.03)		(0.04)		(0.06)	

Notes: We re-estimate the results from Table 4 with the controls variables listed in Appendix A.5. Standard errors are clustered at the individual level (shown in parentheses).

Table A.29: Participants' choices in the *Behavior Study* (weighted by U.S. population age categories)

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ	(5)	(6)	Δ	(7)	(8)	Δ
$C(F)$	39.07	39.24	-0.17	41.64	36.62	5.02***	88.92	89.37	-0.45	64.94	56.30	8.64***
	(2.08)	(1.93)	(2.84)	(1.12)	(1.06)	(1.54)	(1.08)	(1.13)	(1.57)	(1.63)	(1.74)	(2.38)
$C(M)$	43.42	43.56	-0.13	46.06	40.50	5.56***	81.56	88.11	-6.56***	70.02	62.63	7.39***
	(1.97)	(2.11)	(2.89)	(1.04)	(1.09)	(1.50)	(1.47)	(1.17)	(1.88)	(1.58)	(1.67)	(2.30)
Δ	-4.35	-4.31	-0.04	-4.43***	-3.88**	-0.54	7.36***	1.26	6.10**	-5.08**	-6.33***	1.25
	(2.87)	(2.86)	(4.05)	(1.52)	(1.52)	(2.15)	(1.82)	(1.63)	(2.44)	(2.27)	(2.41)	(3.31)

Notes: We re-restimate the results from Table 2 using the U.S. population weights for the age ranges $18-24$, $25-34$, $35-44$, $45-54$, above 54. Standard errors are clustered at the individual level (shown in parentheses). The data are from 710 participants who seek competition and 727 participants who avoid competition from the *Behavior Study*. * p<0.10, ** p<0.05, *** p<0.01.

Table A.30: Evaluators' beliefs in the *Beliefs Studies* (weighted by U.S. population age categories)

	Non-socially oriented behaviors			Career-oriented behaviors			Female personality characteristics			Male personality characteristics		
	Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding		Competition seeking	Competition avoiding	
	(1)	(2)	Δ	(3)	(4)	Δ	(5)	(6)	Δ	(7)	(8)	Δ
Panel A. Evaluators' beliefs												
$B(F)$	64.54	50.02	14.52***	62.96	37.85	25.10***	53.65	70.29	-16.64***	77.13	45.36	31.77***
			(0.88)			(0.82)			(0.89)			(0.91)
$B(M)$	68.72	53.42	15.31***	67.62	43.12	24.49***	46.51	64.04	-17.52***	78.32	46.06	32.27***
			(0.91)			(0.76)			(0.96)			(0.94)
Δ	-4.18***	-3.39***	-0.79	-4.66***	-5.27***	0.61	7.14***	6.25***	0.89	-1.19	-0.70	-0.5
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)
Panel B. Evaluators' beliefs - truth												
$B(F) - T(F)$	25.47***	10.78***	14.69***	21.32***	1.24**	20.08***	-35.26***	-19.08***	-16.18***	12.19***	-10.94***	23.13***
	(0.72)	(0.83)	(0.88)	(0.47)	(0.51)	(0.82)	(0.74)	(0.68)	(0.89)	(0.57)	(0.73)	(0.91)
$B(M) - T(M)$	25.30***	9.86***	15.44***	21.55***	2.62***	18.93***	-35.04***	-24.07***	-10.97***	8.30***	-16.57***	24.87***
	(0.67)	(0.84)	(0.91)	(0.51)	(0.47)	(0.76)	(0.71)	(0.69)	(0.96)	(0.54)	(0.80)	(0.94)
$\Delta - T(\Delta)$	0.17	0.92	-0.75	-0.24	-1.39**	1.15	-0.22	4.99***	-5.21***	3.89***	5.63***	-1.74
	(0.98)	(1.18)	(1.27)	(0.69)	(0.70)	(1.12)	(1.02)	(0.97)	(1.31)	(0.78)	(1.09)	(1.31)

Notes: We re-estimate the results from Table 3 using for the true behavior the U.S. population weights for the age ranges $18-24$, $25-34$, $35-44$, $45-54$, above 54. Standard errors are clustered at the individual level (shown in parentheses). The data are from 1,020 evaluators in the *Beliefs-Behavior Study* and 1,002 evaluators in the *Beliefs-Personality Study*. * p<0.10, ** p<0.05, *** p<0.01.

Beliefs about competitive individuals (#203755)

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Pre-registered on: 12/10/2024 12:50 AM (PT)

1) Have any data been collected for this study already?
No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?
1) We test whether evaluators have accurate beliefs about women (men) who seek competition by reporting actual frequencies, the beliefs about frequencies, and then comparing beliefs and actual frequencies with each other for categories d, b, p_f, and p_m, respectively.
2) We test whether there is a gender gap in the accuracy of the beliefs about individuals who seek competition by reporting gender differences in actual frequencies, differences in the beliefs about frequencies, and then comparing beliefs and actual frequencies with each other for categories d, b, p_f, and p_m, respectively.
3) We test whether there are gender differences in the social sanctions ("stigma") or rewards ("esteem") associated with conforming vs not conforming with, respectively,
• the non-socially-oriented outcome in the scenarios of category d,
• the career-oriented outcome in the scenarios of category b,
• the personality characteristics p_f or p_m, and
• seeking competition in the workplace (category c).
We do not expect a gender difference in category d.
4) We test whether there is a gender gap in the social appropriateness rating of seeking competition in the workplace (category c). We do not expect a gender difference.

Secondary hypotheses: We repeat the tests under 1 and 2 for women (men) who avoid competition and for the difference between women (men) who seek competition compared to women (men) who avoid competition.

3) Describe the key dependent variable(s) specifying how they will be measured.
We construct the following outcome variables to test our main hypotheses:

• The belief that participant i from the Beliefs-Behavior Study or Beliefs-Personality Study has about the percentage of participants from the Behavior Study who are of gender G in {M,W}, have made selection S in {C,NoC}, and choose the answer category c=Y in question n, where n in {1,..., 21} : BeliefPercentage_in(S,G).

• The accuracy of the belief of participant i from the Beliefs Studies, derived by demeaning the belief with the true percentage of participants choosing answer category c=Y in question n: BeliefAccuracy_in(S,G)=BeliefPercentage_in(S,G)-TruePercentage_n(S,G).

• From the second-order belief of participant i in the Norms Studies, we construct the social appropriateness/desirability of answer category c in {Y,N} in question n for decision-makers who are of gender G in {M,W}: SA_in(c,G). Following the approach of Krupka & Weber (2013), each participant's response is transformed into numerical scores using the following scale: very inappropriate/not at all desirable = -1; somewhat inappropriate/somewhat undesirable = -0.33; somewhat appropriate/somewhat desirable = 0.33; very appropriate/extremely desirable = 1. We also ask how appropriate it is for a man/woman to seek competition in the workplace (n=22).

• We compute the within-evaluator difference across answer categories Y and N: Delta_SA_in(G)= SA_in(c=Y,G)- SA_in(c=N,G).

• For our secondary analysis, we also construct the within-evaluator C-NoC belief gap, DeltaBeliefPercentage_in(G)=BeliefPercentage_in(S=C,G)-BeliefPercentage_in(S=NoC,G), and the C-NoC belief gap adjusted for the true percentage of participants choosing answer category Y, Delta BeliefAccuracy_in(G)= BeliefAccuracy_in(S=C,G)-BeliefAccuracy_in(S=NoC,G).

4) How many and which conditions will participants be assigned to?
In the Behavior Study, participants first face a selection into competition task (Task 3, Niederle & Vesterlund, 2017, where competition groups draw on participants from the Pre-Study). Thereafter, participants
• make four binary decisions on whether to choose a non-socially-oriented outcome in economic games related to social preferences, d in {1, ..., 4},
• answer seven binary questions, b in {1, ..., 7}, on whether they have ever engaged, or would engage, in certain career-oriented behaviors,
• rate themselves on five stereotypically female personality characteristics, p_f in {1, ...,5}, and five stereotypically male personality characteristics, p_m in {1, ...,5}.

The decisions d are coded as non-socially-oriented (Y) or socially-oriented (N). The behaviors b are coded as career-oriented (Y) or non-career-oriented (N). The items p_f and p_m are coded as conforming (Y) or not conforming (N) with the characteristic.
In the Beliefs-Behavior Study, evaluators guess the percentage of participants in the Behavior Study choosing the Y option for each decision d and behavior b. In the Beliefs-Personality Study, evaluators guess the percentage of participants in the Behavior Study who have personality characteristics p_f and p_m. Evaluators state beliefs for women (men) who chose to seek competition (C) vs chose to avoid competition (NoC).
The Norms-Behavior Study elicits norms about decisions d, behaviors b, and seeking competition in the workplace c. The Norms-Personality Study elicits the desirability of personality characteristics p_f and p_m. We implement the opinion-matching method of Bicchieri & Xiao (2009) using a between-subject design based on the Personal Norms Study. In the latter, we ask subjects to state their personal value about the appropriateness of d, b, and c, as well as the desirability of p_f and p_m.

Each of the Beliefs and Norms studies has two conditions. The female condition asks evaluators about the behavior/characteristics of women and the male condition about the behavior/characteristics of men.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.
For each question category - d, b, p_f, and p_m - we stack the outcomes in a category and estimate a linear regression with OLS. Standard errors are clustered at the evaluator level.

Test 1: We regress the dependent variable BeliefAccuracy_i(S=C,G) on a constant for the sample of evaluators assigned to the female (male) condition.

Test 2: For the pooled sample (female and male conditions), we regress the dependent variable BeliefAccuracy_i(S=C,G) on a constant and a gender indicator variable MALE (that is equal to 1 if the evaluator is in the male condition and 0 otherwise).

Test 3: We regress the dependent variable Delta_SA_i(G) on a constant and MALE.

Test 4: We regress the dependent variable SA_i(n=22)(c=Y,G) on a constant and MALE.

Secondary analyses: We repeat tests 1 and 2 with the outcome variable BeliefAccuracy_i(S=NoC,G) and the outcome variable Delta BeliefAccuracy_i(G).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.
We include the data from all participants who complete a study.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the number will be determined.
Target sample sizes:
Behavior Study: 1,400 (350 women with S =C, 350 women with S =NoC, 350 men with S =C, and 350 men with S =NoC),
Beliefs-Behavior Study: 1,000 (500 in female condition and 500 in male condition),
Beliefs-Personality Study: 1,000 (500 in female condition and 500 in male condition),
Norms-Behavior Study: 1,000 (500 in female condition and 500 in male condition),
Norms-Personality Study: 1,000 (500 in female condition and 500 in male condition),
Personal Norms Study: 200 (100 in female condition and 100 in male condition), and
Pre-Study: 100

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)
Additional analyses:
1) Specifications with controls for evaluators' characteristics (indicators for gender, age ranges, ethnic group, education level, US citizen, full-time work, personal income ranges, political party affiliation, and children).
2) Results separately for two types of behaviors b: career-family trade-offs (3 questions) and other career-related trade-offs (4 questions).
3) Results separately for each choice n.
4) Subgroup analysis for evaluators who are more vs. less competitive and possibly other subgroup analyses if evaluators' characteristics (e.g., evaluator gender or race matter in 1).
5) Check whether measures of descriptive and injunctive norms are correlated.

GfeW

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German Association for Experimental Economic Research e.V.

Institutional Review Board Certificate
No. gEdmgzeo

https://gfew.de/ethik/gEdmgzeo

Date: 10/29/2024

Certificate Expires: 10/29/2026

Status: Approved

Review Level: Expedite

Details of Experiment:

Titel
Beliefs about competitive individuals

Authors
Alexander K Koch; Julia Nafziger

Short description of the experimental study
The aim of this study is to examine two interrelated questions. First, whether women selecting into competition face biased perceptions about their behaviors and personalities and, second, whether they are held to different standards than men. To address the first question, we investigate the extent to which the beliefs that evaluators hold about the behaviors and personal characteristics of women who select into competition deviate from the actual behaviors and personal characteristics of these women. Further, we examine how possible biases in beliefs differ from those for men who select into competition. To address the second question, we elicit social norms about behavior and desirable personal characteristics, and we examine the extent to which they are gender specific. While we expect selecting into competition to be perceived as socially appropriate for both men and women, the behaviors and characteristics associated with competitive women may violate (potentially gender specific) norms but do not, or only to a lesser extent, do so for men.
As being competitive is more in line with stereotypical male behavior, the choice of selecting into competition might shift beliefs more (and more away from the truth) for women than for men, which is what we examine in secondary analyses. We measure the belief gaps regarding behaviors and personal characteristics for women who choose to compete compared to women who shy away from competition, and we examine whether the belief gaps are larger than for men. Finally, we examine to what extent the belief gaps reflect actual differences in behavior and personal characteristics or are based on gender stereotypes.
The study consists of 3 sub-studies. In a pre-study, participants first decide whether they want to be paid for their performance in a math test according to a piece rate or a competitive reward scheme. Thereafter, they make binary choices in simple games/answer binary survey questions (on social preferences, career choices and personality traits). In the main study, evaluators state beliefs about the percentage of participants choosing the Y option in a binary choice. One group of evaluators states these beliefs for women (W), the other for men (M). Evaluators state two beliefs for each

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choice n, one conditional on the participants from the pre-study having selected competition (C) and one conditional on the participants from the pre-study having selected piece rate (PR). Beliefs are incentivized. In the norms study, we elicit norms - separately for women and men (unconditional on the selection into competition choice).

The German Association for Experimental Economic Research (Gesellschaft für experimentelle Wirtschaftsforschung - GfeW) provides this certificate of approval in an expedited review process according the rules and procedures approved by the members of the association on September 19, 2017.

The approval is based on the agreement of the proposers to abide by the legal requirements of the European Union and by the policies and procedures of the GfeW. Furthermore, the approval is only valid, if (i) the proposers have provided all necessary information completely and truthfully, (ii) no part of the planned experimental project has been conducted before the approval was granted, and (iii) the experimental project is conducted as described.

This approval does not supercede or replace decisions by other statutory bodies. Furthermore, it is not a subsitute for certifications or approvals that are required by law, by the statutes of the involved research institutes, or by the codes of conduct that are applicable to the participating researchers, including those from other fields of research.

The expiration date of the approval is noted above. To continue the proposed experimental study beyond that date, a new approval must be requested, even if the experimental protocol remains unchanged.

Please also note that prior to implementing any changes or amendments in the protocol of the proposed experimental study, a new approval must be requested, even if the new experimental study including the changes or amendments to the protocol is expected to be governed by the GfeW´s rules for the expedited review process.

A copy of this letter should be kept in the records together with all documents associated with this experimental study.

Prof. Dr. Johann Graf Lambsdorff
President of the GfeW

Prof. Dr. Björn Frank
Vice-President of the GfeW

Instructions for the studies

Notes

After the informed consent it is checked that the participant has not entered the study before (using the Qualtrics authentication tool).

In all surveys, there is a progress bar at the bottom of the page

Instructions for the Behavior Study

Notes: There are two samples: Men, Women

Welcome to this study about decision making!
We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

1. Voluntary participation
Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study has one or two parts. All participants will go through part 1, which takes about 8 minutes. Around half of the participants will also go through part 2, which takes about 7 minutes in addition to part 1. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $1.30 and a bonus between $0.05 and $20.05. The size of the bonus depends on your decisions and chance. If you are asked to go through part 2, you will receive the fixed payment of $1.30 for part 1 and an additional fixed payment of $1.20 for part 2, that is, a total fixed payment of $2.50.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

Your payments

The study has one or two parts and a questionnaire. Everyone will do part 1. Only about half of the participants will be asked to do part 2 (as fewer participants are required for part 2).

- If you are not asked to do part 2, you will receive a fixed payment of $1.30 and part 1 will be the part that counts for determining your bonus.
- If you are asked to go through part 2, you will receive the fixed payment of $1.30 for part 1 and an additional fixed payment of $1.20 for part 2, that is, a total fixed payment of $2.50. One part will be randomly selected as the part that counts for determining your bonus. Both parts are equally likely to be selected as the part that counts.

Therefore, you should carefully consider each decision in each part.

There is no deception in the study.

Please answer the following comprehension question before you proceed.

I will receive a bonus ...

○ for one randomly selected part if I am asked to do both parts; for part 1 if I am only asked to do part 1.

○ for part 2.

○ for both part 1 and part 2.

Part 1

You will be asked to take a **test with questions often used when assessing job applicants**. Solve as many of **12 problems** as you can in **3 minutes**. On the next page we will show an example.

The top part of each problem is a pattern with a piece cut out of it. Your task is to **find the piece needed to complete the pattern** out of the pieces shown in the bottom part.

- For each problem, **only one answer is correct**.
- To submit your answer, select the correct option and continue to the next screen.
- Once you submit an answer, **you will not be able to go back**.

Consider the following example: Which piece is needed to complete the pattern correctly?

- Note first that when moving from left to right, a leaf is added to the right (clockwise) each time.
- Second, when moving from top to bottom, a leaf is added to the left (counterclockwise) each time.
- Therefore, the correct answer is 7.

[example of Raven's matrix]

You can choose **how your bonus is determined** if this part is the part that counts for payment:

- **No competition**: You get **10 cents** per correct answer on the test irrespective of the performance of others.
- **Competition**: You get **40 cents** per correct answer **if you have the highest number of correct answers** on the test in a group of four that you are assigned to. The three other group members are randomly selected among 100 individuals from the USA who took the same test as you in a prior study. Their pay was based on competition in groups of four.

Please answer the following comprehension questions before you proceed.

If I choose **No competition**, my bonus for this part is:

○ 10 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer if I have the highest number of correct answers in the group of four that I am assigned to. Otherwise, my bonus is $0.

If I choose **Competition**, my bonus for this part is:

○ 10 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer if I have the highest number of correct answers in the group of four that I am assigned to. Otherwise, my bonus is $0.

Choose one of two options regarding **how you want to be paid**:

○ **No competition**: You get 10 cents per correct answer on the test irrespective of the performance of others.

○ **Competition**: You get 40 cents per correct answer if you have the highest number of correct answers on the test in the group of four that you are assigned to. Otherwise, you get $0.

Click on this sentence to be reminded of the options "No competition" and "Competition". (Click again to hide the text.)

You can choose **how your bonus is determined** if this part is the part that counts for payment:

- **No competition**: You get **10 cents** per correct answer on the test irrespective of the performance of others.
- **Competition**: You get **40 cents** per correct answer **if you have the highest number of correct answers** on the test in a group of four that you are assigned to. The three other group members are randomly selected among 100 individuals from the USA who took the same test as you in a prior study. Their pay was based on competition in groups of four.

Do not switch to any other browser tab or window during the test. This may invalidate the study and result in you not getting any payments.

Ready to start the test?

Your 3 minutes will start as soon as you go to the next screen.

[Block of up to 12 test questions. The order of questions is randomized. A count-down timer is shown at the top of the screen

]

Problem [x] out of 12

Which piece is needed to complete the pattern correctly?

[Raven's matrix]

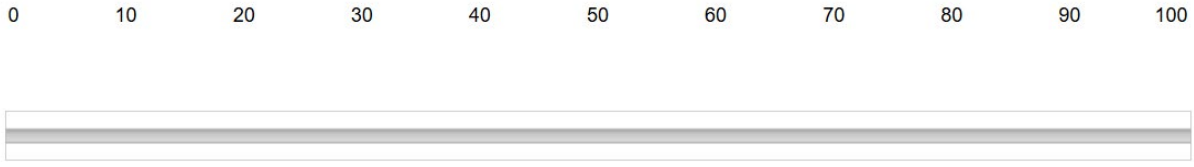
[If quota for part 2 reached, the study ends here with the question "Do you have any comments for us?"]

How do you think you did on the test compared to 100 US participants who took this test in the prior study? Please state your best guess by moving the slider (the text below updates accordingly):

My best guess is that

- **[click & drag the slider]** out of the 100 US participants have **a smaller or equal number** of correct answers compared to me, and
- **[click & drag the slider]** have **more** correct answers than I have.

Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.



Part 2

In this part, first, there will be 3 scenarios. Your decisions and the decisions of others in these scenarios influence your bonus. Specifically, if this part is randomly selected as the part that counts:

- One out of 8 participants will be paid based on the decisions made in the scenarios.
- We will randomly match these 8 participants into 4 pairs.
- For each pair, one of the 3 scenarios will be randomly chosen as the scenario that counts.

In the first scenario there will be a Player A and a Player B.

- You and the other participants will make decisions as Player A.
- If you get paid for this scenario, you will be randomly assigned to be either Player A or Player B. The participant paired with you will be assigned the other role.
- The bonus of Player A and Player B depend on Player A's decision.

Please answer the following comprehension question before you proceed.

How will your bonus be determined if you get paid for this scenario?

○ You will be paid for the decision you make as Player A.

○ You will make a decision as Player A. In the end, you will be randomly assigned to be paid as either Player A or Player B. The participant paired with you will be assigned the other role.

○ You will make a decision as Player A but will be paid as Player B.

Player A either keeps more or splits.

- **If Player A keeps more**, Player A receives $10 and Player B receives $0.
- **If Player A splits**, both Player A and Player B receive $5.

Decision 1 out of 12

Given that you receive more money by keeping more, what do you want to do as Player A?

- ○ Keep more
- ○ Split

In the next scenario, both Player A and Player B make a decision.

- You and the other participants will make decisions both as Player A and as Player B.
- If you get paid for this scenario, you will be randomly assigned to be either Player A or Player B. The participant paired with you will be assigned the other role.
- The bonus of Player A and Player B depend on both players' decisions.

Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- **If Player A trusts**, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

Decision 2 out of 12

Given that you can guarantee yourself a payment of $10 by distrusting, what do you want to do as Player A?

- ○ Trust
- ○ Distrust

Decision 3 out of 12

If Player A trusts, given that you receive more money by exploiting their trust, what do you want to do as Player B?

- ○ Reward Player A's trust
- ○ Exploit Player A's trust

In the final scenario, both Player A and Player B have the option to either cooperate or defect.

- **If both players cooperate**, both receive $15.
- **If both players defect**, both receive $10.
- **If one player defects and the other player cooperates,** the player who defects receives $20 and the player who cooperates receives $5.

Decision 4 out of 12

Given that you receive more money by defecting, what do you want to do?

- ○ Defect
- ○ Cooperate

Now we would like to ask you some **questions about yourself**.

[The order of questions is randomized]

Have you ever given up, or would you give up, a good job opportunity for the benefit of your family life or relationship?

- ○ Yes
- ○ No

Have you ever worked full-time, or would you work full-time, outside your home, as a parent of a child under the age of one?

- ○ Yes
- ○ No

Have you ever taken on, or would you take on, more work commitments even if it means your partner has to handle a greater share of household or family duties?

- ○ Yes
- ○ No

Have you ever held back, or would you hold back, in professional meetings to avoid appearing too dominant or assertive?

- ○ Yes
- ○ No

Have you ever created, or would you create, a high-pressure environment for yourself and your subordinates to deliver high performance and meet ambitious goals?

- ○ Yes
- ○ No

Have you ever taken, or would you take, personal credit for accomplishments that were the result of team effort, if this helps your own professional advancement?

- ○ Yes
- ○ No

Have you ever invested, or would you invest, time in supporting colleagues, even if it does not contribute to your own professional advancement?

- ○ Yes
- ○ No

In the following questions answer “No” if you disagree somewhat or disagree strongly, answer “Yes” if you agree somewhat or agree strongly.

[The order of questions is randomized]

I am someone …

	Yes	No
who is eager to soothe hurt feelings	○	○
who is compassionate	○	○
who is gentle	○	○
who is sensitive to the needs of others	○	○
who is warm and affectionate	○	○
who acts as a leader	○	○
who is ambitious	○	○
who is assertive and forceful	○	○
who is decisive	○	○
who is dominant	○	○

How do you see yourself? Are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?

Please choose on scale from 0 (‘unwilling to take risks’) to 10 (‘fully prepared to take risks’).

0 Unwilling to take risks	1	2	3	4	5	6	7	8	9	10 Fully prepared to take risks
○	○	○	○	○	○	○	○	○	○	○

How **competitive** do you consider **yourself** to be?

Not competitive at all — Very competitive

0 1 2 3 4 5 6 7 8 9 10

What ethnic group do you belong to?

- ○ Asian
- ○ Black
- ○ Mixed
- ○ White
- ○ Other

Do you have any comments for us?

Instructions for the Beliefs Behavior Study

Notes: There are two treatments: Beliefs about men, Beliefs about women

	Treatment	
Variable	Men	Women
treatmentgender	male	female
treatmentHE	he	she
treatmentHIS	his	her
treatmentHIM	him	her
othergender	female	male
treatmentMAN	man	woman
treatmentMEN	men	women

Welcome to this study about decision making!
We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

1. Voluntary participation
Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 10 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $1.80 and a bonus of either $0 or $3. The size of the bonus depends on your decisions and chance.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

Your task

We will ask you to make **predictions about the decisions and attitudes** of about 700 **${e://Field/treatmentMEN}** from the USA who participated in a prior study on Prolific.

Participants first took a test with questions often used when assessing job applicants. Then they made decisions in different scenarios and answered questions about themselves. The bonus of the participants depended on their test performance and their decisions to ensure that they carefully considered each choice.

Your bonus

We will ask you to make **23 predictions**.

Your chance of receiving a bonus of $3 is highest if you report your true best guess in every prediction. Therefore, you should carefully consider each prediction.

One of your decisions will be randomly selected as the decision that counts for determining your bonus. When making a prediction you can read about the details of how your bonus depends on the accuracy of your prediction.

There is no deception in the study.

Please answer this comprehension question before you start.

My chance of earning a bonus of $3 is highest when I ...

- ○ report my true best guess.
- ○ choose a random number.
- ○ report a number lower than my true best guess.
- ○ report a number higher than my true best guess.

All participants in the prior study took a **test with questions often used when assessing job applicants**.

The test consisted of **12 problems** and the participants had 3 minutes to solve as many of the problems as they could. We will show you an example on the next page.

The top part of each problem is a pattern with a piece cut out of it. Your task is to **find the piece needed to complete the pattern** out of the pieces shown in the bottom part.

- For each problem, **only one answer is correct**.
- To submit your answer, select the correct option and continue to the next screen.
- Once you submit an answer, **you will not be able to go back**.

Consider the following example: Which piece is needed to complete the pattern correctly?

- Note first that when moving from left to right, a leaf is added to the right (clockwise) each time.
- Second, when moving from top to bottom, a leaf is added to the left (counterclockwise) each time.
- Therefore, the correct answer is 7.

  [example of Raven's matrix]

Participants chose how they wanted to be paid for the test: **compete with three other individuals or avoid competition.**

- Participants who **seek competition** earn a **high amount of 40 cents** per correct answer, but **only if they do better than the three other individuals** in their group.

- Participants who **avoid competition** earn a **low amount of 10 cents** per correct answer irrespective of the performance of others.

The choice whether to seek competition or avoid competition only affected the own bonus of a participant and not the bonus of other individuals. The three other individuals in a group were randomly selected from a study in which all participants were assigned to compete. That study had an approximately equal number of male and female participants.

Please answer the following comprehension questions before you continue.

Participants who **seek competition** earn ...

○ 10 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer if they do better than the other three individuals in their group. Otherwise, they earn $0.

Participants who **avoid competition** earn ...

- ○ 10 cents per correct answer irrespective of the performance of others.
- ○ 40 cents per correct answer irrespective of the performance of others.
- ○ 40 cents per correct answer if they do better than the other three individuals in their group. Otherwise, they earn $0.

Prediction 1 out of 23

What percentage of **${e://Field/treatmentMEN} seek competition**?

Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.

0 10 20 30 40 50 60 70 80 90 100

To see the description of the options "to seek competition" and "to avoid competition" again, click on this sentence. (Click again to hide the text.)

Participants chose how they wanted to be paid for the test: **compete with three other individuals or avoid competition.**

- Participants who **seek competition** earn a **high amount of 40 cents** per correct answer, but **only if they do better than the three other individuals** in their group.
- Participants who **avoid competition** earn a **low amount of 10 cents** per correct answer irrespective of the performance of others.

The choice whether to seek competition or avoid competition only affected the own bonus of a participant and not the bonus of other individuals. The three other individuals in a group were randomly selected from a study in which all participants were assigned to compete. That study had an approximately equal number of male and female participants.

Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)

Your bonus is determined as follows:

- All decisions are equally likely to be selected as the decision that counts for determining your bonus. Therefore, you should carefully consider each decision.
- You get $3 if your guess is accurate with an error of at most +/- 3 percentage points.
- You get $0 otherwise.

Following the test, the participants in the prior study made decisions or answered questions about themselves.

For each of these situations, we will ask you to predict the behavior of two groups of ${e://Field/treatmentgender} participants:

- **${e://Field/treatmentMEN} who seek competition** and
- **${e://Field/treatmentMEN} who avoid competition**.

Please answer the following comprehension question before you continue.

You will make predictions about ...

◯ ${e://Field/treatmentgender} participants who seek competition and ${e://Field/treatmentgender} participants who avoid competition.

◯ ${e://Field/othergender} participants.

◯ just ${e://Field/treatmentgender} participants who seek competition.

◯ just ${e://Field/treatmentgender} participants who avoid competition.

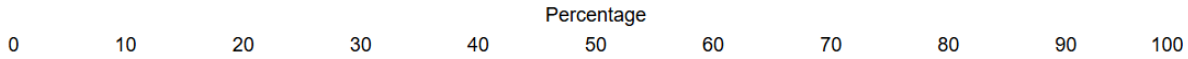
First, you will make 8 predictions about scenarios in which the **decisions of participants influence their own pay and the pay of another participant**.

Consider a scenario in which Player A either keeps more or splits.

- **If Player A keeps more**, Player A receives $10 and Player B receives $0.
- **If Player A splits**, both Player A and Player B receive $5.

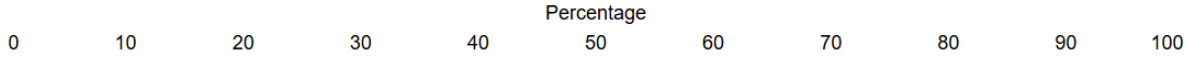
Prediction 2 out of 23

Given that Player A receives more money by keeping more, what percentage of **${e://Field/treatmentMEN} who seek competition** choose to **keep more** as Player A?



Prediction 3 out of 23

Given that Player A receives more money by keeping more, what percentage of **${e://Field/treatmentMEN} who avoid competition** choose to **keep more** as Player A?



Click anywhere in the slider field and drag the slider to choose a number between 0 and 100.
You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

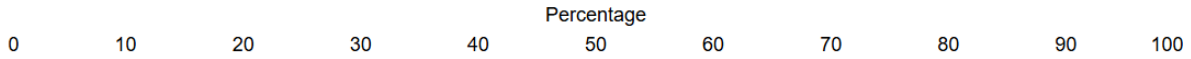
Consider a scenario in which Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

First, we ask you to **predict the choices of Player As**.

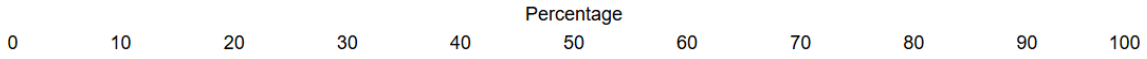
Prediction 4 out of 23

Given that Player A can guarantee ${e://Field/treatmentHIM}self a payment of $10 by distrusting, what percentage of **${e://Field/treatmentMEN} who seek competition** choose to **distrust** as Player A?



Prediction 5 out of 23

Given that Player A can guarantee ${e://Field/treatmentHIM}self a payment of $10 by distrusting, what percentage of **${e://Field/treatmentMEN} who avoid competition** choose to **distrust** as Player A?



Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

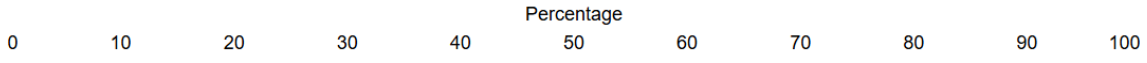
Now we ask you to **predict the choices of Player Bs** in this scenario if Player A trusts.

Remember: Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

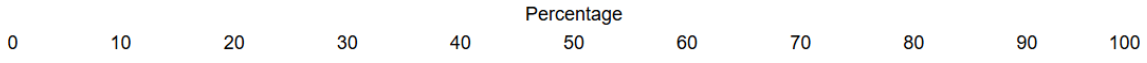
Prediction 6 out of 23

Given that Player B receives more money exploiting trust, what percentage of **${e://Field/treatmentMEN} who seek competition** choose to **exploit Player A's trust** as Player B?



Prediction 7 out of 23

Given that Player B receives more money by exploiting trust, what percentage of **${e://Field/treatmentMEN} who avoid competition** choose to **exploit Player A's trust** as Player B?



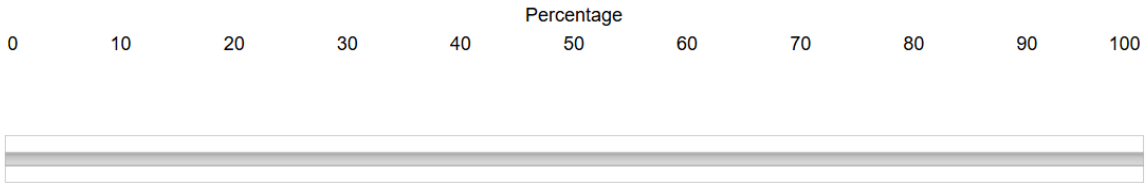
Click anywhere in the slider field and drag the slider to choose a number between 0 and 100.
You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Consider a scenario in which both Player A and Player B have the option to either cooperate or defect.

- **If both players cooperate**, both receive $15.
- **If both players defect**, both receive $10.
- **If one player defects and the other player cooperates,** the player who defects receives $20 and the player who cooperates receives $5.

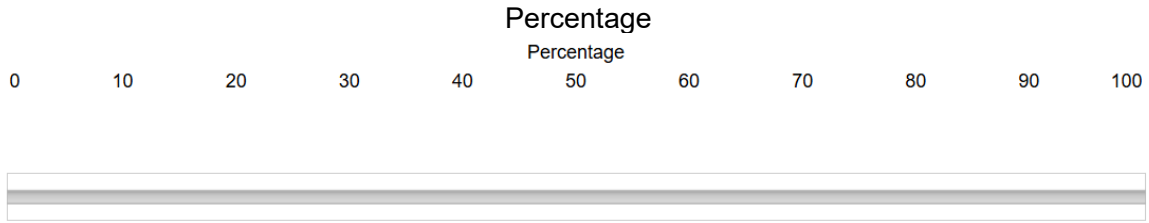
Prediction 8 out of 23

Given that a player receives more money by defecting, what **percentage of ${e://Field/treatmentMEN} who seek competition** choose to **defect**?



Prediction 9 out of 23

Given that a player receives more money by defecting, what percentage of **${e://Field/treatmentMEN} who avoid competition** choose to **defect**?



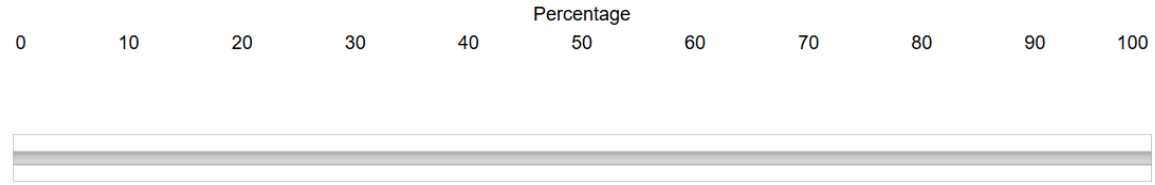
Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Next, you will make 14 predictions about the answers of the **${e://Field/treatmentgender}** participants to questions regarding their **career choices and work life**.

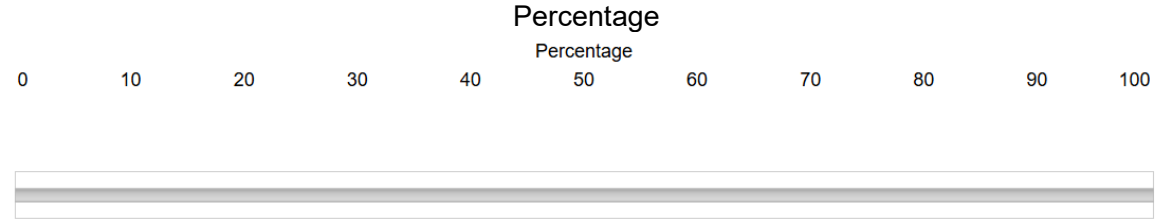
[The order of the following statements is randomized over question sets p=11,13,…, 23. The statements x are:

- have given up, or would give up, a good job opportunity for the benefit of their family life or relationship?
- have worked full-time, or would work full-time, outside their home, as a parent of a child under the age of one?
- have taken on, or would take on, more work commitments even if it means their partner has to handle a greater share of household or family duties?
- have held back, or would hold back, in professional meetings to avoid appearing too dominant or assertive?
- have created, or would create, a high-pressure environment for themselves and their subordinates to deliver high performance and meet ambitious goals?
- have taken, or would take, personal credit for accomplishments that were the result of team effort, if this helps their own professional advancement?
- have invested, or would invest, time in supporting colleagues, even if it does not contribute to their own professional advancement? **]**

Prediction [p] out of 23
What percentage of **${e://Field/treatmentMEN} who seek competition** [statement x]



Prediction [p+1] out of 23
What percentage of **${e://Field/treatmentMEN} who avoid competition** [statement x]



Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Finally, we ask you some questions about yourself.

How **competitive** do you consider **yourself** to be?

Not competitive at all — Very competitive

0 1 2 3 4 5 6 7 8 9 10

What ethnic group do you belong to?

- ○ Asian
- ○ Black
- ○ Mixed
- ○ White
- ○ Other

Which of these is the **highest level of education** you have completed?

- ○ No formal qualifications
- ○ Secondary education (e.g., GED/GCSE)
- ○ High school diploma/A-levels
- ○ Technical/community college
- ○ Undergraduate degree (BA/BSc/other)
- ○ Graduate degree (MA/MSc/MPhil/other)
- ○ Doctorate degree (PhD/other)

Do you have any children?

- ○ Yes
- ○ No

What is your employment status?

- ○ Full-time work
- ○ Part-time work
- ○ Unemployed (and job seeking)
- ○ Not in paid work (e.g. student, homemaker, retired or disabled)
- ○ Other

What is your personal income per year (after tax) in USD?

- ○ Less than $10,000
- ○ $10,000 — $19,999
- ○ $20,000 — $29,999
- ○ $30,000 — $39,999
- ○ $40,000 — $49,999
- ○ $50,000 — $59,999
- ○ $60,000 — $69,999
- ○ $70,000 — $79,999
- ○ $80,000 — $89,999
- ○ $90,000 — $99,999
- ○ $100,000 — $149,999
- ○ More than $150,000

Do you have any comments for us?

Instructions for the Beliefs Personality Study

Notes: There are two treatments: Beliefs about men, Beliefs about women

	Treatment	
Variable	Men	Women
treatmentgender	male	female
treatmentHE	he	she
treatmentHIS	his	her
treatmentHIM	him	her
othergender	female	male
treatmentMAN	man	woman
treatmentMEN	men	women

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We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

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2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 7 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $1.30 and a bonus of either $0 or $3. The size of the bonus depends on your decisions and chance.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

Your task

We will ask you to make **predictions about the decisions and attitudes** of about 700 **${e://Field/treatmentMEN}** from the USA who participated in a prior study on Prolific.

Participants first took a test with questions often used when assessing job applicants. Then they made decisions in different scenarios and answered questions about themselves. The bonus of the participants depended on their test performance and their decisions to ensure that they carefully considered each choice.

Your bonus

We will ask you to make **21 predictions**.

Your chance of receiving a bonus of $3 is highest if you report your true best guess in every prediction. Therefore, you should carefully consider each prediction.

One of your decisions will be randomly selected as the decision that counts for determining your bonus. When making a prediction you can read about the details of how your bonus depends on the accuracy of your prediction.

There is no deception in the study.

Please answer this comprehension question before you start.

My chance of earning a bonus of $3 is highest when I ...

- ○ report my true best guess.
- ○ choose a random number.
- ○ report a number lower than my true best guess.
- ○ report a number higher than my true best guess.

All participants in the prior study took a **test with questions often used when assessing job applicants**.

The test consisted of **12 problems** and the participants had 3 minutes to solve as many of the problems as they could. We will show you an example on the next page.

The top part of each problem is a pattern with a piece cut out of it. Your task is to **find the piece needed to complete the pattern** out of the pieces shown in the bottom part.

- For each problem, **only one answer is correct**.
- To submit your answer, select the correct option and continue to the next screen.
- Once you submit an answer, **you will not be able to go back**.

Consider the following example: Which piece is needed to complete the pattern correctly?

- Note first that when moving from left to right, a leaf is added to the right (clockwise) each time.
- Second, when moving from top to bottom, a leaf is added to the left (counterclockwise) each time.
- Therefore, the correct answer is 7.

  [example of Raven's matrix]

Participants chose how they wanted to be paid for the test: **compete with three other individuals or avoid competition.**

- Participants who **seek competition** earn a **high amount of 40 cents** per correct answer, but **only if they do better than the three other individuals** in their group.

- Participants who **avoid competition** earn a **low amount of 10 cents** per correct answer irrespective of the performance of others.

The choice whether to seek competition or avoid competition only affected the own bonus of a participant and not the bonus of other individuals. The three other individuals in a group were randomly selected from a study in which all participants were assigned to compete. That study had an approximately equal number of male and female participants.

Please answer the following comprehension questions before you continue.

Participants who **seek competition** earn ...

○ 10 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer irrespective of the performance of others.

○ 40 cents per correct answer if they do better than the other three individuals in their group. Otherwise, they earn $0.

Participants who **avoid competition** earn ...

- ○ 10 cents per correct answer irrespective of the performance of others.
- ○ 40 cents per correct answer irrespective of the performance of others.
- ○ 40 cents per correct answer if they do better than the other three individuals in their group. Otherwise, they earn $0.

Prediction 1 out of 21

What percentage of **${e://Field/treatmentMEN} seek competition**?

Click anywhere in the slider field and drag the slider to choose a number between 0 and 100. You may need to click repeatedly.

0 10 20 30 40 50 60 70 80 90 100

To see the description of the options "to seek competition" and "to avoid competition" again, click on this sentence. (Click again to hide the text.)

Participants chose how they wanted to be paid for the test: **compete with three other individuals or avoid competition.**

- Participants who **seek competition** earn a **high amount of 40 cents** per correct answer, but **only if they do better than the three other individuals** in their group.
- Participants who **avoid competition** earn a **low amount of 10 cents** per correct answer irrespective of the performance of others.

The choice whether to seek competition or avoid competition only affected the own bonus of a participant and not the bonus of other individuals. The three other individuals in a group were randomly selected from a study in which all participants were assigned to compete. That study had an approximately equal number of male and female participants.

Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)

Your bonus is determined as follows:

- All decisions are equally likely to be selected as the decision that counts for determining your bonus. Therefore, you should carefully consider each decision.
- You get $3 if your guess is accurate with an error of at most +/- 3 percentage points.
- You get $0 otherwise.

Besides taking the test, the participants in the prior study were asked questions about **what kind of person** they are.

For each of these situations, we will ask you to predict the behavior of two groups of ${e://Field/treatmentgender} participants:

- **${e://Field/treatmentMEN} who seek competition** and
- **${e://Field/treatmentMEN} who avoid competition**.

Please answer the following comprehension question before you continue.

You will make predictions about ...

◯ ${e://Field/treatmentgender} participants who seek competition and ${e://Field/treatmentgender} participants who avoid competition.

◯ ${e://Field/othergender} participants.

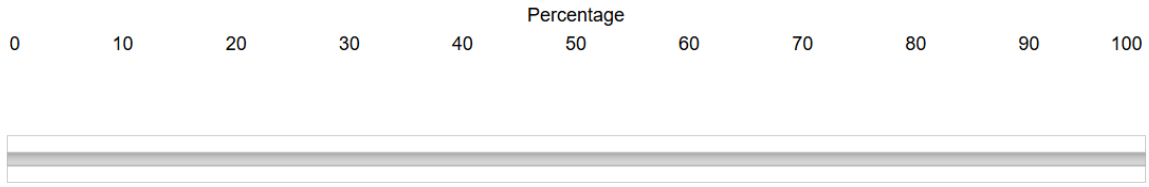
◯ just ${e://Field/treatmentgender} participants who seek competition.

◯ just ${e://Field/treatmentgender} participants who avoid competition.

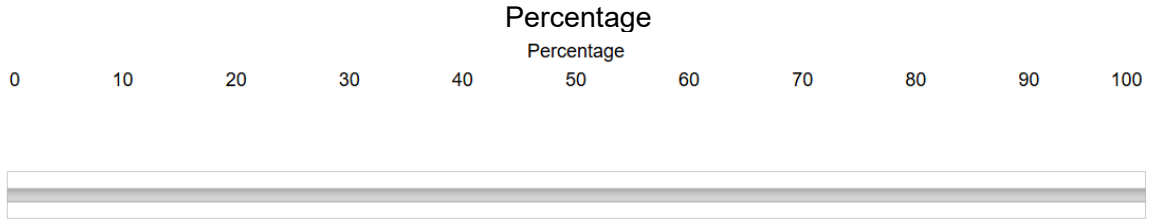
[The order of the following statements is randomized over question sets p=2,4,…, 20. The statements x are:

- are eager to soothe hurt feelings?
- are compassionate?
- are gentle?
- are sensitive to the needs of others?
- are warm and affectionate?
- act as a leader?
- are ambitious?
- are assertive and forceful?
- are decisive?
- are dominant? **]**

Prediction [p] out of 21
What percentage of **${e://Field/treatmentMEN} who seek competition** [statement x]



Prediction [p+1] out of 21
What percentage of **${e://Field/treatmentMEN} who avoid competition** [statement x]



Click anywhere in the slider field and drag the slider to choose a number between 0 and 100.
You may need to click repeatedly.
Your chance of receiving a bonus of $3 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Finally, we ask you some questions about yourself.

[see Instructions for the Beliefs Behavior Study]

Instructions for the Norms Behavior Study

Notes: There are two treatments: Second-order beliefs about norms for men, second-order beliefs about norms for women

	Treatment	
Variable	Men	Women
Treatmentgender	male	female
treatmentHE	he	she
treatmentHIS	his	her
treatmentHIM	him	her
Othergender	female	male
treatmentMAN	man	woman
treatmentMEN	men	women

Welcome to this study about decision making!
We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

1. Voluntary participation
Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 10 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $1.70 and a bonus of either $0 or $2. The size of the bonus depends on your decisions and chance.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

We will ask you to make **24 predictions about the answers of around 100 individuals from the USA who participated in a prior study** on Prolific. In that study, an approximately equal number of men and women participated.

Your bonus

Your chance of receiving a bonus of $2 is highest if you report your true best guess in every prediction. Therefore, you should carefully consider each prediction.

One of your decisions will be randomly selected as the decision that counts for determining your bonus. When making a prediction you can read about the details of how your bonus depends on the accuracy of your prediction.

There is no deception in the study.

Please answer this comprehension question before you start.

My chance of earning a bonus of $2 is highest when I ...

- ○ report my true best guess.
- ○ choose a random number.
- ○ report a number lower than my true best guess.
- ○ report a number higher than my true best guess.

Participants from the USA were provided with descriptions of various scenarios where a person needs to make a choice. For each of the various possible behaviors in these scenarios, the participants then evaluated **how appropriate they think the behavior is** for a **${e://Field/treatmentMAN}** by choosing one of four answers: very inappropriate, somewhat inappropriate, somewhat appropriate, or very appropriate.

Your task

We will provide you with the descriptions of the scenarios and ask you **to guess which answer was most often chosen** by participants from the USA when they stated how appropriate they think a particular behavior is for a **${e://Field/treatmentMAN}**.

By **appropriate**, we mean behavior that one thinks is **the "right" thing to do**. Another way to think about what we mean is that if someone were to behave in an inappropriate way, then one might be angry at them. An **appropriate action is an action that one believes ought to be taken**, and one may be prepared to express disapproval if it is not taken.

Please answer this comprehension question before you start.

For each behavior, I will ...

- ○ guess which answer was most often chosen by participants from the USA.
- ○ choose the answer that best reflects my personal opinion.

First, you will make 8 predictions related to scenarios in which people make **decisions that influence their own pay and the pay of another person** on Prolific in the USA. We refer to them as Player A and Player B.

Consider a scenario in which Player A either keeps more or splits.

- **If Player A keeps more**, Player A receives $10 and Player B receives $0.
- **If Player A splits**, both Player A and Player B receive $5.

Note that Player A receives more money by keeping more.

Prediction 1 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **keep more** as Player A.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Prediction 2 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **split** as Player A.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)

By **appropriate**, we mean behavior that one thinks is **the "right" thing to do**. Another way to think about what we mean is that if someone were to behave in an inappropriate way, then one might be angry at them. An **appropriate action is an action that one believes ought to be taken**, and one may be prepared to express disapproval if it is not taken.

Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)

Your bonus is determined as follows:

- One of your decisions will be randomly selected as the decision that counts for determining your bonus.
- All decisions are equally likely to be selected as the decision that counts. Therefore, you should carefully consider each decision.
- You get $2 if you correctly guess which answer was most often chosen by the 100 participants from the USA in the prior study.
- You get $0 otherwise.

Consider a scenario in which Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

First, we ask you about the **choices of Player A**. Note that Player A can guarantee themselves a payment of $10 by distrusting.

Prediction 3 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **distrust** as Player A.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Prediction 4 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **trust** as Player A.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]
Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Now we ask you about the **choices of Player B** in this scenario if Player A trusts.

Remember: Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

Note that Player B receives more money by exploiting the trust of Player A.

Prediction 5 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **reward Player A's trust** as Player B.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Prediction 6 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **exploit Player A's trust** as Player B.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]
Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Consider a scenario in which both Player A and Player B have the option to either cooperate or defect.

- **If both players cooperate**, both receive $15.
- **If both players defect**, both receive $10.
- **If one player defects and the other player cooperates,** the player who defects receives $20 and the player who cooperates receives $5.

Note that a player receives more money by defecting.

Prediction 7 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **cooperate**.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Prediction 8 out of 24

Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** to **defect**.

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]
Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Next, you will make 14 predictions related to choices of **${e://Field/treatmentMEN}** regarding their **career and work life**.

[The order of the following statements is randomized over question sets p=9,11,…, 23. The statements x are:

- to give up a good job opportunity for the benefit of ${e://Field/treatmentHIS} family life or relationship.
- to work full-time, outside ${e://Field/treatmentHIS} home, as a parent of a child under the age of one.
- to take on more work commitments even if it means ${e://Field/treatmentHIS} partner has to handle a greater share of household or family duties.
- to hold back in professional meetings to avoid appearing too dominant or assertive.
- to create a high-pressure environment for ${e://Field/treatmentHIM}self and ${e://Field/treatmentHIS} subordinates to deliver high performance and meet ambitious goals.
- to take personal credit for accomplishments that were the result of team effort, if this helps ${e://Field/treatmentHIS} own professional advancement.
- to invest time in supporting colleagues even if it does not contribute to ${e://Field/treatmentHIS} own professional advancement.
- to **seek competition** in the workplace.

The order of the following statements is randomized over question sets p=10,12,…, 24. The statements x are:

- to take up a good job opportunity at the expense of ${e://Field/treatmentHIS} family life or relationship.
- to work part-time or not work as a parent of a child under the age of one.
- to decline taking on more work commitments to avoid that ${e://Field/treatmentHIS} partner has to bear a greater share of household or family duties.

- to lean in in professional meetings even at the risk of appearing too dominant or assertive.
- to prioritize a less pressured environment for ${e://Field/treatmentHIM}self and ${e://Field/treatmentHIS} subordinates over delivering high performance and meeting ambitious goals.
- to refrain from taking personal credit for accomplishments that were the result of team effort, even if this limits ${e://Field/treatmentHIS} own professional advancement.
- NOT to invest time in supporting colleagues and instead focus on activities that contribute to ${e://Field/treatmentHIS} own professional advancement.
- to **avoid competition** in the workplace.]

Prediction [p] out of 24
Participants from the USA were asked how appropriate it is for a **${e://Field/treatmentMAN}** [statement x]

What answer was **most often chosen**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

[Notes: Each page showed and odd numbered and an even numbered prediction, with this text at the bottom of the page]

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]
Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)
[see Prediction 1 for the content of the foldout box]

Finally, we ask you some questions about yourself.

[see Instructions for the Beliefs Behavior Study]

Instructions for the Norms Personality Study

Notes: There are two treatments: Beliefs about men, Beliefs about women

	Treatment	
Variable	Men	Women
treatmentgender	male	female
treatmentHE	he	she
treatmentHIS	his	her
treatmentHIM	him	her
othergender	female	male
treatmentMAN	man	woman
treatmentMEN	men	women

Welcome to this study about decision making!
We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

1. Voluntary participation
Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 6 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $1 and a bonus of either $0 or $2. The size of the bonus depends on your decisions and chance.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

We will ask you to make **24 predictions about the answers of around 100 individuals from the USA who participated in a prior study** on Prolific. In that study, an approximately equal number of men and women participated.

Your bonus

Your chance of receiving a bonus of $2 is highest if you report your true best guess in every prediction. Therefore, you should carefully consider each prediction.

One of your decisions will be randomly selected as the decision that counts for determining your bonus. When making a prediction you can read about the details of how your bonus depends on the accuracy of your prediction.

There is no deception in the study.

Please answer this comprehension question before you start.

My chance of earning a bonus of $2 is highest when I ...

- ○ report my true best guess.
- ○ choose a random number.
- ○ report a number lower than my true best guess.
- ○ report a number higher than my true best guess.

Participants from the USA were asked about the **desirability** of 10 characteristics in ${e://Field/treatmentMEN}.

The participants stated **how desirable they think a particular characteristic is for a ${e://Field/treatmentMAN}** by choosing one of four answers: very undesirable, somewhat undesirable, somewhat desirable, or very desirable.

Your task

We will ask you for each characteristic **to guess which answer was most often chosen** by participants from the USA when they stated how desirable they think a particular characteristic is for a **${e://Field/treatmentMAN}**.

Please answer this comprehension question before you start.

For each characteristic, I will ...

- ○ guess which answer was most often chosen by participants from the USA.
- ○ choose the answer that best reflects my personal opinion.

[The order of the following statements is randomized over question sets p=1,3,…,19. The statements x are:

- to be eager to soothe hurt feelings?
- to be compassionate?
- to be gentle?
- to be sensitive to the needs of others?
- to be warm and affectionate?
- To act as a leader?
- to be ambitious?
- to be assertive and forceful?
- to be decisive?
- to be dominant? **]**

Prediction [p] out of 20

Participants from the USA were asked how desirable it is for a **${e://Field/treatmentMAN}** [statement x]

What answer was **most often chosen**?

- ○ Very undesirable
- ○ Somewhat undesirable
- ○ Somewhat desirable
- ○ Very desirable

Prediction [p+1] out of 20

Participants from the USA were asked how desirable it is for a **${e://Field/treatmentMAN}** NOT [statement x]

What answer was **most often chosen**?

- ○ Very undesirable
- ○ Somewhat undesirable
- ○ Somewhat desirable
- ○ Very desirable

Your chance of receiving a bonus of $2 is highest if you report your true best guess.
Click this line to read more details. (Click again to hide the text.)

Your bonus is determined as follows:

- One of your decisions will be randomly selected as the decision that counts for determining your bonus.
- All decisions are equally likely to be selected as the decision that counts. Therefore, you should carefully consider each decision.
- You get $2 if you correctly guess which answer was most often chosen by the 100 participants from the USA in the prior study.
- You get $0 otherwise.

Finally, we ask you some questions about yourself.

[see Instructions for the Beliefs Behavior Study]

Instructions for the PreStudy

Welcome to this study about decision making!
We are a group of non-partisan academic researchers. Please carefully read the following information about the study and how we use your data.

1. Voluntary participation
Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 7 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You will receive a payment of $1.40 as a fixed payment. In addition, you can earn a bonus between $0 and $7.20. The size of the bonus depends on your decisions and chance. You must complete the entire study to receive any payments.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studies like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

In this study, we will ask you to take a **math and logic test**.

Solve as many of **12 problems** as you can in **5 minutes**. The problems are commonly used as a **measure of cognitive ability** by employers and researchers. On the next page we will show an example.

The top part of each problem is a pattern with a piece cut out of it. Your task is to **find the piece needed to complete the pattern** out of the pieces shown in the bottom part.

- For each problem, **only one answer is correct**.
- To submit your answer, select the correct option and continue to the next screen.
- Once you submit an answer, **you will not be able to go back**.

Consider the following example: Which piece is needed to complete the pattern correctly?

- Note first that when moving from left to right, a leaf is added to the right (clockwise) each time.
- Second, when moving from top to bottom, a leaf is added to the left (counterclockwise) each time.
- Therefore, the correct answer is 7.

[example of Raven's matrix]

Your bonus

- You and the other participants in this study will be randomly assigned to groups of four.
- You get **40 cents per correct answer** if you have the **highest number of correct answers** in the test in the group of four that you are assigned to. **Otherwise, you get $0**.

Please answer the following comprehension question before you proceed. My bonus is:

○ 10 cents per correct answer.

○ 40 cents per correct answer.

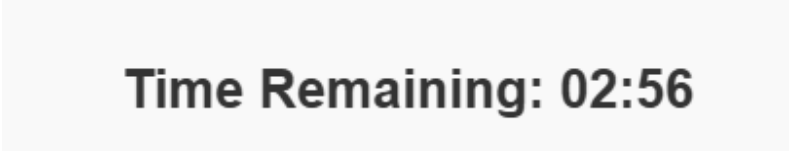
○ 40 cents per correct answer if I have the highest number of correct answers in the group of four that I am assigned to. Otherwise, my bonus is $0.

Do not switch to any other browser tab or window during the test. This may invalidate the study and result in you not getting any payments.

Ready to start the test?

Your 5 minutes will start as soon as you go to the next screen.

[Block of up to 12 test questions. The order of questions is randomized for questions 1-4 and then for questions 5-12. A count-down timer is shown at the top of the screen



]

Problem [x] out of 12

Which piece is needed to complete the pattern correctly?

[Raven's matrix]

Do you have any comments for us?

Instructions for the Personal Norms Study

Notes: There are two treatments: Norms about men, Norms about women

	Treatment	
Variable	Men	Women
treatmentgender	male	female
treatmentHE	he	she
treatmentHIS	his	her
treatmentHIM	him	her
othergender	female	male
treatmentMAN	man	woman
treatmentMEN	men	women

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Participation is voluntary. You can decide to withdraw your consent at any time up to 12 months after participating in the study by contacting Alexander Koch through the internal messaging system of the Prolific platform or by email (akoch@econ.au.dk). You do not have to provide any justification for such a decision.

2. Confidentiality
The data will be processed anonymously and will only be made public anonymously. Your Prolific ID will be recorded for payment purposes only and deleted after 12 months.

3. Procedures
The study will take about 10 minutes. At the start, you must pass some attention checks to proceed. You will receive additional instructions for each decision and answer some comprehension questions. The study does not involve any deception.

4. Payments
You must complete the entire study to receive any payments. All participants will receive a fixed payment of $2.

Do you consent to participate in the study under the rules outlined in points 1, 2, 3, and 4?

- ○ I consent
- ○ I do NOT consent

The next questions are about the following problem. In studi es like ours, sometimes there are participants who do not carefully read the text questions and just quickly click through the study. This compromises the results of research studies.

Please indicate whether you agree or disagree with each of the following four statements. If you fail one check, you cannot participate.

	Disagree	Agree
No person on earth has legs and arms.	○	○
All US residents fly with their wings instead of walking.	○	○
There are cats on Earth.	○	○
Every single human on Earth died in the year 2010.	○	○

Your task

We will ask you to make statements **about the decisions and characteristics of about 700 individuals from the USA** who participated in a prior study on Prolific.

In that study, an approximately equal number of male and female participants made decisions in different scenarios and answered questions about themselves.

In total you will make 44 statements.

The first set of statements are about 12 scenarios where a person needs to make a choice.

For each of the various possible behaviors in these scenarios, you will evaluate **how appropriate you think the behavior is** for a **${e://Field/treatmentMAN}** by choosing one of four answers: very inappropriate, somewhat inappropriate, somewhat appropriate, or very appropriate.

By **appropriate**, we mean behavior that one thinks is **the "right" thing to do**. Another way to think about what we mean is that if someone were to behave in an inappropriate way, then one might be angry at them. An **appropriate action is an action that one believes ought to be taken**, and one may be prepared to express disapproval if it is not taken.

First, you will make statements related to scenarios in which people make **decisions that influence their own pay and the pay of another person** on Prolific in the USA. We refer to them as Player A and Player B.

Please answer the following comprehension question before you continue. In the next questions you will make statements about the choices of participants in another study. The choices ...

- ○ only influence a participant's own pay.
- ○ only influence the pay of another participant.
- ○ influence the participant's own pay and the pay of another participant.

Consider a scenario in which Player A either keeps more or splits.

- **If Player A keeps more**, Player A receives $10 and Player B receives $0.
- **If Player A splits**, both Player A and Player B receive $5.

Note that Player A receives more money by keeping more.

Statement 1 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **keep more** as Player A?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Statement 2 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **split** as Player A?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)

By **appropriate**, we mean behavior that one thinks is **the "right" thing to do**. Another way to think about what we mean is that if someone were to behave in an inappropriate way, then one might be angry at them. An **appropriate action is an action that one believes ought to be taken**, and one may be prepared to express disapproval if it is not taken.

Consider a scenario in which Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

First, we ask you about the **appropriateness of the choices of Player A**. Note that Player A can guarantee themselves a payment of $10 by distrusting.

Statement 3 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **distrust** as Player A?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Statement 4 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **trust** as Player A?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Statement 1 for the content of the foldout box]

Now we ask you about the **appropriateness of the choices of Player B** in this scenario if Player A trusts.

Remember: Player A either trusts or distrusts. If Player A trusts, Player B either rewards their trust or exploits their trust.

- **If Player A distrusts**, Player B has no choice to make, and both Player A and Player B receive $10.
- If Player A trusts, Player B either rewards their trust or exploits their trust.
- **If Player A trusts and Player B rewards their trust**, both Player A and Player B receive $15.
- **If Player A trusts and Player B exploits their trust**, Player A receives $5 and Player B receives $20.

Note that Player B receives more money by exploiting the trust of Player A.

Statement 5 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **reward Player A's trust** as Player B?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Statement 6 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **exploit Player A's trust** as Player B?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Statement 1 for the content of the foldout box]

Consider a scenario in which both Player A and Player B have the option to either cooperate or defect.

- **If both players cooperate**, both receive $15.
- **If both players defect**, both receive $10.
- **If one player defects and the other player cooperates,** the player who defects receives $20 and the player who cooperates receives $5.

Note that a player receives more money by defecting.

Statement 7 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **cooperate**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

Statement 8 out of 44

How appropriate is it for a **${e://Field/treatmentMAN}** to **defect**?

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Statement 1 for the content of the foldout box]

Next, you will make statements about the choices of **${e://Field/treatmentMEN}** regarding their **career and work life**.

[The order of the following statements is randomized over question sets p=9,11,…, 23. The statements x are:

- to give up a good job opportunity for the benefit of ${e://Field/treatmentHIS} family life or relationship.
- to work full-time, outside ${e://Field/treatmentHIS} home, as a parent of a child under the age of one.
- to take on more work commitments even if it means ${e://Field/treatmentHIS} partner has to handle a greater share of household or family duties.
- to hold back in professional meetings to avoid appearing too dominant or assertive.
- to create a high-pressure environment for ${e://Field/treatmentHIM}self and ${e://Field/treatmentHIS} subordinates to deliver high performance and meet ambitious goals.
- to take personal credit for accomplishments that were the result of team effort, if this helps ${e://Field/treatmentHIS} own professional advancement.
- to invest time in supporting colleagues even if it does not contribute to ${e://Field/treatmentHIS} own professional advancement.
- to **seek competition** in the workplace.

The order of the following statements is randomized over question sets p=10,12,…, 24. The statements x are:

- to take up a good job opportunity at the expense of ${e://Field/treatmentHIS} family life or relationship.
- to work part-time or not work as a parent of a child under the age of one.
- to decline taking on more work commitments to avoid that ${e://Field/treatmentHIS} partner has to bear a greater share of household or family duties.

- to lean in in professional meetings even at the risk of appearing too dominant or assertive.
- to prioritize a less pressured environment for ${e://Field/treatmentHIM}self and ${e://Field/treatmentHIS} subordinates over delivering high performance and meeting ambitious goals.
- to refrain from taking personal credit for accomplishments that were the result of team effort, even if this limits ${e://Field/treatmentHIS} own professional advancement.
- NOT to invest time in supporting colleagues and instead focus on activities that contribute to ${e://Field/treatmentHIS} own professional advancement.
- to **avoid competition** in the workplace.]

Statement [p] out of 44
How appropriate is it for a **${e://Field/treatmentMAN}** [statement x]

- ○ Very inappropriate
- ○ Somewhat inappropriate
- ○ Somewhat appropriate
- ○ Very appropriate

[Notes: Each page showed and odd numbered and an even numbered prediction, with this text at the bottom of the page]

To see the definition of appropriateness again, click on this sentence. (Click again to hide the text.)
[see Statement 1 for the content of the foldout box]

Next, you will make statements about the **desirability** of certain characteristics in **${e://Field/treatmentMEN}**.

[The order of the following statements is randomized over question sets p=25, 27,…,43. The statements x are:

- to be eager to soothe hurt feelings?
- to be compassionate?
- to be gentle?
- to be sensitive to the needs of others?
- to be warm and affectionate?
- To act as a leader?
- to be ambitious?
- to be assertive and forceful?
- to be decisive?
- to be dominant? **]**

Statement [p] out of 44

How desirable is it for a **${e://Field/treatmentMAN}** [statement x]

- ○ Very undesirable
- ○ Somewhat undesirable
- ○ Somewhat desirable
- ○ Very desirable

Prediction [p+1] out of 20

How desirable is it for a **${e://Field/treatmentMAN}** NOT [statement x]

- ○ Very undesirable
- ○ Somewhat undesirable
- ○ Somewhat desirable
- ○ Very desirable

Finally, we ask you some questions about yourself.

[see Instructions for the Beliefs Behavior Study]