

Does the Follow-Your-Passions Ideology Cause Greater Academic and Occupational Gender Disparities Than Other Cultural Ideologies?

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
Five preregistered studies ($N = 1934$) demonstrate that the prevalent U.S. ideology to “follow your passions” perpetuates academic and occupational gender disparities compared to some other cultural ideologies. Study 1 shows that the follow-your-passions ideology is commonly used by U.S. students in making academic choices. Studies 2–5 find that making the follow-your-passions ideology salient causes greater academic and occupational gender disparities compared to the resources ideology (i.e., the idea that one should pursue a field that leads to high income and job security). In Study 4, the follow-your-passions ideology causes greater gender disparities even when compared to a cultural ideology that aligns more with the female gender role (i.e., communal ideology). In Study 5, a moderated mediation analysis supports the hypothesis that gender disparities are explained by women’s versus men’s greater tendency to draw upon female role-congruent selves when the follow-your-passions ideology is salient compared to when the resources ideology is salient. Drawing upon female role-congruent selves remains a significant mediator even when accounting for alternative mediators (e.g., appropriateness of ideology for one’s gender). The follow-your-passions ideology may not seem explicitly gendered, but it causes greater academic and occupational gender disparities compared to some other cultural ideologies.

Keywords: gender, gender disparities, follow your passions, STEM, ideologies

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The ideology that people should use their passions to guide academic and occupational choices pervades American life. The phrase “follow your passions” has become very popular in recent decades in the United States, increasing in appearance in English-language books by nearly fortyfold from 1990 to 2019 (Michel et al., 2011). Although the follow-your-passions ideology has generally been thought of as a positive motivational force in the United States (Jachimowicz et al., 2018; Li et al., 2021; O’Keefe et al., 2022; but see O’Keefe et al., 2018), this ideology is not as popular in other parts of the world. In places where individualism

is less prominent, the resources ideology, or the idea that one should choose fields that provide good income and job security, is more commonly endorsed and practiced (Charles, 2017; Soyulu Yalcinkaya & Adams, 2020). Differences in the prevalence of these ideologies have been theorized to explain greater gender disparities in science, technology, engineering, and mathematics (STEM) fields in the United States than in many other countries (Breda et al., 2020; Charles, 2017; Soyulu Yalcinkaya & Adams, 2020; Soyulu Yalcinkaya & Adams, 2022; but see Marsh et al., 2021; Richardson et al., 2020).

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We investigate whether prominent cultural ideologies about how to make academic and occupational choices influence gender disparities.¹ Understanding factors that contribute to gender disparities is important because many women are missing out on some of the most lucrative and prestigious fields in the United States (U.S. News & World Report, 2022). Moreover, society is missing contributions from talented women (Margolis & Fisher, 2002). In the current work, we empirically demonstrate that the follow-your-passions ideology, though seemingly devoid of gender on its surface, causes gender disparities when compared to the resources ideology. We further identify a possible mechanism: that the follow-your-passions ideology causes women to draw upon female role-congruent selves more than the resources ideology. We then use this mechanism of female role-congruent selves to make predictions about whether a communal ideology, the idea that one should choose a field that enables working with, nurturing, supporting, or helping others (Diekmann et al., 2017), also reduces gender disparities compared to the follow-your-passions ideology. Taken together, our studies provide evidence for how and why the follow-your-passions ideology perpetuates academic and occupational gender disparities compared to other cultural ideologies.

The Follow-Your-Passions Ideology

Ideologies are systems of beliefs that are coherent and relatively stable (Gerring, 1997; Jost et al., 2008). The follow-your-passions ideology is the idea that one's strong interests, preferences, and positive feelings should determine their academic and occupational choices (Chen et al., 2015; Jachimowicz et al., 2018; O'Keefe et al., 2018). Passions are activities that people feel a strong personal inclination toward and that generate excitement and enthusiasm (Chen et al., 2020; Vallerand, 2010). The follow-your-passions ideology has its roots in ancient Western philosophical ideas on individualism. At the core of the follow-your-passions ideology is the notion that people have independent selves with distinct preferences and emotions and that acting on them is productive and desirable (Chen et al., 2015; Iyengar & Lepper, 1999; Markus, 2008; Savani et al., 2008). With the follow-your-passions ideology, academic and occupational choices are a form of self-expression and a means to live a fulfilling life (Cech, 2021; Inglehart & Welzel, 2005; Soylu Yalcinkaya & Adams, 2020).

The follow-your-passions ideology has many positive consequences for motivation such as positive emotions and greater concentration (Duckworth et al., 2007; Jachimowicz et al., 2018; Vallerand et al., 2003). Most Americans endorse the idea that people should follow their passions when making academic and occupational choices (Cech, 2021; Chen et al., 2015). American college students believe that selecting an academic major that fits their passions is more important than selecting a major based on other criteria (e.g., financial success, psychological benefits; Beggs et al., 2008). Job applicants and employees who convey passion for their work are perceived as more competent, hireable, and successful by Americans than those who do not convey such passion (Bencharit et al., 2019; Jachimowicz et al., 2022; Wolf et al., 2016).

An increasing number of studies also reveal negative consequences of the follow-your-passions ideology. For instance, conveying to students that passions are fixed rather than developed decreases their interest in astronomy after reading a challenging astronomy article (O'Keefe et al., 2018). People who believe passions are fixed are also more likely to sacrifice important practical occupational considerations, such as salary (Chen et al., 2015). Following one's passions can have

additional negative effects, such as emotional suffering if passions are obsessively held (Vallerand et al., 2010) and legitimizing poor treatment of workers who are passionate about their work (Cech, 2021; Kim et al., 2020; see also Jachimowicz et al., 2019). We build on this previous work by investigating increased academic and occupational gender disparities as another possible negative consequence of the follow-your-passions ideology compared to other ideologies.

The Resources Ideology

The belief that one should choose a major or occupation that will provide high income and job security (Beggs et al., 2008; Galotti & Kozberg, 1987; Montmarquette et al., 2002; Soylu Yalcinkaya & Adams, 2020), which we refer to as the resources ideology, is a common comparison to the follow-your-passions ideology in the United States (see Table 1; Chen et al., 2015; Inglehart & Welzel, 2005; Soylu Yalcinkaya & Adams, 2020). When the resources ideology is salient, people tend to make academic or occupational choices based on income, job security, and other practical considerations (Charles, 2017; Chen et al., 2015). The resources ideology is similar to the security-oriented ideology, prevalent outside the United States, that prioritizes financial security (Soylu Yalcinkaya & Adams, 2020).² However, the security-oriented ideology also includes the fulfillment of relational expectations (e.g., make parents proud). People in low socioeconomic contexts may be more likely than those in high socioeconomic contexts to use the resources ideology when making academic or occupational choices (Ma, 2009; Soylu Yalcinkaya & Adams, 2020; Stoet & Geary, 2018; see also Stephens, Fryberg, et al., 2012).

The resources ideology has both positive and negative consequences. Higher income predicts greater job satisfaction (Judge et al., 2010) and subjective well-being (Tan et al., 2020; see also Diener et al., 2013). However, the positive association between income and subjective well-being tends to be weaker in wealthier societies (Diener & Seligman, 2004; Hagerty & Veenhoven, 2003) and may not exist at higher income levels in the United States (Kahneman & Deaton, 2010; but see Killingsworth, 2021). On the negative side, valuing high income is associated with lower subjective well-being, more compulsive buying, and engaging in riskier health behaviors (e.g., smoking; Dittmar et al., 2014; Kasser & Ryan, 1993). In the current work, we investigate whether the resources ideology may reduce academic and occupational gender disparities by causing women to make choices that align more with the male gender role.

The Follow-Your-Passions Ideology Causes Women to Draw Upon Female Role-Congruent Selves More Than the Resources Ideology

Why might the follow-your-passions ideology increase academic and occupational gender disparities compared to the resources ideology? We propose that the follow-your-passions ideology causes women to draw upon female role-congruent selves, or aspects of themselves (e.g., interests, traits) that are congruent with the female gender role, to a

¹ Though our focus is on explaining disparities between women and men, gender is not fixed or binary (Hyde et al., 2019). More work is needed on the academic and occupational decisions of people with nonbinary gender identities.

² The follow-your-passions and resources ideologies overlap with distinct aspects of agentic goals (Diekmann et al., 2010, 2017). The follow-your-passions ideology and agentic goals both emphasize the self. The resources ideology and agentic goals both emphasize financial rewards and power.

Table 1
The Follow-Your-Passions Ideology Compared to the Resources Ideology

Elements of ideology	Follow-your-passions ideology	Resources ideology
Definition	The idea that occupational choices should be determined by one's strong interests, preferences, and positive feelings	The idea that occupational choices should be determined by seeking occupations that provide high income and job security
Purpose of occupations	Self-expression Self-fulfillment Sense of purpose	Income Job security Financial support for family

Note. Beggs et al., 2008; Cech, 2021; Chen et al., 2015; Crampton et al., 2006; Galotti & Kozberg, 1987; Jachimowicz et al., 2018; Montmarquette et al., 2002; O'Keefe et al., 2018; Soylu Yalcinkaya & Adams, 2020.

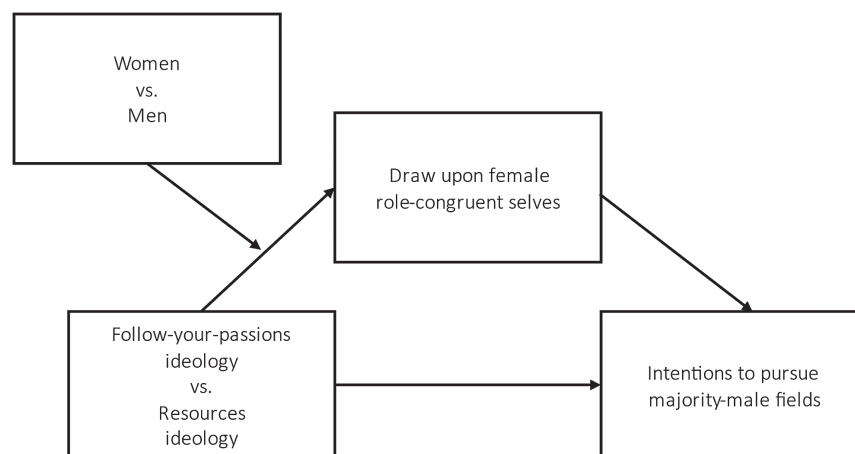
greater extent than the resources ideology (see Figure 1). Gender roles are shared beliefs and prescriptions about women's and men's interests, attitudes, traits, and behaviors (Deaux & Major, 1987; Wood & Eagly, 2010). The female gender role in the United States prescribes stereotypically feminine characteristics (e.g., cooperative) and interests (e.g., working with people) as well as taking on communal roles (e.g., being the primary caregiver). In contrast, the male gender role prescribes stereotypically masculine characteristics (e.g., competitive) and interests (e.g., financial rewards) as well as taking on agentic roles (e.g., being the primary breadwinner; Diekmann et al., 2017; Wood & Eagly, 2010). People develop and internalize cultural understandings of gender roles through a process of gender socialization (Bem, 1981; Markus et al., 1982). Women, on average, are more likely than men to define and evaluate themselves in line with the female gender role, whereas men, on average, are more likely to define and evaluate themselves in line with the male gender role (Bem, 1974; Wood et al., 1997).

We define gender role-congruent selves as aspects of one's self-concept that are consistent with one's gender role. Situational cues like numeric underrepresentation (Cota & Dion, 1986; Murphy et al., 2007), questions about gender-related topics (e.g., preference for coed dorms; Shih et al., 1999), and gender-associated words (e.g., aunt; Steele & Ambady, 2006) can encourage people to draw upon gendered aspects of themselves (Deaux & Major, 1987). Even

situational cues that do not explicitly mention gender can result in gendered outcomes. For instance, women reported a lower match with a job whose ad valued brilliance, but there was no similar effect among men (Bian et al., 2018). The follow-your-passions ideology may cause women more than men to draw upon female role-congruent selves, or stereotypically feminine interests, attitudes, traits, or behaviors. Seen another way, the follow-your-passions ideology may cause men more than women to draw upon male role-congruent selves, or stereotypically masculine interests, attitudes, traits, or behaviors. In contrast, the resources ideology may be less likely to cause women to draw upon their female role-congruent selves than the follow-your-passions ideology.

The more that women draw upon female role-congruent selves, the lower their intentions may be to pursue majority-male fields. People seek consistency between how they see themselves and their choices (Niedenthal et al., 1985; Schlegel et al., 2013). Many stereotypes of majority-male fields are more consistent with the male rather than female gender role. For instance, people in majority-male fields are stereotyped as working independently (Diekmann et al., 2017), having a singular focus on technology (Cheryan, Plaut, et al., 2013), being socially unskilled (Cheryan, Drury, & Vichayapai, 2013), and being brilliant (Bian et al., 2018). The perceived mismatch between female role-congruent selves and stereotypes of majority-male fields may

Figure 1
Theoretical Model



Note. The follow-your-passions ideology causes greater academic and occupational gender disparities compared to the resources ideology because women may be more likely than men to draw upon female role-congruent selves when the follow-your-passions ideology is salient.

decrease intentions to pursue these fields (Cheryan et al., 2009; Diekmann et al., 2011).

In contrast to women, we predict that men's choices may be more similar across the follow-your-passions and resources ideologies. Men's passions and the resources ideology may both be consistent with male gender role prescriptions to be breadwinners and pursue financial rewards, power, and status (Croft et al., 2015; Diekmann et al., 2010). As a result, men may draw on male role-congruent selves to a more similar extent across the ideologies compared to women, who may show a greater difference in drawing upon female role-congruent selves across the two ideologies.

Other ideologies that cause people to reference their self-concepts to a lesser extent than the follow-your-passions ideology—even those consistent with the female gender role—may also reduce academic and occupational gender disparities. For instance, the communal ideology prescribes making choices that enable working with, nurturing, supporting, and helping others (Diekmann et al., 2017). The communal ideology may cause women and men to draw more upon female role-congruent selves, thereby leading to smaller gender disparities than the follow-your-passions ideology (Croft et al., 2015).

Taken together, our proposed theoretical model reveals why the follow-your-passions ideology may cause greater gender disparities than the resources ideology. The follow-your-passions ideology causes women more than men to draw upon female role-congruent selves. Drawing upon female role-congruent selves decreases intentions to pursue majority-male fields. The resources ideology decreases gender disparities relative to the follow-your-passions ideology by causing women to draw less upon their female role-congruent selves, thereby closing the gap between their intentions and men's intentions to pursue majority-male fields.

Alternative and More Specific Mechanisms

There may be other reasons why the follow-your-passions ideology causes greater gender disparities compared to the resources ideology. Perhaps men are not able to truly follow their passions for two reasons. First, pressures to be economic providers may prevent some men from choosing careers consistent with their passions (Wood & Eagly, 2010). Second, acting in line with cultural ideals such as the follow-your-passions ideology may be perceived as more typical and expected of women than men (Johnston & Diekmann, 2015).

Perhaps a specific component of role-congruent selves can explain why the follow-your-passions ideology causes greater gender disparities compared to the resources ideology. One such specific component could be social roles. The follow-your-passions ideology may encourage women to pursue fields that enable being primary caregivers and encourage men to pursue fields that enable being primary breadwinners (Block et al., 2018; Croft et al., 2015). Another specific component of female role-congruent selves that explains gender disparities may be traits. The follow-your-passions ideology may encourage women to pursue fields that allow them to have feminine traits (e.g., cooperative) and encourage men to pursue fields that allow them to have masculine traits (e.g., competitive; Soyly Yalcinkaya & Adams, 2020). Our work examines these specific components and compares them to our proposed broader mediator of female role-congruent selves. We predict that the broader mechanism would be predictive even when controlling for these specific components because multiple aspects of gender

roles, including other more specific components (e.g., preferences), may more powerfully shape academic and occupational choices.

Overview

In five studies, we investigate whether and why the follow-your-passions ideology increases academic and occupational gender disparities more than some other cultural ideologies. In Study 1, we establish the presence and distinctiveness of the follow-your-passions, resources, and communal ideologies and their relative prominence in the United States. In Study 2, we examine whether the follow-your-passions ideology causes greater gender disparities in anticipated intentions to pursue engineering than the resources ideology. In Study 3, we investigate whether the follow-your-passions ideology causes greater gender disparities in anticipated intentions to pursue computer science, engineering, and physics compared to the resources ideology. In Study 4, we compare the influence of the follow-your-passions ideology to the resources and communal ideologies on which occupations are brought to mind.

We then turn to investigating why the follow-your-passions ideology increases gender disparities compared to the resources ideology. In Study 5, we examine whether these greater gender disparities in response to the follow-your-passions ideology can be explained by women drawing more upon female role-congruent selves than do men. We further examine whether drawing upon female role-congruent selves remains a significant mediator when accounting for alternative mediators. Taken together, our studies investigate whether and why the follow-your-passions ideology results in greater academic and occupational gender disparities than the resources and communal ideologies.

All studies we conduct to test our hypotheses are either reported in this article or the Supplemental Materials. Studies 1 and 3–5 include participants of all racial groups, whereas Study 2 focuses on White participants. Three studies are run on U.S. college samples, and the other two studies are run on U.S. adult samples.

Study 1: Are the Follow-Your-Passions, Resources, and Communal Ideologies Different Ideologies?

Study 1 examines the follow-your-passions, resources, and communal ideologies among a national sample of undergraduates in the United States. This study has three goals. First, we examine whether the follow-your-passions, resources, and communal ideologies emerge as distinct ideologies in the United States. Second, we investigate the ubiquity of these cultural ideologies in the United States. Third, in exploratory analyses, we examine gender, racial, and socioeconomic differences in endorsement of these ideologies.

In line with our preregistration, we hypothesize that the follow-your-passions ideology will include a focus on passions, interests, and happiness, and this ideology will be distinct from the other ideologies. We further predict that the follow-your-passions ideology will be one of the two most used factors by students in the United States to select their majors.

Method

Transparency and Openness

Sample size (including power analyses and any exclusions), procedures, hypotheses, and analyses were preregistered. The

preregistration, data, analysis code, and research materials are available at <https://osf.io/pzh3a/>. Any deviations from preregistrations are stated in the methods or results of all studies. Data were analyzed using R, Version 4.0.2 (R Core Team, 2020).

Participants

Undergraduate women and men in the United States ($N = 550$) recruited through Qualtrics Panels completed the study. In accordance with our preregistration, 19 participants were excluded for not identifying as women or men, leaving 531 participants (442 women, 89 men; 266 White Americans, 87 Black Americans, 76 Latinx Americans, 59 multiracial Americans, 33 Asian Americans, five Native Americans, three Middle Eastern Americans, one Native Hawaiian/Pacific Islander, one who indicated an unlisted racial group). All other exclusion criteria (i.e., suspicious data, requests to have data withdrawn, not undergraduate students, not at least 18 years old, or did not complete the questionnaire) were applied by Qualtrics Panels.

About half of our sample (49%) were first-generation college students (i.e., no parent with a 4-year college degree; Stephens, Fryberg, et al., 2012) and the rest (51%) were continuing generation. The sample was fairly evenly split across years (130 first-years, 147 sophomores, 137 juniors, 117 seniors), and most (87%) had declared their majors. We did not measure age in this study. Per our preregistration, we requested exactly 530 participants from Qualtrics Panels after exclusions, but they allowed 531 to complete the study.

Procedure

Participants indicated their intentions to major in three majority-male fields with the greatest underrepresentation of women—computer science, engineering, and physics (Cheryan et al., 2017)—with two questions asked for each field (“How much do you intend to major in <field>?”; “How likely are you to pursue a major in <field>?”; $\alpha = .90$) on scales from 1 (*not at all*) to 7 (*very*).

Participants then rated nine advice (order randomized) on how much they used or intended to use each in choosing their majors on scale from 1 (*not at all*) to 7 (*very much*). Advice was selected from a preregistered study (see Supplemental Materials) that asked students to list the three most common advice they heard for picking a career. Advice that occurred in more than 1% of responses (“following your passions,” “your interests,” “makes you happy,” “income potential,” “is sensible and realistic,” “job security,” and “you are good at it”) was included. The advice stating “allows you to nurture and emotionally support people” was added to represent the communal ideology (Diekmann et al., 2017). The advice stating “adheres to traditional gender roles” was included to explore whether an ideology that does not directly reference the self could also cause gender disparities (see Supplemental Materials, for findings).

Participants provided demographic information, including a measure of mother’s/primary caregiver’s and father’s/secondary caregiver’s education on a scale from 1 (*less than high school; 1st–8th grade*) to 7 (*doctoral degree; PhD, JD, MD, etc.*), with each point labeled (Stephens et al., 2007).³ Participants were also given the option to write in another parental education level or select “not applicable.”

Table 2

Standardized Factor Loadings Based on a Principal Axis Factor Analysis With an Oblimin Rotation in Study 1

Advice	Follow your passions	Resources
Passions	.87	–.09
Interest	.83	.08
Happiness	.84	–.002
High income	–.02	.74
Sensible and realistic	.08	.54
Job security	–.02	.77
Abilities	.37	.31

Results

Distinctiveness of Ideologies

We first examined correlations between the advice. Consistent with our preregistration,⁴ the passions advice was strongly correlated with both interest, $r(529) = .72, p < .001$, and happiness, $r(529) = .72, p < .001$, and correlated at $r_s < .34$ with all other tested advice. Seven advice (all except traditional gender roles and nurture and emotionally support people) correlated at least .3 with one other item and were thus retained for a factor analysis (not preregistered). We conducted a principal axis factor analysis with an oblimin rotation and no Kaiser normalization on the seven remaining advice. Initial eigenvalues revealed two factors that explained 43% and 25% of the variance.⁵ A third factor explained less than 10% of the variance (9.98%), so a two-factor solution was examined. As predicted, the first factor corresponded to the follow-your-passions ideology and the second factor corresponded to the resources ideology (see Table 2, for factor loadings).

We averaged interest, happiness, and passions to form a single follow-your-passions ideology factor ($\alpha = .88$) and averaged income potential, sensible and realistic, and job security to form a single resources ideology factor ($\alpha = .72$). The communal, abilities, and traditional gender roles ideologies were represented by one item each in this study. See Table 3, for correlations between ideologies.

³ Participants also answered five questions on the extent to which they believe it is important to follow their passions in choosing their major (e.g., “It is important to me to follow my passions to guide my choice of major”; $\alpha = .95$) on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). In a preregistered analysis, we examined whether gender disparities in intentions to pursue majority-male fields are greater among students who rate the follow-your-passions ideology as more rather than less important. We regressed intentions to major in computer science, engineering, and physics on importance of following one’s passions (the five-item scale), gender (men = 0; women = 1), and the interaction. The preregistered interaction was not statistically significant ($b = -0.17, SE = 0.15, p = .243$). The relationship between importance and intentions to pursue computer science, engineering, and physics was not statistically significant for women (contrary to predictions), $r(440) = -.03, p = .586$; or men, $r(87) = .10, p = .367$. One reason for this lack of effect may have been a restricted range (71% of the sample reported 6 or greater out of 7 on their stated importance of following their passions; Bland & Altman, 2011). In the next studies, we use a stronger test by manipulating ideologies and examining their causal effects on gender disparities.

⁴ Throughout the article, we use “consistent with our preregistration” to refer to preregistered predictions and “as predicted” to refer to predictions in line with our theory that were not preregistered.

⁵ A three-factor solution was also examined. The first two factors continued to correspond to the follow-your-passions and resources ideologies. The third factor included abilities (.58 loading). Sensible did not load more than .4 on any factor.

Table 3
Correlations Between Ideologies in Study 1

Ideologies	<i>M</i>	<i>SD</i>	1	2	3	4	5
1. Follow your passions	6.17	0.98	—	.40***	.19***	.30***	.05
2. Abilities	5.94	1.11	.47***	—	.35***	.21***	.12**
3. Resources	5.73	1.03	.14	.30**	—	.18***	.21***
4. Communal	5.06	1.79	.26*	.14	.23*	—	.25***
5. Traditional gender roles	2.74	2.03	-.03	-.18	.05	.28**	—

Note. Correlations for women are above the diagonal and correlations for men are below the diagonal.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Frequency of Ideology Use

Consistent with our preregistration, a repeated-measures analysis of variance (ANOVA) with the follow-your-passions, resources,⁶ abilities, communal, and traditional gender roles ideologies revealed a significant effect, $F(4, 2,120) = 594.53$, $p < .001$, $\eta_p^2 = .43$ (see Table 3, for means and standard deviations). Pairwise comparisons using Bonferroni corrections revealed that the follow-your-passions ideology was used more than the next highest ideology, abilities, $p < .001$, $d_{av} = 0.22$. The abilities ideology was used more than the resources ideology, $p = .001$, $d_{av} = 0.20$. The resources ideology was used more than the communal ideology, $p < .001$, $d_{av} = 0.46$, which was used more than the traditional gender roles ideology, $p < .001$, $d_{av} = 1.22$. (Throughout the article, d_s is used for between-subjects effect sizes and d_{av} is used for within-subject effect sizes; Lakens, 2013.)

Group Differences in Ideology Use

We conducted exploratory analyses examining whether there were group differences in using the follow-your-passions, resources, and communal ideologies. There was no significant difference between women ($M = 6.19$, $SD = 0.98$) and men ($M = 6.07$, $SD = 1.00$) in use of the follow-your-passion ideology, $t(124.42) = 1.03$, $p = .304$, $d_s = 0.12$. (Welch's t tests for unequal variances were used throughout the article for all independent samples t tests.) There was also no significant difference between women ($M = 5.70$, $SD = 1.04$) and men ($M = 5.85$, $SD = 0.96$) in use of the resources ideology, $t(132.86) = 1.33$, $p = .187$, $d_s = 0.15$. Women ($M = 5.21$, $SD = 1.72$) were significantly more likely than men ($M = 4.30$, $SD = 1.94$) to report using the communal ideology, $t(117.46) = 4.12$, $p < .001$, $d_s = 0.52$.

Next, we looked for racial group differences including groups with more than 25 participants (White Americans, Black Americans, Latinx Americans, and Asian Americans). There were no significant differences between White Americans ($M = 6.17$, $SD = 0.95$), Black Americans ($M = 6.24$, $SD = 0.94$), Latinx Americans ($M = 6.09$, $SD = 1.08$), and Asian Americans ($M = 6.00$, $SD = 1.06$) in using the follow-your-passions ideology, $F(3, 458) = 0.60$, $p = .613$, $\eta_p^2 = .004$. There were no significant differences between White Americans ($M = 5.72$, $SD = 0.99$), Black Americans ($M = 5.75$, $SD = 1.00$), Latinx Americans ($M = 5.94$, $SD = 0.91$), and Asian Americans ($M = 5.79$, $SD = 1.01$) in using the resources ideology, $F(3, 458) = 1.00$, $p = .394$, $\eta_p^2 = .01$. There were no significant differences between White Americans ($M = 4.91$, $SD = 1.87$), Black Americans ($M = 5.06$, $SD = 1.78$), Latinx Americans ($M = 5.39$, $SD = 1.60$), and Asian

Americans ($M = 4.97$, $SD = 1.59$) in using the communal ideology, $F(3, 458) = 1.49$, $p = .218$, $\eta_p^2 = .01$.

Turning to socioeconomic context, contrary to what might be predicted by the literature (Ma, 2009; Stephens, Fryberg, et al., 2012), first-generation college students ($M = 6.27$, $SD = 0.95$) were significantly more likely than continuing-generation college students ($M = 6.08$, $SD = 1.01$) to report using the follow-your-passions ideology in choosing their majors, $t(528.48) = 2.21$, $p = .028$, $d_s = 0.19$. First-generation college students ($M = 5.83$, $SD = 1.02$) were also significantly more likely than continuing-generation college students ($M = 5.63$, $SD = 1.03$) to report using the resources ideology, $t(528.93) = 2.15$, $p = .032$, $d_s = 0.19$. First-generation ($M = 5.16$, $SD = 1.82$) and continuing-generation college students ($M = 4.97$, $SD = 1.76$) did not significantly differ in their use of the communal ideology, $t(527.02) = 1.25$, $p = .212$, $d_s = 0.11$.

Discussion

Among a national sample of undergraduates in the United States, we found that the follow-your-passions, resources, and communal ideologies emerged as distinct ideologies used by students to select their majors. Students appeared to be exposed to a variety of ideologies for choosing a major (Beggs et al., 2008; Galotti & Kozberg, 1987; Montmarquette et al., 2002). The follow-your-passions ideology was more commonly used by college students in the United States than the resources and communal ideologies.⁷

Women and men did not differ in their reported use of the follow-your-passions ideology in selecting their majors. There were also no significant differences between the four largest racial groups in the United States in their reported use of the follow-your-passions ideology. Moreover, there was no evidence that the follow-your-passions ideology was used more by students from higher compared to lower socioeconomic contexts (indeed, the reverse was seen in our data; see also Cech, 2021, for no significant association between socioeconomic context and endorsement of the follow-your-passions ideology). Future work could examine whether

⁶ Per our preregistered analyses, keeping the resources ideology separated into its components for this analysis reveals similar results.

⁷ We conducted an additional preregistered study (see Supplemental Materials) with our university's advising office in which students who had recently declared their majors ($N = 153$) were asked to report "the single most influential factor in choosing the major you're in now." Consistent with this study, coding their answers revealed the most commonly generated influential factor was the follow-your-passions ideology.

socioeconomic differences may show up later in the pipeline. For example, jobs that result from following one's passions may be paid less well and more negatively impact students from lower socioeconomic contexts due to their potentially greater debt and lower financial safety nets (Cech, 2021). The use of the follow-your-passions ideology appeared ubiquitous across a national sample of U.S. undergraduates and was used by women and men, students of many racial backgrounds, and students from higher and lower socioeconomic contexts.

Study 2: Does the Follow-Your-Passions Ideology Cause Greater Occupational Gender Disparities Than the Resources Ideology?

In Study 2, we experimentally investigate whether the follow-your-passions ideology increases occupational gender disparities compared to the resources ideology, operationalized in this study as the advice to pursue a practical career. We sample White American students for this study because they, by virtue of being embedded in an independent cultural context that prioritizes personal preferences (Iyengar & Lepper, 2000; Markus & Kitayama, 2010; Savani et al., 2008), may be less swayed by ideologies like the resources ideology that do not explicitly reference the self (Iyengar & Lepper, 2000; Li et al., 2021; Markus & Kitayama, 2010; Savani et al., 2008). We thus start with White American college students as a conservative test of our hypothesis. This decision also enables us to hold race constant while focusing on gender. We examine gender disparities in anticipated intentions to pursue the most majority male STEM field: engineering (National Center for Education Statistics, 2021). In line with our preregistration, we hypothesize that the follow-your-passions ideology will cause greater gender disparities in anticipated intentions to pursue engineering than the resources ideology.

Method

Transparency and Openness

Sample size (including power analyses and any exclusions), procedures, hypotheses, and analyses were preregistered. The preregistration, data, analysis code, and research materials are available at <https://osf.io/nuzsy2/>. Data were analyzed using SPSS Version 19.0.0.2 (IBM Corp., 2010).

Participants

Undergraduate women and men ($N = 81$; 41 women, 40 men; no deviation from the preregistered stopping goal of "at least 40 male and 40 female participants") from the psychology participant pool who identified as White in a prescreening survey were recruited for the study and came into the laboratory to participate. A post hoc effect size sensitivity analysis using G*Power 3.1 revealed that with our sample size, we were able to detect gender differences of $d = 0.63$ using a two-tailed test with 80% power. The sample was mostly first-years ($n = 44$) and sophomores ($n = 31$), with one junior and five seniors. We did not measure age or socioeconomic context.

Procedure

Participants saw the follow-your-passions and resource ideologies in counterbalanced order. In the follow-your-passions

ideology condition, participants were told, "Imagine you followed the advice to follow your passions and do what you love." In the resources ideology condition, participants were told, "Imagine you followed the advice to do what is practical."⁸ All participants were asked, "Based on following the advice above, how interested would you be in pursuing a career in engineering?" Responses were on a scale from 1 (*not at all*) to 7 (*very*).

Participants completed a manipulation check after completing both conditions in which they selected all the advice that they were asked to follow from a multiple-choice list (i.e., "Do what is practical," "Follow your passions," "Do what your friends do," "Make the world a better place").⁹ Demographics were asked at the end.

Results

Manipulation Check

The majority of participants correctly selected the advice they were asked to follow (i.e., 93% correctly indicated follow your passions; 79% correctly indicated be practical). A McNemar's test revealed that a greater proportion of participants correctly selected follow your passions compared to practical, $p = .019$ (based on a binomial distribution). Eliminating participants who did not accurately select both manipulation check answers did not change findings.

Anticipated Intentions to Pursue Engineering

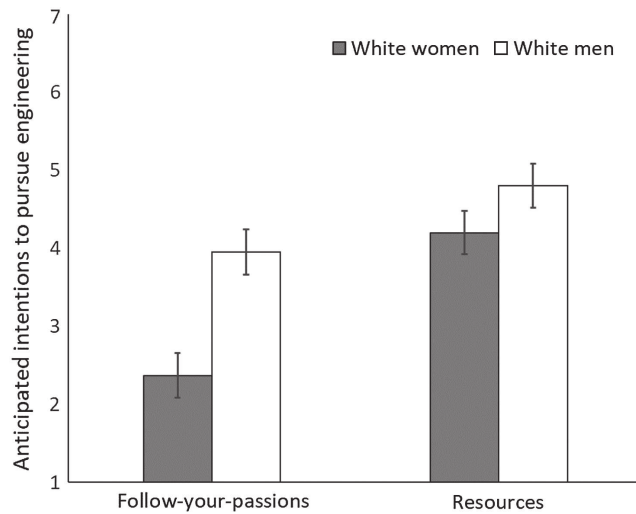
A 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on anticipated intentions revealed a significant main effect of ideology, $F(1, 79) = 44.01$, $p < .001$, $\eta_G^2 = .12$, a significant main effect of participant gender, $F(1, 79) = 9.83$, $p = .002$, $\eta_G^2 = .09$, and the preregistered Ideology \times Gender interaction, $F(1, 79) = 5.88$, $p = .018$, $\eta_G^2 = .02$ (see Figure 2). As predicted, when the follow-your-passions ideology was salient, White women ($M = 2.37$, $SD = 1.56$) had lower anticipated intentions to pursue engineering than did White men ($M = 3.95$, $SD = 2.09$), $F(1, 79) = 15.01$, $p < .001$, $d_s = 0.86$. However, when the resources ideology was salient, White women's ($M = 4.20$, $SD = 1.71$) and White men's ($M = 4.80$, $SD = 1.87$) anticipated intentions to pursue engineering were not

⁸ We did not define practical for our participants in this study. However, in a separate pilot study, two researchers coded MTurk workers' ($N = 82$) open-ended answers to the question, "When someone gives the advice to pick a college major that is practical, what do you think they mean?" Participants most commonly defined a practical college major as one that would lead to employment ($n = 22$), income ($n = 9$), and stability ($n = 3$). An additional 18 provided answers that were vaguely phrased but appear to be related to the themes of employment, income, or stability (e.g., "something that will pay off"). Of the remaining responses, 16 could not be coded (e.g., "great"), six listed a specific STEM occupation (e.g., computer science), and eight reported something unrelated (e.g., "something common"). A majority (79%) of participants with codeable responses thus appeared to associate practical with the resources ideology. We define practical for our participants more explicitly in line with the resources ideology in the next study.

⁹ Due to one computer using an older version of the questionnaire, 31 participants saw "Do what helps you make a lot of money" instead of "Do what your friends do."

Figure 2

Influence of Ideologies on White Women's and White Men's Anticipated Intentions to Pursue Engineering



Note. The follow-your-passions ideology caused greater disparities in anticipated intentions to pursue an engineering career than the resources ideology in Study 2. Error bars represent standard errors.

significantly different, $F(1, 79) = 2.31, p = .132, d_s = 0.34$.¹⁰ Exploratory analyses revealed no significant main effects or interactions with counterbalancing on anticipated intentions to pursue engineering ($F_s < .62, p_s > .434$).

Discussion

When the follow-your-passions ideology was salient, White women reported lower anticipated intentions to pursue engineering than did White men. However, when the resources ideology was salient, White women's anticipated intentions to pursue engineering increased, and gender disparities were reduced. The follow-your-passions ideology, pervasive in the United States, may perpetuate gender disparities in intentions to pursue engineering compared to the resources ideology.

Study 3: Does the Follow-Your-Passions Ideology Cause Greater Academic Gender Disparities Than the Resources Ideology and Baseline?

In Study 3, we build on the previous study by expanding beyond White participants and from one occupation to three majors with large gender disparities in participation in the United States: computer science, engineering, and physics (Cheryan et al., 2017). We also compare the follow-your-passions ideology to both the resources ideology and to baseline (no ideology explicitly mentioned).

In line with our preregistration, we hypothesize that the follow-your-passions ideology will cause greater academic gender disparities than the resources ideology. We further hypothesize that gender disparities at baseline will look more similar when the follow-your-passions ideology is salient than when the resources ideology is salient.

Method

Transparency and Openness

Sample size (including power analyses and any exclusions), procedures, hypotheses, and analyses were preregistered. The preregistration, data, analysis code, and research materials are available at <https://osf.io/p5n4g/>. Data were analyzed using SPSS Version 19.0.0.2 (IBM Corp., 2010).

Participants

Undergraduate women and men ($N = 112$; 65 women, 47 men; 60 Asian Americans, 22 White Americans, 15 multiracial Americans, nine Latinx Americans, three Black Americans, and three Middle Eastern Americans; no deviation from the preregistered stopping goal of 112) from the psychology participant pool participated in lab ($n = 48$) or online ($n = 64$). A post hoc effect size sensitivity analysis using G*Power 3.1 revealed that with our sample size, we were able to detect gender differences of $d = 0.54$ using a two-tailed test with 80% power. Participants included 40 first-years, 30 sophomores, 21 juniors, 18 seniors, and 3 others. We did not measure age or socioeconomic context.

Procedure

Participants were asked about their current intentions to pursue computer science, engineering, and physics with the following question, asked once for each field ($\alpha_{\text{baseline}} = .78$): "How interested are you in pursuing a major in <field>?" (baseline). Then participants read, "Students are sometimes told to pursue a major that aligns with their passions and lets them do what they love. Imagine you followed the advice to follow your passions and do what you love" (follow-your-passions ideology) and "Students are sometimes told to pursue a major that is practical. Imagine you followed the advice to do what leads to a good salary and job security" (resources ideology). Ideologies were counterbalanced across participants. Anticipated intentions to pursue computer science, engineering, and physics were assessed by asking, "Based on following the advice above, how interested would you be in pursuing a major in <field>?" on scales from 1 (*not at all*) to 7 (*very*; $\alpha_{\text{follow your passions}} = .72$; $\alpha_{\text{resources}} = .77$). Demographics were collected at the end.

Results

Anticipated Intentions to Pursue Computer Science, Engineering, and Physics

A 3 (Ideology: follow-your-passions vs. resources vs. baseline; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on anticipated intentions to major in computer science, engineering, and physics revealed a significant main effect of

¹⁰ In Study 2 and Study 5, we preregistered simple effects within gender. The follow-your-passions ideology decreased anticipated intentions to pursue engineering (Study 2) and perceived representation of men in reported occupations (Study 5) compared to the resources ideology among both women, Study 2: $F(1, 79) = 41.54, p < .001, d_{\text{av}} = 1.12$; Study 5: $F(1, 670) = 387.16, p < .001, d_{\text{av}} = 1.35$, and men, Study 2: $F(1, 79) = 8.75, p = .004, d_{\text{av}} = 0.43$; Study 5: $F(1, 670) = 74.03, p < .001, d_{\text{av}} = 0.70$. Consistent with our preregistration, the decrease for women was significantly greater than the decrease for men (see main text for interaction terms).

ideology, $F(1.37, 150.44) = 151.93, p < .001, \eta_G^2 = .43$, a significant main effect of participant gender, $F(1, 110) = 3.97, p = .049, \eta_G^2 = .02$, and the preregistered Ideology \times Gender interaction, $F(1.37, 150.44) = 4.39, p = .026, \eta_G^2 = .02$ (see Figure 3). Greenhouse–Geisser corrections were applied in Studies 3 and 4 because sphericity assumptions were violated.

Planned contrasts comparing women's and men's responses when the follow-your-passions versus resources ideology was salient revealed a significant Ideology \times Gender interaction, $F(1, 110) = 6.58, p = .012, \eta_G^2 = .03$. Consistent with our preregistration, when the follow-your-passions ideology was salient, women's anticipated intentions ($M = 2.17, SD = 1.31$) were significantly lower than men's anticipated intentions ($M = 2.96, SD = 1.49$), $F(1, 110) = 8.98, p = .003, d_s = 0.57$. When the resources ideology was salient, women's ($M = 4.54, SD = 1.59$) and men's ($M = 4.60, SD = 1.12$) anticipated intentions were no longer significantly different, $F(1, 110) = 0.04, p = .848, d_s = 0.04$.

Planned contrasts comparing women's and men's responses when the follow-your-passions ideology was salient compared to baseline revealed no statistically significant Ideology \times Gender interaction, $F(1, 110) = 2.89, p = .092, \eta_G^2 = .007$. As predicted, the size of gender disparities did not significantly differ between baseline and when the follow-your-passions ideology was salient. Patterns of significance and the direction of effects did not change when separate 2×2 analyses were conducted comparing the follow-your-passions ideology to the resources ideology and baseline per our preregistration. An exploratory analysis revealed no significant main effects or interactions with counterbalancing ($F_s < 2.56, p_s > .11$).

An exploratory paired samples t test revealed that the difference in responses between resources and baseline ($M = 1.88, SD = 1.59$) was significantly larger than the difference in responses between follow your passions and baseline ($M = -0.18, SD = 0.76$), $t(111) = 14.08, p < .001, d_{av} = 1.66$, suggesting that the follow-your-passions

ideology may be more of a default than the resources ideology. Next, to test a preregistered hypothesis, we examined whether gender disparities in anticipated intentions at baseline were more similar to gender disparities when the follow-your-passions ideology versus resources ideology was salient. As is apparent in Figure 3, the gender difference in anticipated intentions at baseline (-0.55) looked more similar to the gender difference when the follow-your-passions ideology was salient (-0.80) than when the resources ideology was salient (-0.05).

Discussion

Consistent with the previous study and our preregistered predictions, making the follow-your-passions ideology salient resulted in greater academic gender disparities in computer science, engineering, and physics than making the resources ideology salient. This study also provided a first look at baseline compared to the follow-your-passions ideology among a sample of U.S. undergraduates. The size of academic gender disparities did not significantly differ between baseline and when the follow-your-passions ideology was salient. These findings, along with the findings from Study 1 that showed the highest endorsement for the follow-your-passions ideology, suggest this ideology may be prevalent in the United States.

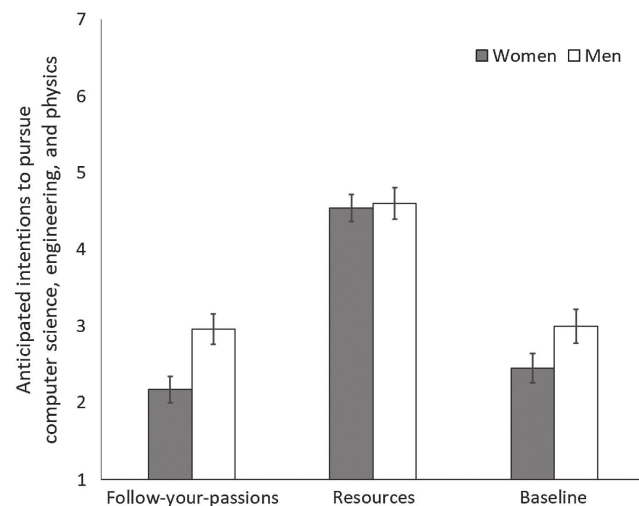
Study 4: Does the Follow-Your-Passions Ideology Cause Greater Occupational Gender Disparities Than the Resources and Communal Ideologies?

In Study 4, we build on previous findings by comparing the follow-your-passions ideology to another ideology, the communal ideology, in addition to the resources ideology. While the resources ideology is commonly associated with the male gender role, the communal ideology is commonly associated with the female gender role (Eagly & Wood, 1999). The communal ideology may reduce occupational gender disparities compared to the follow-your-passions ideology by having women and men draw more similarly on aspects of themselves more consistent with the female (and less consistent with the male) gender role.

This study makes four key changes from the previous studies. First, we examine whether results generalize from an undergraduate sample from one university to a national adult sample. Second, we broaden the scope of our investigation from specific STEM fields to all occupations. Third, we ask participants to list occupations instead of having them rate their intentions to pursue specific occupations. This change is to address the possibility that asking participants about their interests is inadvertently making the follow-your-passions ideology salient. Listing occupations can also reveal that different cultural ideologies cause different occupations to come to mind. Fourth, we assess occupational gender disparities by collecting: (a) participants' perceptions of the extent to which occupations are majority male and (b) national data to obtain the proportion of men employed in those occupations. Assessing perceptions captures details that participants may not convey in their responses (e.g., doctor could be surgeon or pediatrician, which have different gender proportions). Consistent with our preregistration, we hypothesize that the follow-your-passions ideology will cause greater occupational gender disparities compared to the resources and communal ideologies.

Figure 3

Influence of Ideologies on Women's and Men's Anticipated Intentions to Pursue Computer Science, Engineering, and Physics



Note. The follow-your-passions ideology caused greater gender disparities in anticipated intentions to pursue computer science, engineering, and physics than the resources ideology in Study 3. Error bars represent standard errors.

Method

Transparency and Openness

Sample size (including power analyses and any exclusions), procedures, hypotheses, and analyses were preregistered. The preregistration, data, analysis code, and research materials are available at <https://osf.io/ud32g/>. Data were analyzed using SPSS Version 19.0.0.2 (IBM Corp., 2010).

Participants

Adult women and men in the United States ($N = 544$) recruited through Prolific completed an online study. In accordance with our preregistration, six people were excluded for not identifying as women or men, leaving 538 participants (263 women, 275 men; 343 White Americans, 68 Asian Americans, 57 Black Americans, 39 multiracial Americans, 28 Latinx Americans, one Middle Eastern American, one Native Hawaiian/Pacific Islander, one who indicated an unlisted racial group). Per our preregistration, we requested exactly 536 participants after exclusions, but Prolific allowed 538 participants to complete the study. Two hundred fifty-three (47%) had an average household income less than \$50,000, 192 (36%) had an average household income between \$50,000 and \$100,000, 92 (17%) had an average household income equal or greater than \$100,000, and 1 (0.2%) did not indicate their household income. The mean age was 32.59 years ($SD = 11.93$). See Appendix, for exploratory analyses investigating race by gender and socioeconomic context by gender intersections.

Procedure

Participants were first asked to “list the career you intend to pursue or are currently pursuing” (baseline). Then, participants read that “people are sometimes told to pursue a career that”: (a) “allows you to follow your passions” (follow-your-passions ideology), (b) “leads to a high income” (resources ideology), and (c) “will allow you to nurture and emotionally support people” (communal ideology). Ideologies were counterbalanced across participants. Participants were asked to list a career that would fit each ideology.

Each time participants listed a career, they answered three questions to measure how majority male their listed careers were: “To what extent is the career you listed typically associated with females or males in U.S. society” (1 = *associated with females* to 7 = *associated with males*), “To what extent is the career you listed typically associated with women or men in U.S. society” (1 = *associated with women* to 7 = *associated with men*), and “To what extent is the career you listed female-dominated or male-dominated in U.S. society” (1 = *female-dominated* to 7 = *male-dominated*). Questions were averaged to measure the perceived gender representation of occupations ($\alpha_{\text{follow your passions}} = .94$, $\alpha_{\text{resources}} = .94$, $\alpha_{\text{communal}} = .94$, $\alpha_{\text{baseline}} = .96$). Demographics were collected at the end.

Two research assistants referenced the current population survey (Bureau of Labor Statistics, 2020) to retrieve data on the gender proportion of men for each occupation reported by participants.¹¹ A third research assistant served as a tie-breaker in cases where the two coders disagreed on which occupation to select. If participants reported more than one occupation in a single response, only the first occupation reported was used.

Results

Gender Representation of Occupations

A 4 (Ideology: follow-your-passions vs. resources vs. communal vs. baseline; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on perceived gender representation of reported occupations revealed a significant main effect of participant gender, $F(1, 536) = 41.77$, $p < .001$, $\eta^2_G = .007$, and the preregistered main effect of ideology, $F(2.85, 1525.64) = 427.98$, $p < .001$, $\eta^2_G = .42$. Consistent with our preregistration, the perceived representation of men in reported occupations was higher when the resources ideology was salient ($M = 5.44$, $SD = 1.13$) than when the follow-your-passions ideology was salient ($M = 4.30$, $SD = 1.18$), $p < .001$, $d_{\text{av}} = 0.99$, and higher when the follow-your-passions ideology was salient than when the communal ideology was salient ($M = 2.79$, $SD = 1.22$), $p < .001$, $d_{\text{av}} = 1.26$. The preregistered Ideology \times Gender interaction was also significant, $F(2.85, 1525.64) = 21.23$, $p < .001$, $\eta^2_G = .03$ (see Figure 4).

Planned contrasts comparing women’s and men’s perceived gender representation of reported occupations when the follow-your-passions ideology versus resources ideology was salient revealed a significant Ideology \times Gender interaction, $F(1, 536) = 11.22$, $p = .001$, $\eta^2_G = .02$. Consistent with our preregistration, when the follow-your-passions ideology was salient, women reported occupations that had a lower perceived representation of men ($M = 4.13$, $SD = 1.15$) than did men ($M = 4.46$, $SD = 1.19$), $F(1, 536) = 10.15$, $p = .002$, $d_s = 0.27$. Consistent with our preregistration, when the resources ideology was salient, women ($M = 5.49$, $SD = 1.18$) and men ($M = 5.39$, $SD = 1.08$) did not differ in their perceived representation of men in reported occupations, $F(1, 536) = 1.18$, $p = .277$, $d_s = 0.09$.

Contrary to preregistered predictions, planned contrasts comparing women’s and men’s perceived gender representation of reported occupations when the follow-your-passions ideology versus communal ideology was salient revealed a nonsignificant Ideology \times Gender interaction, $F(1, 536) = 0.24$, $p = .624$, $\eta^2_G = .0004$.

Exploratory contrasts comparing women’s and men’s perceived gender representation of reported occupations when the follow-your-passions ideology was salient versus baseline revealed a significant Ideology \times Gender interaction, $F(1, 536) = 23.50$, $p < .001$, $\eta^2_G = .04$. Women’s reported occupations did not significantly differ in perceived representation of men between the follow-your-passions ideology and baseline (as predicted), $F(1, 536) = 3.18$, $p = .075$, $d_{\text{av}} = 0.14$. However, men reported occupations with a lower perceived representation of men when the follow-your-passions ideology was salient than at baseline (not predicted), $F(1, 536) = 26.11$, $p < .001$, $d_{\text{av}} = 0.43$. Consistent with our preregistration, women’s baseline responses had a lower perceived representation of men ($M = 3.94$, $SD = 1.66$) than men’s baseline responses ($M = 5.00$, $SD = 1.34$), $F(1, 536) = 66.27$, $p < .001$, $d_s = 0.70$.

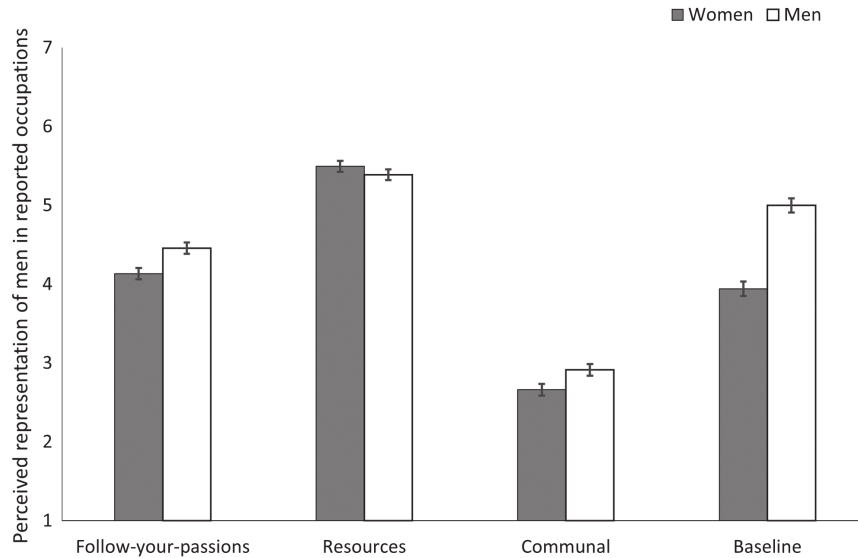
Gender Proportion Based on National Data

A 4 (Ideology: follow-your-passions vs. resources vs. communal vs. baseline; within) \times 2 (Gender: women vs. men; between)

¹¹ Some occupations reported by participants (e.g., “freelancer”) could not be matched to national gender proportion information. Research assistants matched 93% in follow your passions, 97% in resources, 95% in communal, and 91% in baseline.

Figure 4

Influence of Ideology on Perceived Representation of Men in Occupations Reported by Women and Men



Note. The follow-your-passions ideology caused greater gender disparities in the perceived representation of men in reported occupations than the resources ideology in Study 4. Gender disparities did not significantly differ between the follow-your-passions ideology and the communal ideology. Error bars represent standard errors.

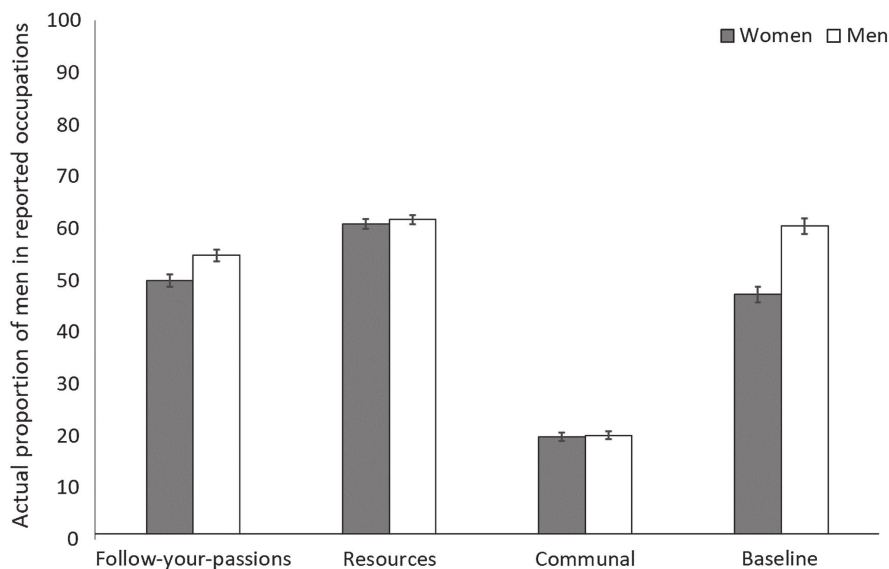
mixed-model ANOVA on actual gender proportion based on national data revealed a significant main effect of ideology, $F(2.61, 1132.15) = 597.34, p < .001, \eta_G^2 = .55$; a significant main effect of participant gender, $F(1, 434) = 27.53, p < .001,$

$\eta_G^2 = .007$; and the predicted Ideology \times Gender interaction, $F(2.61, 1132.15) = 15.65, p < .001, \eta_G^2 = .03$ (see Figure 5).

Planned contrasts comparing the actual gender proportion based on national data of women's and men's reported occupations when

Figure 5

Influence of Ideologies on Actual Proportion of Men in Occupations Reported by Women and Men Based on National Data



Note. The follow-your-passions ideology caused greater gender disparities based on national data than the resources and communal ideologies in Study 4. Error bars represent standard errors.

the follow-your-passions ideology versus resources ideology was salient revealed a significant Ideology \times Gender interaction, $F(1, 434) = 4.49, p = .035, \eta^2_G = .008$. As predicted, when the follow-your-passions ideology was salient, women reported occupations with a lower proportion of men ($M = 49.88, SD = 17.06$) compared to men ($M = 54.74, SD = 16.71$), $F(1, 434) = 9.04, p = .003, d_s = 0.29$. When the resources ideology was salient, the occupations women ($M = 60.81, SD = 14.62$) and men ($M = 61.65, SD = 11.86$) reported did not significantly differ in their proportion of men, $F(1, 434) = 0.44, p = .508, d_s = 0.06$.

Planned contrasts comparing the actual gender proportion based on national data of women's and men's reported occupations when the follow-your-passions versus communal ideology was salient revealed a significant Ideology \times Gender interaction, $F(1, 434) = 5.80, p = .016, \eta^2_G = .01$. As predicted, when the follow-your-passions ideology was salient, women reported occupations with a lower proportion of men than did men (see above for statistics). When the communal ideology was salient, gender proportion of the occupations women ($M = 19.74, SD = 11.56$) and men ($M = 20.07, SD = 12.19$) reported did not significantly differ, $F(1, 434) = 0.08, p = .774, d_s = 0.03$.

Exploratory contrasts comparing the actual gender proportion based on national data of women's and men's reported occupations when the follow-your-passions ideology was salient compared to baseline revealed a significant Ideology \times Gender interaction (not predicted), $F(1, 434) = 11.71, p < .001, \eta^2_G = .02$. The follow-your-passions ideology caused women to report occupations that did not significantly differ in their proportion of men from baseline (as predicted), $F(1, 434) = 2.43, p = .120, d_{av} = 0.13$, but the follow-your-passions ideology caused men to report occupations with a lower proportion of men than at baseline (not predicted), $F(1, 434) = 10.78, p = .001, d_{av} = 0.30$. Patterns of significance and the direction of effects did not change when separate 2×2 analyses were conducted comparing the follow-your-passions ideology to the resources ideology, communal ideology, and baseline, per our preregistration.

Discussion

The follow-your-passions ideology caused greater occupational gender disparities than the resources ideology across two measures of gender disparities: participants' perceptions and more objective national data. The follow-your-passions ideology also caused greater gender disparities than the communal ideology when disparities were assessed with national data. Ideologies that align with the female gender role can reduce gender disparities compared to the follow-your-passions ideology by encouraging men to bring to mind more majority-female occupations (Block et al., 2018).

The communal ideology decreased gender disparities compared to the follow-your-passions ideology when measured using more objective national data on gender proportion but not when using participants' perceptions of gender representation. (This inconsistency with the communal ideology between national data and perceptions was replicated in another study in the Supplemental Materials.) One reason for this discrepancy could be that listing majority-female occupations was threatening to men's masculinity (Vandello et al., 2008). As a result, men may have wanted to downplay the extent to which the occupations they reported were majority female. National statistics on gender proportion may be

less sensitive to picking up on men's potentially threatened masculinity than men's self-reports.

This new measure of gender disparities—listing an occupation and rating the perceived gender representation of that occupation—revealed greater gender disparities when the follow-your-passions ideology versus resources ideology was salient. These ideologies influenced which occupations initially come to mind, a process that might precede developing an interest. The follow-your-passions ideology may perpetuate gender disparities compared to the resources ideology by causing people to put different occupations on the table.

The follow-your-passions ideology narrowed gender disparities compared to the baseline in this study, whereas gender disparities looked similar across follow your passions and baseline in the previous study. What might account for this difference across studies? In the previous study, men's responses were not significantly different between baseline and when the follow-your-passions ideology was salient. In this study, making the follow-your-passions ideology salient caused men to report occupations that have proportionally fewer men compared to the occupations they listed at baseline. (See Supplemental Materials, for three other studies with college students using closed-ended responses also showing no significant differences between follow your passions and baseline on gender disparities.) One possible explanation is that a focus on occupations (versus majors) and/or the open-ended (versus closed-ended) measure caused men to indicate aspirational occupations in the arts (i.e., film, art, singing, or dance). In an exploratory analysis, three coders unaware of hypotheses indicated whether men's reported occupations when the follow-your-passions ideology was salient were in the arts (i.e., film, art, singing, or dance). Two coders were randomly selected before coding began to provide the main codes ($\kappa = .72$), and the third coder was a tiebreaker. More than a third (39%) of the men in this study reported arts occupations when the follow-your-passions ideology was salient. When this sample of men was removed from analysis, there was no longer a statistically significant difference in the perceived representation of men in reported occupations between follow your passions ($M = 4.71, SD = 1.31$) and baseline ($M = 4.93, SD = 1.34$), $t(166) = -1.92, p = .057, d_{av} = 0.17$. The prominence of arts occupations may help explain the difference in men's responses between follow your passions and baseline in this study but not the previous one. Regardless of this difference, across the two studies, the follow-your-passions ideology caused greater gender disparities than the resources ideology.

Study 5: Is Drawing Upon Female Role-Congruent Selves a Mediator?

Study 5 examines our preregistered proposed mediator: drawing more upon the female role-congruent self, or aspects of oneself that are more congruent with the female gender role. We also measure alternative and more specific mediators to examine whether drawing upon female role-congruent selves remains a significant mediator of the relationship between ideology and gender disparities even after accounting for several alternatives. The first alternative we investigate is perceptions that the ideology is appropriate for one's gender role. Other explanations include more specific components of gender roles: feminine traits, masculine traits, caregiver goals, and breadwinner goals.

Consistent with our preregistration, we hypothesize that the follow-your-passions ideology will cause greater occupational

gender disparities compared to the resources ideology. We further hypothesize that women will draw more upon female role-congruent selves than men when the follow-your-passions ideology is salient, and this difference will be smaller when the resources ideology is salient.

Method

Transparency and Openness

Sample size (including power analyses and any exclusions), procedures, hypotheses, and analyses were preregistered. The preregistration, data, analysis code, and research materials are available at <https://osf.io/ae5c7/>. Data were analyzed using SPSS, Version 19.0.0.2 (IBM Corp., 2010).

Participants

Adult women and men in the United States ($N = 683$) recruited through Prolific completed the study. In accordance with our preregistration, 11 participants were excluded for not identifying as women or men or identifying as both women and men, leaving 672 participants (375 women, 297 men; 482 White Americans, 53 Asian Americans, 50 multiracial Americans, 46 Black Americans, 36 Latinx Americans, three Middle Eastern Americans, two reported another race; no deviation from preregistered stopping goal). Three hundred one (45%) had an average household income less than \$50,000, 239 (36%) had an average household income between \$50,000 and \$99,999, 129 (19%) had an average household income equal or greater than \$100,000, and 3 (0.4%) did not indicate household income. The mean age was 34.89 years ($SD = 12.36$). See Appendix, for exploratory analyses investigating race by gender and socioeconomic context by gender intersections.

Procedure

Procedures were identical to the previous study with the following exceptions. First, participants were only exposed to the follow-your-passions and resources ideologies (in counterbalanced order). Second, we measured our mediator, drawing upon female role-congruent selves. Third, we measured alternative and more specific mediators.

Gender Representation of Occupations. Participants rated the perceived gender representation of their reported occupations using the same three questions averaged together as the previous

study ($\alpha_{\text{follow your passions}} = .96$, $\alpha_{\text{resources}} = .93$). We used the same procedure from Study 4 to retrieve national data on gender proportions of reported occupations.

Female Role-Congruent Selves Mediator. Female role-congruent selves were measured with three questions: “To what extent does the advice above cause you to draw upon aspects of yourself that are feminine or masculine (regardless of your gender)?” (1 = *draw upon feminine characteristics* to 7 = *draw upon masculine characteristics*), “To what extent does the advice above cause you to draw upon aspects of yourself that are typically associated with females or males (regardless of your gender)?” (1 = *draw upon typically female aspects* to 7 = *draw upon typically male aspects*), and “To what extent does the advice above cause you to draw upon aspects of yourself that are commonly associated with women or men (regardless of your gender)?” (1 = *draw upon aspects commonly associated with women* to 7 = *draw upon aspects commonly associated with men*). These three questions were reverse-scored and averaged such that higher responses corresponded to greater drawing upon aspects of the self that align with the female gender role ($\alpha_{\text{follow your passions}} = .93$, $\alpha_{\text{resources}} = .93$).

Self-Reflection. To test our prediction that the follow-your-passions ideology will cause a greater reflection on the self compared to the resources ideology, participants were asked, “To what extent does the advice above cause you to reflect on characteristics of yourself versus characteristics of the career?” on a scale from 1 (*reflect on myself*) to 7 (*reflect on the career*). This question was reversed-scored such that higher responses corresponded to greater self-reflection.

Alternative and More Specific Mediators. We measured several potential alternative and more specific mediators (see Table 4, for means and standard deviations).

Gender Role Appropriateness. The extent to which participants perceived that the ideology would be appropriate for people of their gender was measured with two items: “How typical is it for people of your own gender to follow the advice above?” and “How desirable is it for people of your own gender to follow the advice above?” on a scale from 1 (*not at all*) to 7 (*very*; Prentice & Carranza, 2002). These two questions were not highly reliable ($\rho_{\text{follow your passions}} = .62$, $p < .001$; $\rho_{\text{resources}} = .65$, $p < .001$) and were not combined (Spearman–Brown split-half reliability was used for two-item measures; Eisinga et al., 2013). We reported results for the two questions separately.

Feminine and Masculine Traits. Participants were asked, “How much does the advice above cause you to think of careers where you can be <trait>?” on scales from 1 (*not at all*) to 7 (*very much*). Traits

Table 4

Means and Standard Deviations by Gender for Potential Mediators Measured in Study 5

Mediators	Follow your passions						Resources					
	Women		Men		<i>p</i> value	<i>d_s</i>	Women		Men		<i>p</i> value	<i>d_s</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Female role-congruent selves	4.56	1.10	3.96	1.02	<.001	0.57	2.99	1.18	2.86	1.05	.152	0.11
Self-reflection	4.45	1.79	4.46	1.70	.918	0.01	2.81	1.57	2.83	1.52	.849	0.02
Gender role typicality	4.54	1.42	3.86	1.45	<.001	0.47	4.15	1.49	5.68	1.14	<.001	1.13
Gender role desirability	5.12	1.46	4.77	1.55	.003	0.23	4.97	1.43	5.51	1.34	<.001	0.39
Feminine traits	5.37	1.02	5.26	1.04	.187	0.10	4.26	1.26	4.25	1.20	.877	0.01
Masculine traits	4.48	1.04	4.67	1.02	.015	0.19	5.51	.88	5.43	.91	.221	0.10
Caregiver goals	4.04	1.79	3.81	1.59	.082	0.14	2.98	2.11	3.78	2.17	<.001	0.37
Breadwinner goals	3.79	1.82	3.93	1.68	.295	0.08	6.22	1.15	6.10	1.21	.188	0.10

were taken from Cejka and Eagly (1999). Feminine traits included affectionate, sympathetic, gentle, sensitive, nurturing, sentimental, warm in relations with others, helpful to others, sociable, understanding of others, cooperative, kind, supportive, outgoing, artistic, expressive, perceptive, verbally skilled, creative, tasteful, imaginative, and intuitive ($\alpha_{\text{follow your passions}} = .93$, $\alpha_{\text{resources}} = .95$). Masculine traits included competitive, daring, unexcitable, dominant, adventurous, stand up under pressure, aggressive, courageous, analytical, mathematical, good with numbers, exact, good at reasoning, good at abstraction, good at problem solving, and quantitatively skilled ($\alpha_{\text{follow your passions}} = .87$, $\alpha_{\text{resources}} = .87$). Feminine and masculine traits were intermixed, and presentation order was randomized for each participant.

Caregiver and Breadwinner Goals. Caregiver goals were measured by asking, “To what extent does the advice above cause you to think of careers that would allow you to be the primary caregiver (i.e., focus on raising children) for a family?” Breadwinner goals were measured by asking, “To what extent does the advice above cause you to think of careers that would allow you to be the primary economic provider for a family?” Both were assessed on scales from 1 (*not at all*) to 7 (*very*; Croft et al., 2020).

Mediator questions were presented in the following order: feminine and masculine traits, female role-congruent selves, breadwinner goals, caregiver goals, self-reflection,¹² and gender role appropriateness. Feminine and masculine traits were presented before the female role-congruent selves measure to provide participants examples of femininity and masculinity.

Results

Gender Representation of Occupations

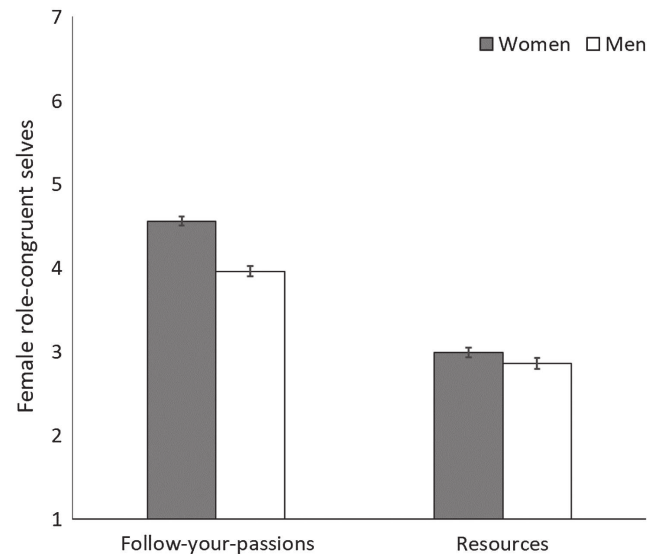
A 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(1, 670) = 380.58$, $p < .001$, $\eta^2_G = .21$, a significant main effect of participant gender, $F(1, 670) = 17.53$, $p < .001$, $\eta^2_G = .01$, and the preregistered Ideology \times Gender interaction, $F(1, 670) = 44.27$, $p < .001$, $\eta^2_G = .03$ (see Appendix, for between-subjects analyses). Consistent with our preregistration, when the follow-your-passions ideology was salient, women reported occupations with a lower perceived representation of men ($M = 3.78$, $SD = 1.30$) than did men ($M = 4.49$, $SD = 1.23$), $F(1, 670) = 51.17$, $p < .001$, $d_s = 0.56$. Consistent with our preregistration, when the resources ideology was salient, women's ($M = 5.44$, $SD = 1.15$) and men's ($M = 5.30$, $SD = 1.08$) reported occupations did not significantly differ in their perceived representation of men, $F(1, 670) = 2.44$, $p = .119$, $d_s = 0.12$.¹³

Female Role-Congruent Selves

A 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on female role-congruent selves revealed a significant main effect of ideology, $F(1, 670) = 488.85$, $p < .001$, $\eta^2_G = .27$, a significant main effect of participant gender, $F(1, 670) = 37.01$, $p < .001$, $\eta^2_G = .03$, and the preregistered Ideology \times Gender interaction, $F(1, 670) = 15.69$, $p < .001$, $\eta^2_G = .01$ (see Figure 6). Consistent with our preregistration, when the follow-your-passions ideology was salient, women drew more upon female role-congruent selves than did men, $F(1, 670) = 53.08$, $p < .001$, $d_s = 0.57$. Consistent with our preregistration, when

Figure 6

Influence of Ideologies on Drawing Upon Female Role-Congruent Selves by Gender



Note. The follow-your-passions ideology caused women to draw upon female role-congruent selves more than did men in Study 5. Women and men did not significantly differ in how much they drew upon female role-congruent selves when the resources ideology was salient. Error bars represent standard errors.

the resources ideology was salient, there was no significant difference in women's and men's tendencies to draw upon female role-congruent selves, $F(1, 670) = 2.05$, $p = .152$, $d_s = 0.11$. Seen differently and consistent with our preregistration, the follow-your-passions ideology caused women to draw more upon female role-congruent selves than the resources ideology, $F(1, 670) = 384.47$, $p < .001$, $d_{av} = 1.38$, and this difference was smaller for men, $F(1, 670) = 147.57$, $p < .001$, $d_{av} = 1.06$ (see Table 4, for descriptive statistics).

Exploratory one-sample t tests comparing female role-congruent selves to the midpoint (i.e., 4) revealed that women's responses were

¹² We preregistered self-reflection as an alternative mediator in our multiple mediation analyses predicting that self-reflection would be higher when the follow-your-passions ideology versus resources ideology was salient. We subsequently realized that self-reflection lacks a gendered component that could explain gender disparities. Nevertheless, we retained self-reflection in multiple mediation analyses to maintain consistency with our preregistration. Patterns of significance and coefficient directionality from moderated multiple mediation analyses did not change when self-reflection was excluded.

¹³ An exploratory 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) mixed-model ANOVA on actual gender proportion based on national data revealed a similar pattern. There was a significant main effect of ideology, $F(1, 614) = 204.86$, $p < .001$, $\eta^2_G = .14$, a significant main effect of participant gender, $F(1, 614) = 22.80$, $p < .001$, $\eta^2_G = .02$, and a significant Ideology \times Participant Gender interaction, $F(1, 614) = 14.83$, $p < .001$, $\eta^2_G = .01$. When the follow-your-passions ideology was salient, women reported occupations with a lower proportion of men ($M = 44.57$, $SD = 18.54$) than did men ($M = 52.82$, $SD = 18.41$), $F(1, 614) = 30.29$, $p < .001$, $d_s = 0.45$. When the resources ideology was salient, the occupations women ($M = 61.47$, $SD = 15.37$) and men ($M = 62.55$, $SD = 13.48$) reported did not significantly differ in their proportion of men, $F(1, 614) = .84$, $p = .360$, $d_s = 0.07$.

Table 5*Correlations Between Potential Mediators by Ideology in Study 5*

Mediators	1	2	3	4	5	6	7	8
1. Female role-congruent selves	(.006)	.17***	.002	-.03	.20***	-.26***	.10*	-.32***
2. Self-reflection	.17***	(-.06)	-.13***	-.01	.03	-.24***	-.08*	-.27***
3. Gender role typicality	.07	-.02	(.02)	.45***	.15***	.18***	.21***	.29***
4. Gender role desirability	.06	-.02	.48***	(.10*)	.11**	.12**	.08*	.25***
5. Feminine traits	.31***	.08*	.24***	.22***	(.36***)	.41***	.31***	.08*
6. Masculine traits	-.18***	-.13**	.09*	.09*	.37***	(.39***)	.15***	.41***
7. Caregiver goals	.13***	-.01	.24***	.21***	.22***	.02	(.12**)	.30***
8. Breadwinner goals	-.23***	-.29***	-.02	.06	-.08*	.22***	.02	(-.04)

Note. Correlations for follow-your-passions ideology are above the diagonal and correlations for resources ideology are below the diagonal. The values in the parentheses on the diagonal are the correlations between the same measures across ideologies.

* $p < .05$. ** $p < .01$. *** $p < .001$.

significantly higher than the midpoint when the follow-your-passions ideology was salient, $t(374) = 9.88$, $p < .001$, $d_z = 0.51$, suggesting that women were drawing upon female role-congruent selves. Men's responses did not significantly differ from the midpoint when the follow-your-passions ideology was salient, $t(296) = -0.72$, $p = .473$, $d_z = 0.04$. Both women's, $t(374) = -16.69$, $p < .001$, $d_z = 0.86$, and men's, $t(296) = -18.68$, $p < .001$, $d_z = 1.08$, responses were significantly lower than the midpoint when the resources ideology was salient, suggesting that women and men were drawing upon male role-congruent selves.

Self-Reflection

As predicted, the follow-your-passions ideology ($M = 4.46$, $SD = 1.75$) caused greater self-reflection than the resources ideology ($M = 2.82$, $SD = 1.55$), $t(671) = 17.71$, $p < .001$, $d_{av} = 0.99$.

Moderated Mediation: Drawing Upon Female Role-Congruent Selves as a Stronger Mediator for Women Than Men

We examined whether women's greater tendency than men's to draw upon female role-congruent selves could explain the greater gender disparity when the follow-your-passions ideology versus resources ideology was salient. Consistent with our preregistration, we conducted a first-stage moderated mediation analysis (Model 15, see Figure 1) with 10,000 bootstrap resamples using the Mediation and Moderation for Repeated Measures macro developed by Montoya (2019). We reported component paths of the indirect effect per recommendations by Yzerbyt et al. (2018).

There was a significant Ideology \times Gender interaction on female role-congruent selves, $b = 0.48$, $SE = 0.12$, $t(670) = 3.96$, $p < .001$. Women and men both drew upon female role-congruent selves more when the follow-your-passions ideology was salient compared to the resources ideology, but the effect was stronger for women, $b = 1.58$, $SE = 0.08$, $t(670) = 19.61$, $p < .001$, compared to men, $b = 1.10$, $SE = 0.09$, $t(670) = 12.15$, $p < .001$. Drawing upon female role-congruent selves was associated with reporting occupations with a lower perceived representation of men upon controlling for the effect of ideology, $b = -0.50$, $SE = 0.04$, $t(669) = -13.71$, $p < .001$. As predicted, examining the conditional indirect effect for each gender revealed that drawing upon female role-congruent selves mediated the relationship between ideology and perceived

representation of men, and the indirect effect was greater for women, $b = -0.78$, bootstrap $SE = 0.08$, 95% bootstrap CI $[-0.95, -0.63]$, than men, $b = -0.55$, bootstrap $SE = 0.06$, 95% bootstrap CI $[-0.66, -0.44]$, index of moderated mediation = -0.24 , bootstrap $SE = 0.07$, 95% bootstrap CI $[-0.37, -0.12]$.¹⁴

Alternative and More Specific Mediators

As predicted, using the same moderated mediation procedures described above but adding the potential alternative and more specific mediators revealed that female role-congruent selves remained a significant mediator of the relationship between ideology and perceived representation of men (see Table 5, for correlations between potential mediators). As predicted, female role-congruent selves were a significant mediator for both women and men, but the effect was stronger for women. Two other mediators also revealed significant indirect effects moderated by gender: masculine traits and gender role typicality. Indirect effects through feminine traits, gender role desirability, breadwinner goals, caregiver goals, and self-reflection were not significantly moderated by gender (see Table 6).

Discussion

Making the follow-your-passions ideology salient caused greater occupational gender disparities than making the resources ideology salient. Why? Gender disparities were explained by women's greater tendency to draw upon female role-congruent selves when the follow-your-passions ideology was salient compared to the resources

¹⁴ Consistent with our preregistration, testing two separate mediations focusing on (a) the follow-your-passions ideology only and (b) women only yielded similar results. First, we used the PROCESS 2.1 macro by Hayes (2013) with 10,000 bootstrap resamples and found that female role-congruent selves mediated gender disparities in the perceived representation of men in reported occupations when the follow-your-passions ideology was salient, $b = -0.28$, $SE = 0.05$, 95% CI $[-0.39, -0.20]$. This indirect effect remained significant when accounting for the alternative and more specific mediators, $b = -0.21$, $SE = 0.04$, 95% CI $[-0.30, -0.12]$. Second, we used the Mediation and Moderation for Repeated Measures macro by Montoya and Hayes (2017) with 10,000 bootstrap resamples and found that female role-congruent selves mediated women's lower perceived gender representation of reported occupations when the follow-your-passions ideology versus resources ideology was salient, $b = -0.78$, $SE = 0.09$, 95% CI $[-0.95, -0.60]$. This indirect effect remained significant when accounting for the alternative and more specific mediators, $b = -0.57$, $SE = 0.11$, 95% CI $[-0.78, -0.35]$.

Table 6*Moderated Mediation Analysis Accounting for Potential Mediators in Study 5*

Mediators	Women				Men				Index of moderation			
	<i>b</i>	Bootstrap <i>SE</i>	95% CI		<i>b</i>	Bootstrap <i>SE</i>	95% CI		<i>b</i>	Bootstrap <i>SE</i>	95% CI	
			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>			<i>LL</i>	<i>UL</i>
Female role-congruent selves	−0.55	0.09	−0.72	−0.38	−0.38	0.06	−0.50	−0.26	−0.17	0.05	−0.27	−0.08
Self-reflection	0.01	0.04	−0.08	0.09	0.01	0.04	−0.08	0.09	<0.001	0.005	−0.01	0.01
Gender role typicality	−0.03	0.02	−0.07	−0.01	0.15	0.06	0.04	0.27	−0.19	0.07	−0.33	−0.05
Gender role desirability	0.01	0.008	−0.003	0.03	−0.05	0.03	−0.10	0.004	0.06	0.03	−0.003	0.12
Feminine traits	−0.32	0.07	−0.45	−0.20	−0.29	0.06	−0.40	−0.19	−0.03	0.03	−0.09	0.03
Masculine traits	−0.28	0.06	−0.40	−0.16	−0.20	0.04	−0.30	−0.12	−0.08	0.03	−0.14	−0.03
Caregiver goals	−0.05	0.03	−0.10	0.004	−0.001	0.01	−0.02	0.01	−0.05	0.03	−0.10	0.003
Breadwinner goals	0.13	0.08	−0.04	0.29	0.12	0.08	−0.04	0.26	0.01	0.01	−0.01	0.05

Note. $N = 672$; b = unstandardized regression weights; SE = standard error; 95% CI LL = 95% confidence interval lower limit; 95% CI UL = 95% confidence interval upper limit.

ideology. Although the follow-your-passions ideology may appear to be free of gender on the surface, this ideology caused women more than men to draw upon female role-congruent selves and increased gender disparities more than the resources ideology.

Two other mediators emerged as significant in the moderated mediation analysis in addition to female role-congruent selves: masculine traits and typicality of the ideology for one's gender. These mediators may also partly explain the increase in gender disparities when the follow-your-passions ideology versus resources ideology is salient. In contrast, feminine traits (e.g., cooperative) were not a significant mediator controlling for the other potential mediators. One reason may be that the designated feminine traits were less applicable in an occupational context compared to the masculine traits. For instance, people may be less likely to think of occupations where they can be "tasteful" and more likely to think of occupations where they can be "analytical." The follow-your-passions ideology may have more influence on some aspects of gender roles than others.

General Discussion

The follow-your-passions ideology is widespread in the United States. Making the follow-your-passions ideology salient caused greater academic and occupational gender disparities compared to the resources and communal ideologies. These effects emerged across five preregistered studies, student and adult samples, within-subjects and between-subjects designs, four instantiations of the resources ideology (i.e., practical, earn a high income, job security, and sensible and realistic in the Supplemental Materials), and three measures of gender disparities (i.e., asking about specific majority-male fields, perceptions of gender representation, and gender proportion data from the Bureau of Labor statistics). The follow-your-passions ideology, while seemingly free of gender, perpetuates gender disparities compared to other cultural ideologies, even those that are more consistent with the female gender role.

Why might the follow-your-passions ideology increase gender disparities compared to the resources ideology? Drawing upon female role-congruent selves explained the relationship between these ideologies and gender disparities. Drawing upon female role-congruent selves remained a significant mediator even when accounting for alternative mediators and mediators that involve more specific components of gender roles such as masculine traits and breadwinner

goals. The follow-your-passions ideology may perpetuate gendered outcomes compared to the resources ideology by causing women, more than men, to draw upon female role-congruent selves.

Theoretical Contributions

The first theoretical contribution of this work is to advance the literature on passions as a motivational force. Previous work on passions has found positive and negative consequences of the follow-your-passions ideology (Chen et al., 2015; Jachimowicz et al., 2018; O'Keefe et al., 2018; Vallerand et al., 2003). We showed that effects of the follow-your-passions ideology depended on gender. The follow-your-passions ideology caused greater gender disparities than the resources and communal ideologies (the latter when measured using national gender proportion data). A troubling consequence of the follow-your-passions ideology is that it may perpetuate gender disparities more than some other ideologies.

The second theoretical contribution of this work is to define, empirically establish the presence of, and determine the consequences of other important cultural ideologies. We demonstrated that college students in the United States reported using the follow-your-passions, resources, and communal ideologies to guide their choice of majors. We further showed that the resources and communal ideologies were consistent with the male and female gender roles, respectively. When one of these cultural ideologies was salient, Americans shifted towards fields stereotypically consistent with that gender role. The follow-your-passions ideology is also gendered, but in a different way, causing women and men to draw relatively more upon their own gender role. As a result, the follow-your-passions ideology caused greater gender disparities than the resources and communal ideologies. Recognizing that cultural ideologies are associated with different gender roles could lead to investigations of how other cultural ideologies in society (e.g., Protestant work ethic) may also be gendered and influence disparities.

The third theoretical contribution is to reveal that pervasive societal ideologies influence gender disparities. Research explaining women's underrepresentation in majority-male fields has typically identified characteristics of women (e.g., self-efficacy; Correll, 2001; Sax et al., 2015) or the fields (e.g., discrimination; Adams et al., 2006) as explanations for these disparities. Our findings demonstrated the existence of a potential third societal factor—a pervasive ideology—that does not seem explicitly gendered on its

surface, yet may increase gender disparities compared to some other ideologies. Looking beyond women and characteristics of majority-male fields to macrolevel factors such as pervasive cultural ideologies is necessary to fully understand current gender disparities and how to remedy them.

Our fourth contribution is to build on the work at the intersection of culture and gender roles, which has focused primarily on the content of gender roles across cultures (e.g., division of labor differences across regions; see Wood & Eagly, 2002). Our research revealed that cultural ideologies that may not seem gendered shaped *the extent to which gender roles were expressed and acted upon* in important decisions like choosing an occupation. Cultural ideologies can thus shape the likelihood that gendered interests produce gender disparities.

Some have argued that passions and interests—such as women’s greater interest in people and men’s greater interest in things—explain gender disparities in STEM fields (Su et al., 2009; but see Valian, 2014). Our findings demonstrated a more complex story. Gendered interests did not make gender disparities inevitable. In contexts where students are encouraged to use factors outside of themselves to make academic and occupational decisions (e.g., many countries outside the United States; Soylu Yalcinkaya & Adams, 2020), gendered interests may have less power to shape decisions and may be less likely to result in gender disparities.

A fifth theoretical contribution is to demonstrate how ideologies rooted in individualism (Markus & Kitayama, 1991) can contribute to gender disparities. This work illustrates that choices based on individual interests are not free but socially constrained (Cheryan et al., 2017; Dennehy & Dasgupta, 2017; Thoman & Sansone, 2016). Though on the surface it may seem that individualism would reduce gender disparities (“everyone is free to do what they want”), the current work provides empirical evidence that some individualistic ideologies paradoxically increase gender disparities compared to less individualistic ideologies by causing people to draw upon gendered aspects of themselves (see also Charles & Bradley, 2009; Soylu Yalcinkaya & Adams, 2020).

Which Components of Female Role-Congruent Selves Perpetuate Gender Disparities?

Female role-congruent selves are made up of specific components of the female gender role, such as traits, interests, and behaviors (Deaux & Major, 1987; Eagly & Karau, 2002). In Study 5, we examined whether specific components of female (and male) role-congruent selves accounted for the relationship between ideologies and gender disparities. Drawing upon female role-congruent selves remained a significant mediator of the relationship between ideologies and gender disparities even when controlling for two specific components of female and male role-congruent selves: social roles (e.g., breadwinner goals) and feminine and masculine traits.

Thus, other components of female role-congruent selves or a broader fit with the female gender role may explain the relationship between ideologies and gender disparities. Components may include gendered interests (Su et al., 2009), a desire to pursue goals congruent with one’s gender role (e.g., working with others; Diekmann et al., 2017), and a desire to be seen by others as conforming to one’s gender role (Cheryan et al., 2020; Rudman & Fairchild, 2004).

How Do Men Relate to the Follow-Your-Passions Ideology?

One question to consider is whether the follow-your-passions ideology causes gender disparities compared to the resources ideology because men are more reluctant than women to follow their passions (e.g., Mullen, 2014). Some of our results supported the hypothesis that women have more leeway to follow their passions. For instance, in Study 5, men perceived the follow-your-passions ideology as less appropriate for people of their gender than did women.

At the same time, our studies did not provide evidence that men were less likely than women to be influenced by the follow-your-passions ideology. In Study 1, using a national sample of undergraduates, women and men reported no significant difference in their likelihood of using the follow-your-passions ideology to select their majors. American men’s intended majors and listed occupations seem to be highly influenced by the follow-your-passions ideology.

Another question to consider is why the resources ideology caused men to increase their likelihood of reporting of majority-male fields compared to the follow-your-passions ideology. Our mediator, drawing upon female role-congruent selves, provides insight into this question. When men choose occupations in line with the resources ideology, they act in accordance with current male gender role prescriptions to attend to money and status (Eagly & Wood, 1999). In contrast, when men choose occupations in line with the follow-your-passions ideology, they may have relatively more freedom to act outside of their gender roles. The resources ideology may encourage the choice of potentially lucrative and high-status fields (e.g., computer science), whereas the follow-your-passions ideology may encourage more varied choices (e.g., some computer science and others art).

Implications for Interventions

Our findings that women reported lower passions than men for majority-male fields should not be taken as evidence that these gender disparities are natural or that eliminating them is impossible (see Reges, 2018, for an example of this argument). Students’ interests are profoundly shaped by their cultural environment (Cheryan et al., 2017). We demonstrated that altering cultural messages about how to approach academic and occupational choices increased women’s anticipated intentions to pursue majority-male fields, thereby reducing gender disparities.

A second important finding from the current work is the consistent main effect of ideology. The resources ideology caused movement toward majority-male fields compared to the baseline and the follow-your-passions ideology. Encouraging more American students to pursue fields like computer science and engineering is a national priority (President’s Council of Advisors on Science & Technology, 2012). Shifting away from the follow-your-passions ideology to ideologies more commonly used in other countries (e.g., resources; Soylu Yalcinkaya & Adams, 2020) may be one way to increase the total number of students pursuing computer science and engineering.

Would altering or replacing the follow-your-passions ideology with another ideology interfere with Americans’ happiness or otherwise prevent people from doing what they want to do? Many women may be overlooking majority-male fields as potential passions without ever taking a single course in them (Cheryan et al., 2017).

Passions for majority-male fields are shaped by people's stereotypes of them, with little hands-on evidence about what they are actually like (Cheryan et al., 2017; Master et al., 2017). As a result, the follow-your-passions ideology may limit people to certain fields rather than giving them the opportunity to explore other fields that they may be passionate about.

At the same time, caution is warranted before attempting to replace the follow-your-passions ideology in the United States with one of these other ideologies. First, instructing American students that they should not use their passions to guide their choices may fail to resonate, as Americans tend to value choices that align with their interests (Iyengar & Lepper, 1999; Savani et al., 2008). Second, the follow-your-passions ideology is so deeply embedded in American cultural practices and products (e.g., graduation speeches, books) that the advice to not follow one's passions may be discounted or counteracted by opposing cultural messages. Third, replacing the follow-your-passions ideology may eliminate an important source of motivation for Americans and have unintended negative consequences for achievement (Jachimowicz et al., 2018; Li et al., 2021). Those who are interested in changing the follow-your-passions ideology may need to carefully assess how and where this ideology manifests across all levels of culture (Hamedani & Markus, 2019; Stephens, Markus, & Fryberg, 2012) and the potential consequences of replacing this ideology.

Caution is also warranted in promoting the resources ideology. First, the resources ideology may not work to decrease gender disparities if women continue to perceive majority-male fields as discriminatory or otherwise unwelcoming (Cheryan et al., 2017). Second, encouraging a focus on income may preclude people from entering many fields that are essential to society (e.g., those that are perceived as more communal; Croft et al., 2015). Encouraging more men to act in accordance with the communal ideology may be one way to increase the overall numbers in those important fields while increasing the proportion of women in majority-male fields (Croft et al., 2015). Third, putting a high value on amassing financial resources has negative consequences, such as predicting lower subjective well-being (Dittmar et al., 2004). Alternative approaches to downplaying or replacing the ideologies may involve designing interventions that temper the link between ideology and female role-congruent selves, or between female role-congruent selves and intentions to pursue majority-male fields. Regarding the former, one approach could be to encourage boys to develop passions for activities that are stereotypically associated with the female gender role (Croft et al., 2015). Regarding the latter, the image of majority-male fields could be broadened so that they are perceived as more compatible with the female gender role (e.g., Cheryan et al., 2009).

Constraints on Generality

Gender disparities resulting from the salience of different ideologies were observed among two U.S. student samples from a university participant pool and two U.S. online adult samples. We believe our findings will be reproducible when recruiting from similar participant pools with similar demographic compositions and when using similar measures of gender disparities. In addition to conducting studies in contexts where the follow-your-passions ideology is prevalent, we conducted our studies in contexts where majority-male and majority-female fields exist and are perceived as consistent with gender roles.

We expect our results to be reproducible in cultural contexts that have similar characteristics.

The stimuli we use to make cultural ideologies salient instructed participants to make choices that align with various cultural ideologies. We believe effects will be reproducible using similar methods. We do not have evidence that more subtle ways of invoking the follow-your-passions ideology or comparing it to baseline will produce significant effects on gender disparities. Indeed, more subtle primes (e.g., writing about what it means to follow one's passions) produced nonsignificant results compared to no writing task (see Supplemental Materials). Subtle primes and baseline comparison conditions may produce null effects due to the ubiquity of the follow-your-passions ideology in U.S. contexts. More blatant manipulations that shift mindsets away from the follow-your-passions ideology may be required to demonstrate its effects. We are not aware of any other potential characteristics of participants, materials, or contexts that moderate our effects.

Limitations and Future Directions

There are several ways to expand upon our findings in future research. First, our studies focused on self-reported hypothetical academic and occupational decisions. Though self-reported interest in a field is a predictor of pursuing that field (Lent et al., 1994; Morgan et al., 2001), future work should test the relationship between cultural ideologies and gender disparities in actual choices of fields. Future work could also examine various methods of ideology transmission (e.g., advisors, graduation speeches).

Second, our studies did not examine the causal relationship between drawing upon female role-congruent selves and gender disparities. In future work, researchers could establish causality by having people draw upon aspects of themselves that are consistent with the female or male gender role. People who draw upon aspects of the self that are consistent with the female gender role may be less likely to pursue majority-male fields compared to those who draw upon aspects of the self that are consistent with the male gender role (see Supplemental Materials, for a similar study where we examine gender disparities resulting from women and men drawing upon their "own" vs. the "male" gender role).

Future research could also extend to intersections of gender with other identities or to other identities more generally. With the caveat of small samples, in our studies, gender disparities did not differ across racial groups in response to the ideologies (see Appendix). However, future work could investigate whether, for example, women of color might reference different ideologies than White women.

Future research could also investigate the potential boundary conditions of our phenomenon. For instance, gender disparities in response to ideologies may be smaller among those less strongly identified with their genders or among those already in majority-male fields. Women in majority-male fields may have self-concepts that are aligned less with the female gender role than women not currently in these fields (Faniko et al., 2016; Pronin et al., 2004). Future work could also examine whether the follow-your-passions ideology perpetuates gender disparities in majority-female fields (e.g., nursing; Block et al., 2018) compared to the resources ideology by causing men more than women to draw upon male role-congruent selves. More research is needed to examine the potential impact of these moderators in influencing the effects of ideology on gender disparities.

Conclusion

The follow-your-passions ideology, pervasive in the United States, encourages people to focus on their passions, interests, and positive feelings when making academic and occupational decisions. Although passions can be a motivational force (Jachimowicz et al., 2018; Li et al., 2021), the present work demonstrated how making the follow-your-passions ideology salient caused academic and occupational gender disparities more than some other cultural ideologies (e.g., resources ideology). Furthermore, we showed that the relationship between ideology and gender disparities was explained by women's greater tendency than men's to draw upon female role-congruent selves when the follow-your-passions ideology versus resources ideology was salient. The causes for academic and occupational gender disparities are complex and multifaceted (e.g., see Cheryan et al., 2017). Understanding their causes necessitates looking beyond characteristics of women to examine pervasive cultural ideologies that encourage people to look inward to gendered aspects of themselves when making choices.

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Appendix

Additional Analyses

Examining Potential Socioeconomic Context and Gender Intersections

We conducted exploratory analyses to examine whether the effect of ideologies on gender disparities varies by socioeconomic context. We tested for differences by socioeconomic context in Studies 4 and 5 in which we obtained information on participants' household incomes. We compared participants with annual household incomes of \$30,000–\$49,999 or lower (Study 4 $n = 253$; Study 5 $n = 301$) to those with annual household incomes of \$50,000–\$74,999 or greater (Study 4 $n = 284$; Study 5 $n = 368$) based on U.S. Census data that reports the median household income in 2019 to be \$68,703 (U.S. Census Bureau, 2021).

In Study 4, a 4 (Ideology: follow-your-passions vs. resources vs. communal vs. baseline; within) \times 2 (Gender: women vs. men) \times 2 (Socioeconomic context: lower vs. higher; between) mixed-model ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(3, 1,599) = 420.34, p < .001, \eta^2_G = .36$; a significant main effect of gender, $F(1, 533) = 40.53, p < .001, \eta^2_G = .02$; no significant main effect of socioeconomic context, $F(1, 533) = 0.01, p = .904, \eta^2_G = .00001$; a significant Ideology \times Gender interaction, $F(3, 1,599) = 20.93, p < .001, \eta^2_G = .03$; no significant Ideology \times Socioeconomic Context interaction, $F(3, 1,599) = 1.79, p = .147, \eta^2_G = .002$; no significant Gender \times Socioeconomic Context interaction, $F(1, 533) = 0.32, p = .569, \eta^2_G = .0002$; and no significant three-way interaction, $F(3, 1,599) = 0.25, p = .863, \eta^2_G = .0003$. In Study 5, a 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) \times 2 (Socioeconomic context: lower vs. higher; between) mixed-model ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(1,665) = 371.42, p < .001, \eta^2_G = .21$; a significant main effect of

gender, $F(1, 665) = 20.61, p < .001, \eta^2_G = .02$; no significant main effect of socioeconomic context, $F(1, 665) = 0.01, p = .913, \eta^2_G = .00001$; a significant Ideology \times Gender interaction, $F(1, 665) = 43.49, p < .001, \eta^2_G = .03$; no significant Ideology \times Socioeconomic Context interaction, $F(1, 665) = 1.19, p = .276, \eta^2_G = .0008$; no significant Gender \times Socioeconomic Context interaction, $F(1, 665) = 1.28, p = .258, \eta^2_G = .001$; and no significant three-way interaction, $F(1, 665) = 0.91, p = .340, \eta^2_G = .0006$. We did not find any significant main effects or interactions with socioeconomic context in Studies 4 or 5.

Examining Potential Racial Group and Gender Intersections

We conducted exploratory analyses to examine whether the effect of ideologies on gender disparities vary by racial group. We tested for racial group differences in Studies 4 and 5, including groups that had at least 25 participants (Study 4: White American $n = 343$, Asian American $n = 68$, Black American $n = 57$, multiracial American $n = 39$, Latinx American $n = 28$; Study 5: White American $n = 482$, Asian American $n = 53$, Black American $n = 46$, multiracial American $n = 50$, Latinx American $n = 36$). Three participants in Study 4 and five participants in Study 5 were not included in analyses because they did not belong to racial groups with at least 25 participants.

In Study 4, a 4 (Ideology: follow-your-passions vs. resources vs. communal vs. baseline; within) \times 2 (Gender: women vs. men; between) \times 5 (Race: White American vs. Asian American vs. Black American vs. multiracial American vs. Latinx American; between) mixed-model ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(3, 1,575) = 188.24, p < .001$,

(Appendix continues)

$\eta_G^2 = .20$; a significant main effect of gender, $F(1, 525) = 20.75, p < .001, \eta_G^2 = .01$; no significant main effect of race, $F(4, 525) = 1.27, p = .281, \eta_G^2 = .003$; a significant Ideology \times Gender interaction, $F(3, 1,575) = 9.68, p < .001, \eta_G^2 = .01$; no significant Ideology \times Race interaction, $F(12, 1,575) = 0.98, p = .468, \eta_G^2 = .005$; no significant Race \times Gender interaction, $F(4, 525) = 0.15, p = .962, \eta_G^2 = .0003$; and no significant three-way interaction, $F(12, 1,575) = 1.03, p = .419, \eta_G^2 = .01$. In Study 5, a 2 (Ideology: follow-your-passions vs. resources; within) \times 2 (Gender: women vs. men; between) \times 5 (Race: White American vs. Asian American vs. Black American vs. multiracial American vs. Latinx American; between) mixed-model ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(1, 657) = 170.33, p < .001, \eta_G^2 = .11$; a significant main effect of gender, $F(1, 657) = 6.12, p = .014, \eta_G^2 = .005$; no significant main effect of race, $F(4, 657) = 1.50, p = .199, \eta_G^2 = .005$; a significant Ideology \times Gender interaction, $F(1, 657) = 10.07, p = .002, \eta_G^2 = .007$; no significant Ideology \times Race interaction, $F(4, 657) = 1.42, p = .227, \eta_G^2 = .004$; no significant Race \times Gender interaction, $F(4, 657) = 0.46, p = .763, \eta_G^2 = .002$; and no significant three-way interaction, $F(4, 657) = 0.68, p = .608, \eta_G^2 = .002$. We did not find any significant main effects or interactions with race in Studies 4 or 5.

Between-Subjects Analysis for Study 5

To rule out the possibility that effects depend on using a within-subjects design, we conducted a set of exploratory analyses in which we examined only the first ideology that was shown to participants. A 2 (Ideology: follow-your-passions vs. resources) \times 2 (Gender: women vs. men) between-subjects ANOVA on perceived gender representation revealed a significant main effect of ideology, $F(1, 668) = 106.17, p < .001, \eta_G^2 = .14$; a significant main effect of participant gender, $F(1, 668) = 19.97, p < .001, \eta_G^2 = .03$; and a significant Ideology \times Gender interaction, $F(1, 668) = 39.81, p < .001, \eta_G^2 = .06$. As predicted, when the follow-your-passions ideology was salient, women reported occupations with a lower perceived representation of men ($M = 3.83, SD = 1.40$) than did men

($M = 4.84, SD = 1.19$), $F(1, 668) = 57.75, p < .001, d_s = 0.78$. Women ($M = 5.22, SD = 1.10$) and men ($M = 5.39, SD = 1.12$) did not differ in their perceived representation of men in reported occupations when the resources ideology was salient, $F(1, 668) = 1.70, p = .192, d_s = 0.16$.

A 2 (Ideology: follow-your-passions vs. resources) \times 2 (Gender: women vs. men) between-subjects ANOVA on actual gender proportion based on national data revealed a significant main effect of ideology, $F(1, 629) = 93.02, p < .001, \eta_G^2 = .13$; a significant main effect of participant gender, $F(1, 629) = 23.40, p < .001, \eta_G^2 = .04$; and a significant Ideology \times Gender interaction, $F(1, 629) = 31.74, p < .001, \eta_G^2 = .05$. As predicted, when the follow-your-passions ideology was salient, women reported occupations with a lower proportion of men in them ($M = 42.36, SD = 20.66$) than did men ($M = 56.62, SD = 19.26$), $F(1, 629) = 54.10, p < .001, d_s = 0.71$. The occupations women ($M = 63.17, SD = 13.86$) and men ($M = 62.08, SD = 12.95$) reported when the resources ideology was salient did not significantly differ in their proportion of men, $F(1, 629) = 0.32, p = .571, d_s = 0.08$.

A 2 (Ideology: follow-your-passions vs. resources) \times 2 (Gender: women vs. men) between-subjects ANOVA on female role-congruent selves revealed a significant main effect of ideology, $F(1, 668) = 145.20, p < .001, \eta_G^2 = .18$; a significant main effect of participant gender, $F(1, 668) = 32.39, p < .001, \eta_G^2 = .05$; and a significant Ideology \times Gender interaction, $F(1, 629) = 25.09, p < .001, \eta_G^2 = .04$. As predicted, when the follow-your-passions ideology was salient, women ($M = 4.50, SD = 1.16$) drew upon female role-congruent selves more than did men ($M = 3.63, SD = 0.95$), $F(1, 668) = 56.92, p < .001, d_s = 0.81$. There was no significant difference in how much women ($M = 3.12, SD = 1.09$) and men ($M = 3.06, SD = 0.91$) drew upon female role-congruent selves when the resources ideology was salient, $F(1, 668) = 0.23, p = .629, d_s = 0.05$.

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