



# Formidability and socioeconomic status uniquely predict militancy and political moral foundations

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## ABSTRACT

Previous research demonstrates positive associations between physical formidability and endorsement of conservative social policies entailing aggressive competition and hierarchical inequality. Similar ideological differences are associated with coalitional status. The current research extended findings by testing associations of formidability and coalitional status with individual differences in endorsement of dimensions identified by Moral Foundations Theory: “individualizing” foundations (care, fairness) and “binding” foundations (loyalty, purity, respect). Participants ( $N = 381$ ) provided various measures of physical formidability and socioeconomic status before responding to the Moral Foundations Questionnaire and a militancy scale. Formidability was negatively associated with endorsing individualizing foundations, whereas socioeconomic status was positively associated with endorsing binding foundations. Formidability and socioeconomic status both positively predicted militancy. Contrary to previous research, associations emerged across men and women. Findings suggest psychological calculi of perceived self-interest shape political morality.

## 1. Introduction

Ideological differences among humans frequently results in conflict. Political ideologies appear rooted in evolved psychological mechanisms designed to bargain effectively over resources and status within ancestral ecologies to maximize personal benefit as a function of perceived circumstances and bargaining power. Adaptationist hypotheses predict formidable individuals and groups, or those likely to win during conflict, will tend to endorse self-interested social rules that favor competition, inequality, and aggressive social bargaining, which typify aspects of the ideology known in modern societies as conservatism (Petersen, Sznycer, Sell, Cosmides, & Tooby, 2013; Petersen & Laustsen, 2019; Price, Kang, Dunn, & Hopkins, 2011; Price, Sheehy-Skeffington, Sidnaius, & Pound, 2017; Sell et al., 2017; Sznycer, Delton, Robertson, Cosmides, & Tooby, 2019). Consistent with predictions, prior studies have found formidable individuals and groups with greater relative bargaining power are more likely to endorse policies involving intergroup aggression (Sell et al., 2017), as well as resource competition both within (Petersen & Laustsen, 2019; Price et al., 2011) and between groups (Price et al., 2017). In the current re-

search, we replicate and extend findings by testing whether individual and group formidability predicts militancy and aspects of political morality.

### 1.1. Roles of physical formidability and coalitional status in political attitudes

Combat has historically facilitated humans' ascension of hierarchies from which formidable individuals, particularly men, gain increased access to resources and mates (Sell, Hone, & Pound, 2012; von Rueden, Gurven, & Kaplan, 2008; von Rueden, Gurven, Kaplan, & Stieglitz, 2014). Formidable individuals are perceived as effective in navigating intergroup conflict and enforcing intragroup rules, resulting in the bestowal of high status onto stronger people to solve problems related to group living (Lukaszewski, Simmons, Anderson, & Roney, 2016). As status increases access to resources among formidable individuals, inequity in resources emerge, with formidable individuals claiming larger resource shares. Formidable individuals are therefore predicted to adopt aggressive social bargaining strategies, including endorsement of military action, because outcomes of physical conflicts would favor them (Price et al., 2017; Sell et al., 2017).

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Formidable individuals would thus be likely to endorse aggressive group policies that facilitate their continued access to resources. Across multiple samples in various countries, physical formidability indeed heightens endorsement of social policies favoring competition. Formidable men are more conservative (Petersen & Laustsen, 2019), oppose wealth redistribution (Petersen et al., 2013), support stratified social hierarchies (Price et al., 2011, 2017), and endorse military intervention (Sell et al., 2009; Sell et al., 2017; Sell, Tooby, & Cosmides, 2009). Perceiving oneself as formidable likewise predicts interest in aggressive interpersonal bargaining (Lukaszewski, 2013; Sell, Cosmides, et al., 2009; Sell, Tooby, & Cosmides, 2009). Although these associations have been observed most consistently among men, other studies demonstrate formidability also predicts ideological differences in women, which could suggest calibration of ideology through physical features is less sexually dimorphic than previously identified (Kerry & Murray, 2019). Formidable individuals' endorsement of aggressive bargaining strategies reflects self-interest, insofar as social norms that tolerate such strategies would differentially benefit those better able to win out in conflicts.

Within large-scale societies containing many nested small-scale social groups, individuals must navigate both within- and between-group competition dynamics. For example, U.S. citizens may share interests in international coalitional contexts, but still be divided into multiple antagonistic coalitions in within-group resource allocations (Pratto, Sidanius, Zeineddine, Kteily, & Levin, 2014). One salient dimension of coalitional conflict within modern nation-states is socioeconomic status (SES), capturing variation in levels of wealth, income, and education. Not only do *individuals* compete for resources and social position defining SES (Anderson, Kraus, Galinsky, & Keltner, 2012), but *coalitions* organized by relative access to resources compete to influence social policy concerning resource allocations. As predicted from either an analysis of individual or coalitional incentives, markers of SES negatively predict political support for wealth redistribution (Luberti et al., in press; Sznycer et al., 2017). When additionally considering how SES fosters coalitional differences in competition for contested resources, high-SES individuals could benefit from intergroup conflict; this is because they would be in a privileged position to capture resources resulting from coalitional victories. The prediction thus follows coalitionally formidable individuals, as indexed by SES, will, like physically formidable individuals, be relatively supportive of military interventions.

### 1.2. How do formidability and coalitional status influence moral foundation domains?

Although myriad studies demonstrate physical formidability and coalitional status expectedly predict ideological attitudes, no extant research has connected these hypotheses to another evolutionary framework pertaining to the moral bases for individual differences in the endorsement of aggressive social bargaining strategies: Moral Foundations Theory (MFT; Graham et al., 2013). Research using this framework demonstrates conservatives typically ground their moral concerns through “binding principles”. Binding principles are defined as foundations of purity, respect for authority, and loyalty to one's ingroup (Graham, Haidt, & Nosek, 2009). Conversely, liberals typically ground their moral concerns through “individualizing principles.” Individualizing principles emphasize protecting individuals against harm (i.e., care) and reciprocity (i.e., fairness).

Tradeoffs emerge in the outcomes produced by a world governed according to binding versus individualizing principles. Although adherence to binding foundations may disadvantage certain individuals—especially those with low bargaining power or status—it can promote the average interests of group members, especially those with considerable access to resources, by promoting successful coordination in benefit

generation and perpetuating hierarchies. Similarly, adherence to individualizing foundations helps ensure group members are not harmed or disadvantaged—but at the potential costs of both overall efficiency in resource production and the amount of resources that can be monopolized by more privileged people.

Physical formidability and SES may influence how individuals evaluate tradeoffs in endorsing binding or individualizing moral foundations. Insofar as individually and coalitionally formidable individuals are buffered against the various costs imposed by a competitive environment, they are less likely to experience being outcompeted for resources. Given advantages in resource competition, it would seem likely physically strong and high-SES individuals would be less endorsing of the individualizing foundations to ensure their continued positional advantage in competitive environments. Additionally, when forming social hierarchies borne out of resource competition, formidable individuals are likely to benefit more from rules enforcing the hierarchy and others' commitment to one's ingroup (Smith, Aquino, Koleva, & Graham, 2014). This possibility would suggest SES and formidability may foster individuals' endorsement of the binding foundations in the service of ensuring adherence to social rules within their coalition.

### 1.3. Current study

The current research sought to identify how the endorsement of a morality typically exhibited by conservative individuals is predicted by formidability (operationally defined as physical strength) and coalitional status (operationally defined by SES). Given that formidability and SES are associated with an interest in instilling rigid social hierarchies (Price et al., 2017; Sznycer, Ermer, & Tooby, 2018), we predicted these variables would associate positively with endorsement of binding foundations (i.e., loyalty, purity, respect) that prioritize structure and order as the basis of morality. Given that highly formidable individuals are less endorsing of social policies emphasizing equity over success in competition (i.e., wealth redistribution; Petersen et al., 2013), we also predicted formidability and SES would be negatively associated with endorsement of individualizing principles (i.e., care, fairness), as endorsement of such foundations would conflict with aggressive social bargaining (Smith et al., 2014).

We further endeavored to replicate the association between physical formidability and militancy (Sell et al., 2017). Given that access to resources may stratify group members into intragroup coalitions favoring high-status individuals' continued access to resources, we additionally predicted high-SES individuals would be more militant. Finally, the historical importance of formidability and coalitional psychology in men's evolutionary history implicates men as being especially likely to endorse conservative ideologies to ensure their continued utilization of physical strength in conflicts (Petersen et al., 2013; Price et al., 2017). Guided by previous findings, wherein physical strength predicted men's endorsement of ideologies that foster aggressive interpersonal strategies more than women (e.g., Petersen et al., 2013; Price et al., 2017), we predicted that men's, compared to women's, physical formidability would be a stronger predictor of political attitude variables.

## 2. Method

### 2.1. Participants

We recruited 381 undergraduates from a Southern university to participate for course credit (211 women, 170 men;  $M_{Age} = 19.47$  years,  $SD = 1.88$ , 69.4% White). A sensitivity analysis indicated we were sufficiently powered to detect smaller effects ( $f^2 = 0.02$ ,  $\beta = 0.80$ ). Participants were recruited as part of a larger research program investigating the interplay between personality, interpersonal attitudes, and bod-

ily dimensions (e.g., height, weight, BMI). For the current analyses, we only report variables relevant to test those a priori hypotheses. Full data are available upon request.

## 2.2. Materials

### 2.2.1. Socioeconomic status (SES)

SES was assessed using two single-item questions. Participants were asked to complete a subjective SES measure ( $M = 3.17$ ,  $SD = 0.95$ ) by selecting the category that best described their socioeconomic class on a 5-point scale (1 = *Lower*; 5 = *Upper*) that indicated the extent to which they identified with a social class. Participants also provided an estimate of their average household income level as an objective measure for their SES more resistant to subjective biases using a 12-point scale ( $M = 8.51$ ,  $SD = 3.06$ ; 1 = *Less than \$5000*; 12 = *\$150,000 or more*). Both items assessed SES from 13- to 18-years-of-age. The two items were moderately correlated and therefore aggregated into a composite measure of SES ( $r = 0.60$ ,  $p < 0.001$ ).

### 2.2.2. Actual formidability

Actual formidability was measured by aggregating grip and chest strength (kg/F). To measure grip strength, participants stood with their feet at shoulder-width, holding the dynamometer (Jamar Model #5030JI) in their dominant hand, squeezing until they applied maximum pressure. Using the same stance, participants then held the dynamometer in front of their chest, elbows parallel to the floor, and pushed inward to their fullest capacity to measure chest strength (Lukaszewski & Roney, 2011; Sell, Cosmides, et al., 2009; Sell, Tooby, & Cosmides, 2009). We then calculated a single composite score of these two measures, given their high correlation ( $r = 0.82$ ,  $p < 0.001$ ).

### 2.2.3. Self-perceived formidability

In addition to assessing actual formidability through strength, we found it prudent to consider self-perceived formidability to determine which aspect of formidability may be more predictive. Self-perceived formidability was assessed using a 10-item self-report measure (Lukaszewski, 2013) and anchored on a 7-point scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*; e.g., "I am physically strong relative to most people of my same age and sex,"  $\alpha = 0.86$ ).

### 2.2.4. Militancy

Militancy, or the endorsement of military action to solve global conflict, was assessed using the Utility of Political Aggression Scale (15 items; Sell, Cosmides, et al., 2009; Sell, Tooby, & Cosmides, 2009), which uses a 7-point scale (1 = *Strongly Disagree*; 7 = *Strongly Agree*; e.g., "A good way for a country to protect itself is to fight harder and stronger than the opposing country").

### 2.2.5. Moral foundations

Binding and individualizing foundations were assessed via Moral Foundations Questionnaire (Graham et al., 2009). MFQ is a 30-item scale, composed of five subscales: care and fairness are the "individualizing" foundations; ingroup loyalty, respect for authority, and purity are the "binding" foundations. Items were anchored on a 6-point scale (1 = *Not at all Relevant/Strongly Disagree*; 6 = *Extremely Relevant/Strongly Agree*; e.g., "Respect for authority is something all children need to learn"). Reliability for each foundation was acceptable and similar to those reported in previous research across various cultures (e.g., Doğruyol, Alper, & Yilmaz, 2019; Graham et al., 2009; Yilmaz, Harma, Bahçekapılı, & Cesur, 2016). We also created composites for the "binding foundations," by averaging scores on the ingroup loyalty, respect, and purity scales, and the "individualizing foundations" by averaging scores on the care and fairness scales.

## 3. Results

### 3.1. Preliminary analyses

We performed analyses using listwise deletion as total missingness across variables, which was less than 5% for our final analyses. In the analyses reported below, all associations of formidability and SES were examined using actual and subjective measures separately, and also using composite variables. To create the formidability and SES composites, we first z-scored the formidability (actual and self-perceived formidability) and SES (household income and subjective SES) measures, then created unit-weighted averages using these z-scores.

In identifying potential sex differences, we conducted independent samples *t*-tests. Men were physically stronger ( $M = 1.63$ ,  $SD = 1.59$ ) than women ( $M = -1.31$ ,  $SD = 0.82$ ),  $t(233.96) = 22.84$ ,  $p < 0.001$ ,  $d = 2.24$ . Men additionally perceived themselves as more intrasexually formidable ( $M = 1.94$ ,  $SD = 0.98$ ) than women ( $M = -0.16$ ,  $SD = 0.99$ ),  $t(374) = 3.45$ ,  $p = 0.001$ ,  $d = 0.35$ .

Women reported significantly greater endorsement of all moral foundations,  $t_s > 2.46$ ,  $p_s < 0.020$ ,  $d_s > 0.25$ , except ingroup loyalty,  $t(376) = 1.22$ ,  $p = 0.223$ ,  $d = 0.12$ . Men reported greater militancy than women,  $t(331.29) = 2.47$ ,  $p = 0.014$ ,  $d = 0.25$  (Table 1). Finally, we found neither measure of formidability was correlated with either measure of socioeconomic status ( $r_s < 0.07$ ,  $p_s > 0.260$ ).

### 3.2. Primary analyses

#### 3.2.1. Formidability

Our initial step was to determine whether sex differences emerged between formidability and these various outcomes, which we tested through moderation analyses using linear regression. Analyses for both measures of formidability with sex indicated that, contrary to tentative hypotheses (and prior research), no moderation emerged for militancy or any of the moral foundations ( $p_s > 0.174$ ).<sup>2</sup> This lack of moderation prompted us to collapse across participant sex for subsequent analyses to reduce Type I Error likelihoods through empirically unjustified subgroup analyses (i.e., considering associations separately for men and women). We conducted bivariate correlations considering this lack of moderation to identify how both actual and self-perceived formidability predicted various aspects of conservative and liberal ideologies, while additionally reporting partial correlations controlling for sex; no other covariates were used in these models (Table 2).

Both actual and self-perceived formidability were associated with more militant attitudes across both sexes. Additionally, and consistent with hypotheses, both measures of formidability were associated with less endorsement of individualizing foundations of care and fairness, although the association was no longer significant for actual formidability and fairness when controlling for participant sex; the composite measure of formidability was associated with reduced endorsement of both individualizing foundations before and after controlling for sex. Actual strength was associated with reduced endorsement of respect and purity, although such effects were eliminated when controlling for sex; no other significant effects emerged for any measure of formidability with the binding foundations.

When aggregating the standardized scores of actual strength and self-perceived formidability into a composite measure of formidability, the same positive association with militancy and negative associations with individualizing foundations emerged, both with and without controlling for sex. Similar patterns emerged for composites of both formidability measures (i.e., averaging actual and self-perceived measures)

<sup>2</sup> See online Supplementary materials for initial moderation analyses for formidability and socioeconomic status measures.

**Table 1**  
Means (and standard deviations) for men and women's moral foundations.

Political attitude variable	Men	Women	Cohen's <i>d</i>	$\alpha$
Militancy	4.35 (1.21)	4.06 (1.04)	0.25 *	0.92
Care	3.63 (0.90)	4.25 (0.84)	0.72 *	0.73
Fairness	3.71 (0.78)	3.97 (0.78)	0.32 *	0.69
Ingroup loyalty	3.51 (1.03)	3.63 (0.92)	0.12	0.76
Respect for authority	3.46 (0.95)	3.80 (0.89)	0.37 *	0.75
Purity	3.06 (1.04)	3.47 (0.98)	0.40 *	0.78

Note.  
\*  $p < 0.001$ .

for individualizing and binding foundations, wherein formidability was associated with reduced endorsement of individualizing foundations before and after controlling for sex.

### 3.2.2. SES

We conducted similar bivariate correlations for militancy and moral foundations with both household income and subjective SES (Table 3). Income was positively associated with militancy and endorsement of both binding foundations after controlling for sex (although respect for authority was not associated with income before controlling for sex).

**Table 2**  
Correlations of physical formidability measures with political attitude variables.

Political attitude variable	Actual strength		Self-perceived formidability		Formidability composite	
	Total sample	Total sample (sex-controlled)	Total sample	Total sample (sex-controlled)	Total sample	Total sample (sex-controlled)
Militancy	0.23 **	0.22 **	0.29 **	0.28 ***	0.31 **	0.29 ***
Care	-0.37 **	-0.18 **	-0.27 **	-0.23 ***	-0.36 **	-0.24 ***
Fairness	-0.18 **	-0.09	-0.18 **	-0.16 **	-0.21 **	-0.15 **
Ingroup loyalty	-0.02	0.05	0.04	0.05	0.02	0.07
Respect for authority	-0.10 *	0.05	-0.01	0.02	-0.04	0.04
Purity	-0.13 *	0.02	0.02	0.01	-0.07	0.01
Individualizing foundations	-0.31 **	-0.15 **	-0.25 **	-0.21 ***	-0.31 **	-0.21 **
Binding foundations	-0.10	0.04	0.01	0.03	-0.03	0.05

Note.  
\*  $p < 0.050$ .  
\*\*  $p < 0.010$ .  
\*\*\*  $p < 0.001$ .

**Table 3**  
Correlations of SES measures with political attitude variables.

Political attitude variable	Household income		Subjective SES		SES composite	
	Total sample	Total sample (sex-controlled)	Total sample	Total sample (sex-controlled)	Total sample	Total sample (sex-controlled)
Militancy	0.21 **	0.21 ***	0.19 ***	0.20 ***	0.22 ***	0.23 ***
Care	0.00	-0.01	-0.01	-0.02	0.01	-0.01
Fairness	-0.05	-0.05	-0.07	-0.09	-0.07	-0.08
Ingroup loyalty	0.11 *	0.11 *	0.12 *	0.12 **	0.14 *	0.14 *
Respect for authority	0.10	0.09 *	0.14 **	0.12 *	0.13 *	0.12 *
Purity	0.06	0.05	0.07	0.05	0.09	0.08
Individualizing foundations	-0.02	-0.03	-0.03	-0.06	-0.03	-0.05
Binding foundations	0.10 *	0.10	0.12 *	0.11 *	0.14 *	0.13 *

Note.  
\*  $p < 0.050$ .  
\*\*  $p < 0.010$ .  
\*\*\*  $p < 0.001$ .

High-SES and -income individuals were more militant, both with and without controlling for participant sex. No association emerged between both measures and individualizing foundations. Conversely, and consistent with predictions, SES was associated with greater endorsement of ingroup loyalty and respect for authority before and after controlling for sex; no associations emerged for purity. Using the SES composite variable, similar associations emerged: SES was positively associated with binding foundations.

## 4. Discussion

The current study partially supported our hypotheses. Although formidability did not predict endorsement of binding moral foundations, formidable individuals were less endorsing of individualizing foundations. This latter finding aligns with previous research demonstrating opposition toward wealth redistribution among formidable individuals (Petersen et al., 2013). Formidable individuals' desire for social hierarchies could further reduce their concerns for care and fairness, a potential product of their reliance on competition to acquire resources and status (Price et al., 2011, 2017). The lack of association between formidability and binding could reflect that only certain facets of conservatism predict physical prowess. Endorsement of binding foundations may be an outgrowth of one's interest in social conservatism that promotes perpetuation of existing social order. Less endorsement of individualizing foundations could facilitate the acquisition of status and

resources by which formidable individuals are especially motivated (Cochrane & Nevitte, 2009). We also replicated previous work indicating that formidability was associated with heightened militancy (Sell et al., 2017).

SES predicted overall endorsements of binding motives. This is consonant with recent findings demonstrating that low-SES individuals espouse more progressive moral beliefs relative to high-SES individuals across a range of issues (Luberti et al., in press). Specifically, these findings could reflect a coalitional component to wealth, by which high-status members desire to enforce rules and norms that ensure continuation of their relative privilege and resource access (Sznycer et al., 2018).

#### 4.1. Discrepancies with previously identified sex differences

Unlike previous research demonstrating an association between formidability and relevant ideological dimensions only for men (e.g., Petersen et al., 2013; Price et al., 2017), we found formidability and SES were similarly predictive of militancy and relevant moral foundations for men *and* women. This discrepancy could first reflect the greater constancy in men's utilization of physical strength in social bargaining both historically and cross-culturally, given both the selection of formidable traits in men and the costs of physical aggression in women (Sell et al., 2012). This would make formidability more consistently relevant in predicting men's aggression. Nonetheless, previous work indicates certain aspects of formidability (e.g., self-perceived) predicted conservatism in women (Kerry & Murray, 2019).

Second, various ecological factors could render women's strength more or less relevant for determining bargaining across populations. The association being only apparent for men in previous findings could reflect consideration of populations in which women are less involved in physical labor (e.g., Denmark, California; Petersen et al., 2013; Sell et al., 2017), therefore reducing the extent to which physical strength is relevant for women's productivity and domestic value in such populations. Conversely, selection pressures faced by men to engage in physical intrasexual competition may create more constancy across ecologies in the necessity of formidability for them (Puts, 2010), which would therefore foster consistent associations between strength and ideology if attitudes are calibrated to physical abilities (see Lukaszewski, 2013). The current sample came from the Southern United States, a traditionally agrarian region wherein women may perform physical labor more than in other regions. This could explain why women's physical strength predicted political attitudes in the current study, as it has predicted other bargaining power-dependent personality variables in subsistence-level societies (Hess, Helfrecht, Hagen, Sell, & Hewlett, 2010; von Rueden, Lukaszewski, & Gurven, 2015). Thus, the current research may only reflect processes for a specific environment. Future research would benefit from considering the local utility and social value of strength to determine how sex differences in formidability-linked ideology may emerge.

Another possible explanation for the discrepancy in these findings could be related to overall power in the current sample. Although a sensitivity analysis indicated we were sufficiently powered for our analyses, the overall sample size could have been prohibitive in detecting the type of hypothesized interaction between formidability and sex. We posited formidability to predict men's ideological differences but not women's (i.e., attenuation interaction), which necessarily requires considerable statistical power to detect effects not possible within this sample (Blake & Gangestad, in press). In future work attempting to replicate these findings, researchers would benefit from increasing the sample size to determine whether the reported similarity between men and women is a false-negative.

#### 4.2. Limitations and future directions

Despite the consistency of the current findings with prior studies assessing different facets of political ideologies, the current study presents limitations. It remains unclear whether the increased bargaining power deriving from formidability is indeed the mechanism driving effects. Future research would benefit from specifically assessing competitiveness or interest maintaining status hierarchies (Price et al., 2017). Considering these motives directly could clarify whether increased competitiveness mediates the observed associations in these studies. Alternatively, it is necessary for future work to consider competing hypotheses to explain these associations could be explained by whether individuals perceive themselves as capable of having more success in the current social order with their physical advantage.

With evidence suggesting formidable individuals, especially men, endorse social policies and epistemologies consonant with a conservative ideology, it is possible that cues to formidability reliably connote individuals' political orientations from which perceivers could accurately infer another's ideology through bodily cues. Individuals demonstrate considerable perceptual acuity toward identifying targets' political orientation through facial features, with accurate identification of conservatives being rooted in perceived dominance (Samochowiec, Wänke, & Fiedler, 2010). Although dominant facial features are not veridically indicative of conservatism (Price et al., 2017), bodily features like upper-body strength could afford more probabilistically diagnostic cues for perceivers.

Finally, it should be noted that the recently developed theory of morality-as-cooperation, and its associated measurement instruments (Curry, Mullins, & Whitehouse, 2019), provides an alternative to Moral Foundations Theory for conceptualizing political morality. This framework attempts to carve morality-generating machinery at its natural joints, which is supported by the cross-cultural generalizability of its constituent moral constructs. Future research might therefore examine the putative calibrators of variation in the morality-as-cooperation domains. Such an endeavor would do well to be guided by the same functional principle we have applied here: search for signatures of self-interested moral and ideological commitments.

Several findings should nonetheless be interpreted cautiously given the relatively low magnitude of several correlations. Many findings indeed reached a statistical threshold typically considered a "true" correlation (i.e.,  $r > 0.16$ ) that would suggest veracity in findings (Holtzman & Donnellan, 2017), yet some of our significant findings nonetheless had smaller effect sizes that make it difficult to determine their robustness (Funder & Ozer, 2012). Future research would benefit from continuing to replicate these findings.

#### 5. Conclusion

The current study contributed to the body of research investigating how formidability and coalitional status predict individuals' endorsement of conservative political ideologies. We replicated previous reports that formidability and SES both predict militancy. The findings further reveal distinct pathways to the adoption of political moral foundations that may contribute to one's place on the ideological spectrum: formidability predicts reduced endorsement of individualizing (progressive) foundations, whereas SES positively predicts endorsement of the binding (conservative) foundations. None of these associations were qualified by sex, as they have been in some previous studies, which might prompt future research into the ecological variability in the factors that calibrate sociopolitical and moral attitudes. Overall, the findings suggest that political morality is patterned according to a psychological calculus of perceived self-interest.

#### Uncited references

Funder and Ozer, 2019  
Graham and Haidt, 2010

### CRedit authorship contribution statement

**Mitch Brown:** Formal analysis, Writing - original draft, Writing - review & editing. **Kristine J. Chua:** Conceptualization, Methodology, Writing - original draft, Writing - review & editing. **Aaron W. Lukaszewski:** Conceptualization, Methodology, Writing - original draft, Writing - review & editing.

### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.paid.2020.110284>.

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