

Abstract

Universities and professional workplaces are gateway institutions in which people from working-class backgrounds can achieve upward mobility. These settings are often where cross-class interactions—i.e., interactions between people from different social class backgrounds—are most likely to occur. Although cross-class interactions are often beneficial for people from working-class backgrounds, such interactions are infrequent and often avoided. Experiences of threat may be one potential reason people avoid initial cross-class interactions, which are necessary for subsequent interactions. Therefore, we examine whether initial cross-class, compared to same-class, interactions with a stranger are more threatening. And, if so, whether this is true for both people from working-class and middle/upper-class backgrounds. We measure threat using cardiovascular (Study 1) and self-report (Studies 2-4) responses during in-person and online interaction experiments. Across studies ($N_{total} = 1194$), we find that participants from middle/upper-class backgrounds, but not participants from working-class backgrounds, experienced greater threat in cross-class compared to same-class interactions.

Keywords: Social class, intergroup interactions, threat, cardiovascular reactivity

Crossing the Class Divide: Social Class Background Moderates Threat in Cross-Class versus Same-Class Interactions

Universities and professional workplaces are key gateway institutions in which people from working-class backgrounds can achieve upward mobility. These settings are some of the few locations where cross-class interactions—i.e., interactions between people from different social class backgrounds—are likely to occur. Cross-class interactions are critical for facilitating economic mobility (Chetty et al., 2022) and offer important benefits to people from working-class backgrounds (Carey et al., 2022; Lessard & Juvonen, 2019). For example, research suggests that cross-class friendships and meaningful interactions improve academic performance and belonging for people from working-class backgrounds (e.g., Carey et al., 2022; Lessard & Juvonen, 2019). Despite these potential benefits, there is evidence that people actively avoid cross-class interactions when the opportunity to engage in them arises (Carey et al., 2022; Gray & Kish-Gephart, 2013).

We propose one reason people may avoid cross-class interactions: people expect them to be, or experience them as, threatening. We focus on initial, cross-class interactions with strangers because these interactions are a necessary precursor to the types of meaningful interactions that might lead to the development of relationships. If initial interactions are expected to be or are experienced as threatening, this may decrease people's willingness to interact with cross-class strangers (e.g., Stephan & Stephan, 1985). Following Blascovich and Mendes (2000), we use the term *threat* to refer to the perception that the demands of a situation exceed one's personal resources to cope. Based on this definition, individuals can experience threat even if situational demands are low or personal resources are high (Mendes et al., 2001).

In the present research, we examine whether people anticipate and experience greater threat in initial, cross-class, compared to same-class, interactions with strangers. Below, we first review research on interactions between members of higher and lower status social groups (i.e., *cross-group* interactions). This work has predominantly focused on groups other than social class (e.g., racial groups) and shown that initial cross-group interactions are often more threatening than same-group interactions. Next, we review social class research to develop our predictions. Overall, we theorize that individuals' own social class backgrounds (i.e., as middle/upper-class vs. working-class) will moderate whether they experience greater threat from initial cross-class versus same-class interactions. Specifically, as we explain below, we predict that cross-class interactions will be more threatening than same-class interactions for people from middle/upper-class backgrounds, but not for people from working-class backgrounds. Finally, we report four studies and an internal meta-analysis testing our predictions.

Cross-Group Interactions are Threatening

Cross-group interactions (e.g., across race) are often experienced as more threatening than same-group interactions for members of both lower and higher status groups (e.g., Page-Gould et al., 2008; Plant, 2004; Steele et al., 2002). This research suggests that experiences of increased threat in cross-group interactions are largely due to individuals' heightened concerns about being evaluated according to the specific stereotypes associated with their particular group. For example, members of groups afforded relatively higher status in society (e.g., White Americans) may be concerned about being seen as prejudiced (e.g., Bergsieker et al., 2010; Plant, 2004). Members of groups afforded relatively lower status in society (e.g., Black and Latinx Americans) may be concerned about being seen as unintelligent (e.g., Bergsieker et al., 2010; Plant, 2004). Given these heightened evaluative concerns, individuals in cross-group (vs.

same-group) interactions may perceive relatively high levels of situational demands and low levels of personal resources to cope (Blascovich et al., 2001). That is, they may experience threat when anticipating or engaging in cross-group interactions. In fact, social identity theory posits that even when groups are arbitrarily assigned, people will have more negative experiences with outgroup strangers than with ingroup strangers (e.g., Bettencourt et al., 1997, Lemyre & Smith, 1985; Montalan et al., 2012; Schug et al., 2013).

Much of the research on cross-group interactions focuses not on social class, but on racial groups¹ (Davies et al., 2011). However, social class is both similar to and different from race in important ways. On the one hand, similar to race, social class is a meaningful social identity that conveys status differences (e.g., Thomas & Azmitia, 2014). Therefore, it is possible that cross-class interactions are threatening for people from both higher and lower social class backgrounds. On the other hand, social class has features that are distinct from race (e.g., Aries, 2008; DiMaggio, 2012; Ostrove & Cole, 2003). As a result, it is possible that people's social class backgrounds affect whether cross-class interactions are threatening. In the following section, we propose that the latter possibility is true and draw on research examining these distinct features to develop our theorizing.

Social Class Background Moderates Threat in Cross-Class Interactions

In the United States, people perceive social class to be a less fixed and important social identity compared to race, however, these perceptions vary by people's own social class backgrounds (Aries & Seider, 2007; Kraus & Keltner, 2013). Drawing on this variation, we theorize that individuals' social class backgrounds will influence the degree to which they are threatened when anticipating and engaging in initial cross-class interactions with strangers.

¹ We refer to cross-race and cross-ethnic interactions as "cross-race interactions."

Below we explain our predictions and theorizing, first for people from middle/upper-class backgrounds (i.e., people who have at least one parent with a 4-year college degree), then for people from working-class backgrounds (i.e., people who have parents without 4-year college degrees).

We propose that people from middle/upper-class backgrounds are likely to experience greater threat in cross-class versus same-class interactions. We base our theorizing on work that suggests that people from middle/upper-class backgrounds are likely to perceive social class to be relatively fixed (Kraus & Keltner, 2013) and important to their identity (Aries & Seider, 2007; Thomas & Azmitia, 2014). As a result, these individuals may categorize people from working-class backgrounds as members of a different group (i.e., an outgroup) and experience interactions with these individuals as cross-group interactions. Thus, like experiences in cross-race interactions, people from middle/upper-class backgrounds may have heightened evaluative concerns when interacting with someone they perceive to be from a working-class background. In particular, when people are in cross-race interactions, they have concerns about their partner judging them unfairly based on stereotypes associated with their group (e.g., Stephan, 2014; Trawalter & Brown-Iannuzzi, 2014; Vorauer et al., 2000). Similarly, people from middle/upper-class backgrounds may have concerns about being seen as privileged or undeserving of their higher status (e.g., Durante et al., 2017; Phillips & Lowery, 2020). Therefore, people from middle/upper-class backgrounds may perceive relatively high levels of situational demands and low levels of personal resources to cope in these interactions compared with same-class interactions (i.e., they may be more threatened).

Although people from working-class backgrounds may also be aware of stereotypes about their social class group and have some evaluative concerns (e.g., being seen as

incompetent; Croizet & Claire, 1998), we theorize that they may find cross-class interactions to be no more threatening than same-class interactions. We base our theorizing on work that suggests that people from working-class backgrounds are likely to perceive that social class is relatively fluid (e.g., Kraus & Keltner, 2013) and to see their own social class identities as relatively unimportant (e.g., Aries & Seider, 2007). As a result, people from working-class backgrounds may *not* perceive people from middle/upper-class backgrounds as members of a distinct outgroup. In turn, they may not experience cross-class interactions, or interactions with someone from a middle/upper-class background, as cross-group interactions. Accordingly, people from working-class backgrounds may not have heightened evaluative concerns, and therefore, may not be more threatened in cross-class compared to same-class interactions.

Research on the likelihood of cross-class affiliation and experiences with meaningful cross-class interactions has not directly tested our theorizing that cross-class interactions will be uniquely threatening for people from middle/upper-class backgrounds (Carey et al., 2022; Côté et al., 2017). However, findings from this research are consistent with our hypotheses. Indicating that people may experience cross-class interactions as more threatening than same-class interactions, people from middle/upper-class backgrounds engage in cross-class affiliation less often than people from working-class backgrounds (Côté et al., 2017). Further, the frequency with which undergraduates engage in meaningful cross-class interactions relative to chance is far lower among students from middle/upper-class backgrounds than students from working-class backgrounds (Carey et al., 2022).²

Current Research

² There are two studies that examined threat when interacting with a “disadvantaged” versus “advantaged” partner. However, it is unclear which interactions were cross-class versus same-class because the authors did not report the participants’ own social class backgrounds (Blascovich et al., 2001, Study 3; Mendes et al., 2002).

In four studies, we examine experiences of threat when anticipating or engaging in initial cross-class versus same-class interactions with strangers. In Studies 1 and 2, we examine threat when participants are anticipating an in-person cross-class or same-class interaction. Using a similar procedure, in Study 3, we examine threat when participants are anticipating a virtual interaction. Finally, in Study 4, we examine threat after participants engaged in a virtual interaction. Cross-race interaction research typically “manipulates” partners’ racial backgrounds by assigning a confederate or participant partner who is of a different racial background than the participant. In our research, we manipulated and measured participants’ *perceptions* of the confederates and participant partners’ social class backgrounds. In Studies 1-3, we manipulated participants’ perceptions of the social class backgrounds of (confederate) partners. In Study 4, we measured participants’ perceptions of the social class background of (participant) partners. We measure threat using cardiovascular (Study 1) and self-report responses (Studies 2-4).

Overall, we theorize that individuals’ own social class backgrounds (i.e., as middle/upper-class vs. working-class) will moderate whether they experience greater threat anticipating or engaging in initial cross-class versus same-class interactions and propose the following:

Hypothesis 1 (H1): Participants from middle/upper-class backgrounds will experience greater threat when their partner is from a working-class background (i.e., a cross-class interaction) compared to a middle/upper-class background (i.e., a same-class interaction).

Hypothesis 2 (H2): Participants from working-class backgrounds will experience similar levels of threat when their partner is from a middle/upper-class background (i.e., a cross-class interaction) compared to a working-class background (i.e., a same-class interaction).

We find support for our hypotheses in Studies 1, 2, and 4, and an internal meta-analysis of the four studies (Study 3 does not support these hypotheses but we include it in the meta-analysis). We also examine potential mediators for the effect of cross-class versus same-class interaction on experiences of threat in Studies 2 and 3, which we describe in those studies.

Parental Educational Attainment as an Indicator of Social Class Background

We examine participants' social class *backgrounds* rather than their *current* social class because people's social class origins have a lasting effect on their psychological tendencies (e.g., Griskevicius et al., 2013; Kish-Gephart & Campbell, 2015; Phillips et al., 2020). Importantly, this effect is present even after accounting for people's current social class (e.g., Herrmann & Varnum, 2018; Martin et al., 2017). Researchers typically index social class background using three indicators: parental educational attainment, childhood household income, and parental occupational status (e.g., Duncan, Featherman, & Duncan, 1972; Sirin, 2005). Although scholars lack consensus regarding which of the three indicators to use, evidence suggests that using a single indicator is more effective and appropriate than using a composite (Chakroborty, 2002; Dickinson & Adelson, 2014).³

³ Given that our manipulation of the confederate partner's social class background used both parental educational attainment and parental income, we report additional analyses for Studies 1-3 using a composite index of social class background which includes parental educational attainment and parental income to index participants' social class background in the Supplemental Materials. These results are similar to using parental educational attainment alone.

To index participants' social class backgrounds, we use parental educational attainment. We characterize participants from working-class backgrounds as those who have parents without 4-year college degrees and participants from middle/upper-class backgrounds as those who have at least one parent with a 4-year college degree. We use parental educational attainment for several reasons. First, education captures access to both material and cultural capital. For instance, a 4-year college degree affords financial resources and imparts values and practices indicative of higher status (e.g., Newcomb, 1943; Snibbe & Markus, 2005). Thus, people often rely on educational attainment to differentiate social class groups and as a basis for their own social class identity (e.g., Lareau and Conley, 2010). Second, parental educational attainment is a relatively more stable indicator of social class background than parental income and occupational status, which are more likely to change throughout people's childhoods (e.g., Winkleby et al., 1992; Snibbe & Markus, 2005). Given this, people tend to be more accurate when recalling their parents' educational attainment, than income or occupations, making it a more valid measure of social class background (e.g., Krieger et al., 1998). Finally, parental educational attainment is especially predictive of people's experiences and outcomes in contexts relevant to our domain of interest: interactions and collaborative settings (e.g., Carey et al., 2022; Dittmann et al., 2020).

Study 1

In Study 1, we measure threat using cardiovascular responses while participants anticipated engaging in an in-person collaborative task with a cross-class or same-class stranger. We also examine whether anticipating a cross-class or same-class interaction affected performance on an individual task. We did not preregister this study.

Method

Participants

Over three semesters, we recruited 228 first-year undergraduate students. Using data from university records, we recruited students who have parents without 4-year college degrees (i.e., students from working-class backgrounds; $n = 117$) and a similar number of students who have at least one parent with a 4-year college degree (i.e., students from middle/upper-class backgrounds; $n = 111$). We excluded four participants due to video equipment malfunctions (all were in the working-class partner condition), $N_{final} = 224$. A sensitivity power analysis using G*Power (Faul et al., 2007), specifying an alpha of 0.05 for a two-tailed test, indicated that we had 80% power to detect an interaction effect size of $\eta_p^2 = .034$. We report all measures, manipulations, and exclusions for all studies. Data, materials, and analysis code for all studies are available by emailing the corresponding author.

Procedure

Participants arrived at the laboratory for a study on physiological responses during introductions and tasks. Participants learned that they would: (a) meet another participant who would be their partner (i.e., a confederate), (b) complete a task individually, and (c) work with their partner on a collaborative task.

Cardiovascular Equipment Set-Up. The experimenter attached cardiovascular sensors to participants, then left the room and recorded participants' cardiovascular responses for 5 minutes.

Manipulation and Video Introductions. Participants then completed an introduction questionnaire containing questions about parental educational attainment and family income along with several filler items. We used this questionnaire, along with an introduction via video, to manipulate participants' *perceptions* of their partners' social class backgrounds. Participants

were randomly assigned to a middle/upper-class or working-class partner who was not actually present. Participants ostensibly exchanged questionnaires with this partner and learned their social class background. To create strong manipulations that would clearly convey partners' social class backgrounds, we manipulated both parental educational attainment and family income. Specifically, participants in the working-class partner condition ($n = 115$) read that neither of their partner's parents had a 4-year college degree and their family's income was less than \$100,000 (the lowest option provided). Participants in the middle/upper-class partner condition ($n = 109$) read that their partner's parents both had 4-year college degrees and their family's income was greater than \$300,000 (the highest option provided).

Participants then watched their partners introduce themselves for 1 minute via video. Specifically, their partners reiterated information from the introduction questionnaire. Although the experimenter led participants to believe the videos were live, they were prerecorded and depicted one of four confederates (2 male, 2 female). Each confederate recorded an introduction video for each condition. To bolster the partner's social class background manipulation, confederates mentioned their parents' educational attainment in their introduction and said, "...neither of my parents went to college" (working-class partner condition) or "...both of my parents went to college" (middle/upper-class partner condition). Participants then introduced themselves by speaking into a video camera for 1 minute. Experimenters instructed participants to elaborate on the introduction questionnaire to give their partner "a better idea of who you are."

Individual Task. Subsequently, experimenters told participants that they would complete a task (i.e., 12 Graduate Record Examination (GRE) questions) individually for 5 minutes before the collaborative task. To increase engagement, participants learned that performance on the individual task would impact their overall team score, which determined whether the team would

win two \$50 gift cards. This task also provided an initial motivated performance situation, which is important when using cardiovascular responses as a measure of threat (see below). We examined performance on this task given that experiences of threat may be associated with poorer performance (Seery et al., 2010).

Collaborative Task Anticipation and Post-Task Questionnaires. Experimenters then asked participants to wait 5 minutes before the interaction could begin to allow for individual task scoring. While participants were anticipating the interaction, experimenters recorded participants' cardiovascular responses. After participants complete a questionnaire that included manipulation check items, the experimenter asked participants about the study's purpose and debriefed them.

Measures

Participant Social Class Background. We used participants' generation status according to university records as our index of social class background. We categorized first-generation college students (those who have parents without a 4-year college degree) as participants from working-class backgrounds and continuing-generation college students (those who have at least one parent with a 4-year college degree) as participants from middle/upper-class backgrounds.

In the Supplemental Materials, we report additional exploratory analyses using a composite index of social class background that mirrored our manipulation of partners' social class backgrounds (i.e., including participants' reports of the educational attainment of each parent and their family's income while in high school). We describe these measures, the creation of the composite, and the results of exploratory analyses for Studies 1-3 in the Supplemental Materials. Results are similar to those using generation status alone.

Height and Weight Questionnaire. Participants indicated their height and weight, which we used to calculate body mass index (BMI, a covariate in our analyses).

Threat. To measure threat, we followed the biopsychosocial model, which holds that the experience of threat (vs. challenge) reliably leads to specific patterns of cardiovascular responses (Blascovich & Mendes, 2000). We followed guidelines established by the Society for Psychophysiological Research (Sherwood et al., 1990). We used impedance cardiography, electrocardiography, and blood pressure measures (see Supplemental Materials for details). We used psychophysiology analysis software by Mindware Technologies (Lafayette, OH) and Acqknowledge (Biopac; Goleta, CA) to prepare the cardiovascular responses for data analysis.

We measured participants' cardiac output (CO), i.e., the amount of blood pumped out of the heart, and total peripheral resistance (TPR), i.e., the overall vasoconstriction in the periphery of the body. Higher TPR and lower CO indicate greater threat relative to challenge (Blascovich & Mendes, 2000). We followed previous research to calculate our measure of threat (e.g., Townsend et al., 2010). First, we created reactivity scores for CO and TPR for each of the 5 minutes of the anticipation period. Then, we standardized these scores, subtracted CO from TPR for each minute, and then averaged across the 5 minutes to create the threat composite, $M = 0.01$, $SD = 1.55$. Higher values indicate greater threat. We report analyses on CO and TPR separately in the Supplemental Materials. We also tested whether participants were adequately engaged during the 5-minute interaction anticipation period by examining heart rate (HR) and left ventricle contractility (VC) reactivity. We created reactivity scores by subtracting participants' HR and VC during the last minute of baseline from their HR and VC during each of the 5 minutes of the anticipation period. We then created composites across these two sets of five reactivity scores and conducted one-sample t tests to compare the composites to zero to indicate

engagement (Mendes et al., 2002). VC reactivity was significantly greater than zero, $t_{VC}(156) = 3.64, p < .001$, and although HR reactivity was not significantly different from zero, $t_{HR}(183) = 1.49, p = .138$, it was in the right direction (i.e., above zero).

Individual Task Performance. Participants completed an individual task made up of five verbal and seven math GRE questions. We measured performance as the number of correct responses (Range 0–10, $M = 3.15, SD = 1.69$).

Manipulation Check. To ensure that we successfully manipulated participants' perception of their partners' social class backgrounds, participants reported their partner's parents' highest education level (0 = *less than a 4-year college degree*, 1 = *4-year college degree or higher*).

We also included exploratory measures that are tangential to threat. See Supplemental Materials for description and analyses.

Results

Analysis Plan

We conducted a 2 (condition: working-class partner vs. middle/upper-class partner) \times 2 (participant social class background: working-class vs. middle/upper-class) analysis of covariance (ANCOVA) controlling for gender, race, BMI (for cardiovascular data only), and Scholastic Aptitude Test scores (SAT; for individual task performance only). We included a gender covariate to control for gender differences in approaches to interactions (Carli, 1989). We included a race covariate to control for whether the anticipated interaction would be cross-race or same-race. That is, the study confederates were White, so the interaction would be same-race for White participants but cross-race for participants who were not White. We controlled for BMI because it is associated with cardiovascular responses (Steptoe & Wardle, 2005). We included a

SAT covariate to control for individual differences in aptitude test performance. Excluding the covariates does not change the significance and direction of the effects on threat. The sample sizes vary between dependent variables because some participants' cardiovascular data were unscorable due to noisy or lost signals. See Table 1 for statistical results and Table 2 for means and standard deviations.

Table 1*Results of ANCOVAs for Dependent Variables (Study 1)*

<i>Dependent Variables</i>					
Predictor	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	95% CI
<i>Threat</i>					
Gender		0.38	.537	.003	-0.73, 0.38
Race		1.00	.319	.008	-0.31, 0.95
BMI		0.04	.841	<.001	-0.08, 0.07
Condition		2.50	.116	.020	-0.62, 0.87
Participant Social Class Background		1.60	.208	.013	0.12, 1.66
Condition \times Social Class Background	1, 124	4.20	.042	.033	-2.16, -0.04
<i>Individual task performance</i>					
Gender		4.17	.043	.019	0.01, 0.82
Race		2.36	.126	.011	-0.11, 0.85
Test Score		61.76	<.001	.225	0.00, 0.01
Condition		0.10	.750	<.001	-0.17, 0.89
Participant Social Class Background		0.09	.762	<.001	-0.06, 1.03
Condition \times Social Class Background	1, 213	4.72	.031	.022	-1.60, -0.08

Note. BMI = body mass index.

Manipulation Check

The manipulation was successful: 98% of participants in the working-class partner condition and 97% of participants in the middle/upper-class partner condition correctly indicated their partner's parental educational attainment (no significant differences by condition, $\chi^2(1, N = 228) = 0.33, p = .567$). Given that excluding these participants does not change the significance or direction of results, we include them in our analyses to maintain power.

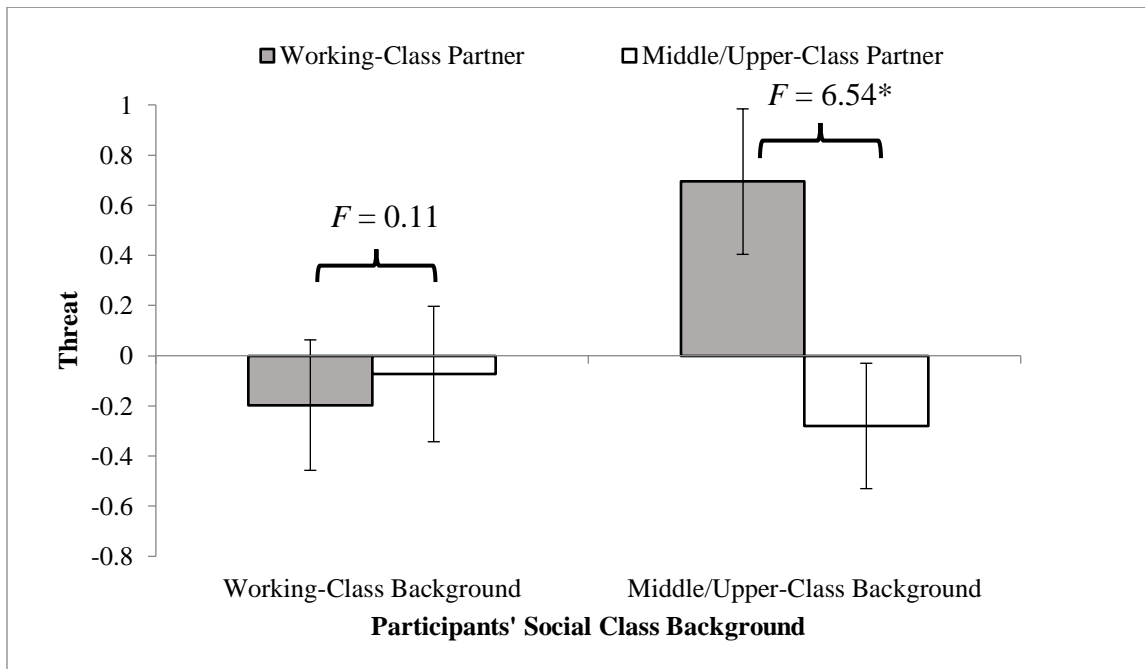
Threat

Due to unscorable cardiovascular data, the sample for threat is $N = 127$. We conducted additional sensitivity analyses with this sample size, which indicated that we had 80% power to detect an interaction effect size of $\eta_p^2 = .059$. Neither main effect of condition nor social class

background was significant. The interaction was significant (see Figure 1). Participants from middle/upper-class backgrounds exhibited greater threat in the working-class partner condition (i.e., a cross-class interaction) than the middle/upper-class partner condition (i.e., a same-class interaction; H1), $F(124) = 6.54$, 95% CI [0.22, 1.73], $\eta_p^2 = .050$, $p = .012$. This was not true among participants from working-class backgrounds. Participants from working-class backgrounds exhibited similar threat across conditions (H2), $F(124) = 0.11$, 95% CI [-0.87, 0.62], $\eta_p^2 = .001$, $p = .742$. When assigned a working-class partner, participants from middle/upper-class backgrounds exhibited greater threat than participants from working-class backgrounds, $F(124) = 5.30$, 95% CI [-1.66, -0.13], $\eta_p^2 = .041$, $p = .023$. When assigned a middle/upper-class partner, participants from middle/upper-class backgrounds and working-class backgrounds exhibited similar levels of threat, $F(124) = 0.31$, 95% CI [-0.53, 0.95], $\eta_p^2 = .002$, $p = .582$.

Figure 1

Condition by Participant's Social Class Background on Threat Results (Study 1)



Note. * $p < .05$.

Individual Task Performance

Neither main effect of condition nor social class background was significant. Although the interaction was significant, none of the simple effects reached significance, $F_s < 3.02$, $ps > .084$.

Table 2*Means and Standard Deviations for Threat and Individual Task Performance (Study 1)*

	<i>Variable</i>			
	Threat		Individual Task Performance	
	Partner Condition		Partner Condition	
<i>Raw Means and Standard Deviations</i>	WK N; <i>M (SD)</i>	MD N; <i>M (SD)</i>	WK N; <i>M (SD)</i>	MD N; <i>M (SD)</i>
Participants from MD backgrounds	29; 0.73, (1.32)	36; -0.26 (1.64)	51; 3.78 (1.98)	62; 2.76 (1.47)
Participants from WK backgrounds	35; -0.24 (1.59)	31; -0.08 (1.43)	54; 3.20 (1.50)	53; 2.94 (1.65)

Note. MD = middle/upper-class, WK = working-class.

Discussion

Consistent with our predictions, people from middle/upper-class backgrounds experienced greater threat when anticipating an initial interaction with a cross-class versus same-class partner (H1), however, people from working-class backgrounds showed similar levels of threat anticipating these two types of interactions (H2). Additionally, when the partner was perceived to be from a working-class background, participants from middle/upper-class backgrounds exhibited greater threat than those from working-class backgrounds. Although this effect is not central to our theorizing, it is consistent with our thinking and suggests that experiences of threat among people from middle/upper-class backgrounds anticipating an interaction with a working-class partner are not due to the partner's lower status alone, but the cross-class nature of the interaction. Therefore, we propose Hypothesis 1b (H1b) as an extension of H1: When participants have a partner from a working-class background, participants from middle/upper-class backgrounds will experience greater threat than participants from working-

class backgrounds. We examine H1b in exploratory analyses in Studies 2 and 3 and in a preregistered analysis in Study 4.

We also found a significant interaction on individual task performance. Although the simple effects were not significant, we visually inspected the means (see Table 2) and saw that participants from middle/upper-class backgrounds performed directionally better when assigned a working-class (vs. middle/upper-class) partner, and participants from working-class backgrounds showed no differences by condition. We preregistered these predictions for individual task performance in Study 2.

Study 2

Study 2 (preregistered; https://osf.io/9f2ws/?view_only=5b8ee52cf69446e7856fee062086a3f5) goes beyond Study 1 in three ways. First, we sought to replicate the results using a self-report measure of threat. Second, we examined individual task performance with the larger sample size and greater power. Third, we tested potential mechanisms for why participants from middle/upper-class backgrounds experience greater threat when anticipating initial cross-class (vs. same-class) interactions. As mentioned, research suggests that threat in cross-group (vs. same-group) interactions may be due to evaluative concerns (e.g., Vorauer, 2006). Therefore, we examined two mediators related to evaluative concerns among members of higher status groups: status concerns and concerns about being perceived as overprivileged (i.e., “overprivileged concerns;” Phillips & Lowery, 2020). Additionally, given that our participants are undergraduate students, one straightforward reason for our effects may be that students from working-class backgrounds have experience with cross-class interactions, and students from middle/upper-class backgrounds are likely to lack such experience (e.g., Carey et al., 2022; Park & Denson, 2013). To test this explanation, we examine

experience in cross-class contexts as the third mediator and include this prediction in our preregistration for Study 2. See Supplemental Materials for a summary of preregistered hypotheses in Studies 2-4.

Method

Participants

We recruited 307 undergraduate students over two semesters.⁴ Like Study 1, we recruited participants based on parental educational attainment (159 participants from working-class backgrounds and 148 participants from middle/upper-class backgrounds). We excluded two participants who participated in Study 1 (one in the working-class partner condition and one in the middle/upper-class partner condition) and two due to procedural errors (both in the middle/upper-class partner condition; no significant differences by condition, $\chi^2(1, N = 307) = 2.03, p = .155$), $N_{final} = 303$. We conducted the same sensitivity power analyses as Study 1, which indicated that we had 80% power to detect an interaction effect size of $\eta_p^2 = .025$.

Procedure

The procedure was largely identical to Study 1 with three exceptions: participants were not connected to cardiovascular recording equipment because we measured threat through self-report, introductions were conducted via audio, not video, and participants were given 8 minutes instead of 5 minutes to complete the individual task.

Perceptions of Partner's Social Class Manipulation and Audio Introductions.

Participants completed the introduction questionnaire and saw their partner's social class background (working-class partner condition, $n = 153$; middle/upper-class partner condition, n

⁴ Despite our preregistered plan of recruiting first-year undergraduate students, we also recruited second-year and third-year undergraduate students due to the small number of first-generation college undergraduates on campus. Controlling for year in school does not change the significance or direction of our results.

=150). Then, participants listened to their partner's prerecorded 1-minute introduction, which used the same script as Study 1. Afterward, participants gave their own 1-minute introduction.

Individual Task. After learning that performance on the individual task would impact their overall team score, participants completed the task for 8 minutes.

Collaborative Task Anticipation. Subsequently, participants reported their demand and resource appraisals with respect to working with their partners on the upcoming collaborative task as well as their status concerns and overprivileged concerns.

End of Study Questionnaires. Subsequently, experimenters told participants that there was not enough time for the collaborative task and asked them to complete the remaining questionnaires on which participants indicated their experience in working-class and middle/upper-class contexts in the demographic section.

Measures

Participant Social Class Background. Participants reported the educational attainment of their parents (and guardian if they were not raised by either parent) using six categories: (1) Less than high school, (2) High school diploma, (3) Some college, (4) Two-year degree (e.g., Associates), (5) 4-year college degree (B.A. or B.S.), (6) Professional degree (MD., Ph.D., J.D., M.B.A., etc.). We categorized participants' social class background as working-class if they indicated that neither parent nor guardian had a 4-year degree (i.e., 1-4) and as middle/upper-class if they indicated that at least one parent or guardian had a 4-year degree (i.e., 5 or 6).

Manipulation Check. Participants completed the same manipulation check as Study 1.

Threat. To measure threat, participants reported their demand and resource appraisals of "the upcoming task of working together with [their] partner" on 10 items adapted from Mendes and colleagues (2007) using a scale of 1 (*strongly disagree*) to 7 (*strongly agree*). Five items

assessed demand appraisals (e.g., “This task is threatening”), $\alpha = .766$, $M = 3.57$, $SD = 1.07$.

Five items assessed resource appraisals (e.g., “This task is a positive challenge”), $\alpha = .756$, $M = 4.47$, $SD = 0.97$. Following Mendes and colleagues (2007), we created a threat ratio by dividing demand by resource appraisals. Larger values indicate greater threat, $M = 0.85$, $SD = 0.35$. We report analyses on the demand appraisals and resource appraisals separately in the Supplemental Materials for Studies 2-4.

Individual Task Performance. To examine performance, participants completed the same individual task consisting of the twelve GRE questions from Study 1 (Range 0–8, $M = 2.83$, $SD = 1.69$). To maintain power, we included 5 participants who had 5 minutes instead of 8 minutes to complete the individual task. Excluding these participants does not change the significance or direction of the results.

Status Concerns. Drawing on research that shows people value status more when they are concerned about their status (Pettit et al., 2010) we asked participants to report how important it was to maintain their status (i.e., “How important is it to you that you maintain your current status at [University]?”) using a 1 (*not at all*) to 7 (*very much so*) scale, $M = 5.15$, $SD = 1.77$. Additionally, we reasoned that people might inflate their status if they perceived it to be more valuable, so we asked participants to indicate where they stand in their university’s status hierarchy on a 10-rung ladder (1 = bottom, 10 = top), $M = 6.13$, $SD = 1.66$. We standardized and averaged the scores on these two items together, $r = 0.46$, $M = 0.00$, $SD = 0.85$.⁵

Overprivileged Concerns. To measure concerns about appearing overprivileged, participants responded to one item: “I worry that my partner may think that I am overprivileged” on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale, $M = 2.47$, $SD = 1.75$.

⁵ We combined these two items to be consistent with our preregistration. We examined the items separately in exploratory analyses and find similar results.

Experience in Cross-Class Contexts. To measure experience in cross-class contexts, participants reported how often they spend their time around people who are considered: (a) “middle/upper-class (i.e., those who have 4-year college degrees and/or have relatively high incomes or higher status occupations)” and (b) “working-class (i.e., those who do not have 4-year college degrees and/or have relatively low incomes or lower status occupations).” For participants from working-class backgrounds, we used their response item (a), $M = 4.94$, $SD = 1.41$. For participants from middle/upper-class backgrounds, we used their response to item (b), $M = 3.95$, $SD = 1.56$.

We also measured exploratory outcomes (e.g., warm-up task performance, threat regarding individual task; see Supplemental Materials).

Results

Analysis Plan

We conducted a 2×2 ANCOVA controlling for gender, race, and self-reported SAT scores (for individual task performance only). We included SAT scores to control for individual ability. If participants only reported their ACT scores, we converted their score into an SAT score following the College Board Concordance Guide (2018). If participants reported both, we used the best score. Fifty-three participants did not report either score, lowering the degrees of freedom for these analyses. See Table 3 for statistical results and Table 4 for means and standard deviations.

Table 3*Results of ANCOVAs for Dependent Variables (Study 2)*

<i>Dependent Variables</i>					
Predictor	<i>df</i>	<i>F</i>	<i>p</i>	η^2	95% CI
<i>Threat</i>					
Gender		6.23	.013	.021	-0.18, -0.02
Race		2.19	.140	.007	-0.17, 0.02
Condition		2.42	.121	.008	-0.10, 0.11
Participant Social Class Background		1.62	.205	.005	0.01, 0.23
Condition \times Social Class Background	1, 295	2.98	.086	.010	-0.29, 0.02
<i>Individual task performance</i>					
Gender		1.31	.254	.005	-0.17, 0.65
Race		0.09	.767	<.001	-0.57, 0.42
Test Score		38.94	<.001	.141	0.00, 0.01
Condition		0.65	.423	.003	-0.59, 0.55
Participant Social Class Background		0.31	.578	.001	-0.63, 0.50
Condition \times Social Class Background	1, 238	0.83	.363	.003	-0.42, 1.15
<i>Status concerns</i>					
Gender		8.05	.005	.027	0.08, 0.48
Race		6.24	.013	.021	0.06, 0.52
Condition		1.57	.211	.005	-0.18, 0.34
Participant Social Class Background		7.46	.007	.025	-0.04, 0.49
Condition \times Social Class Background	1, 295	0.15	.696	.001	-0.30, 0.45
<i>Overprivileged concerns</i>					
Gender		1.34	.248	.005	-0.60, 0.16
Race		5.15	.024	.018	0.07, 0.97
Condition		21.98	<.001	.071	-1.13, -0.01
Participant Social Class Background		35.18	<.001	.110	0.84, 1.87
Condition \times Social Class Background	1, 295	1.81	.180	.006	-1.23, 0.23
<i>Experience in cross-class contexts</i>					
Gender		0.60	.439	.002	-0.21, 0.48
Race		8.34	.004	.027	0.19, 1.01
Condition		0.12	.731	<.001	-0.34, 0.58
Participant Social Class Background		36.94	<.001	.111	-1.33, -0.39
Condition \times Social Class Background	1, 296	1.11	.293	.004	-1.02, 0.31

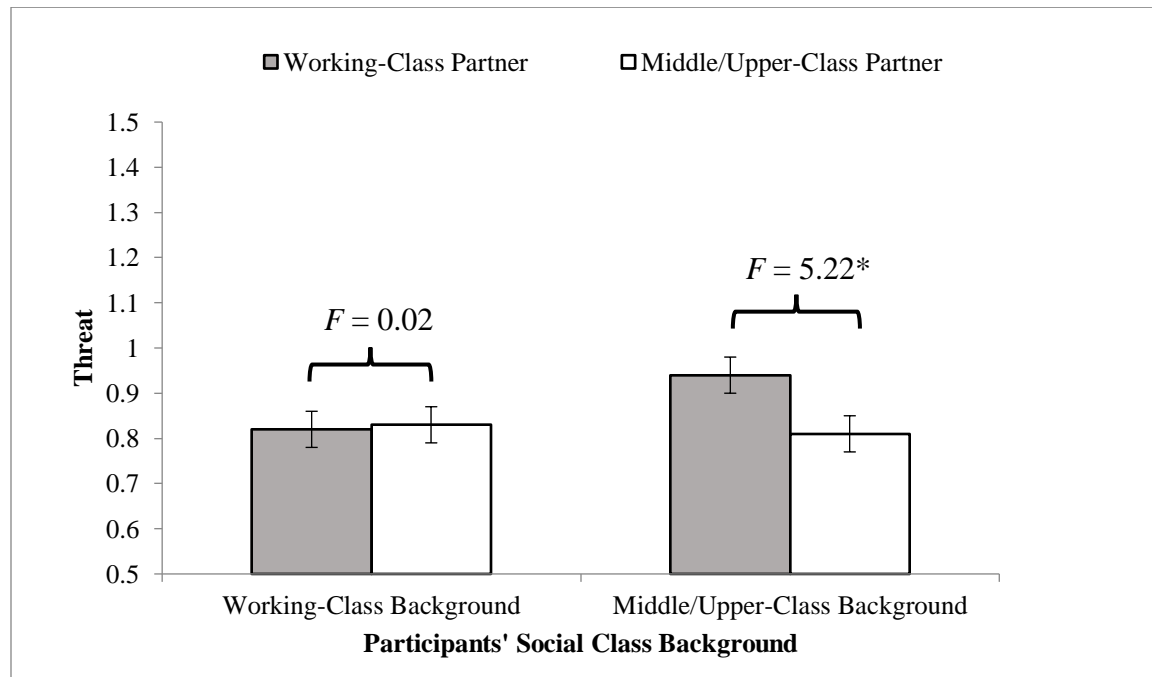
Manipulation Check

The manipulation was successful: 97% of participants in the working-class partner condition and 95% of participants in the middle/upper-class partner condition correctly indicated their partner's parental educational attainment (no significant difference by condition, $\chi^2(1, N = 307) = .743, p = .389$). To maintain power, we included 13 participants who failed the manipulation check in our analyses (excluding them did not change the significance or direction of the results).

Threat

Neither the main effect of condition nor social class background was significant. The interaction was marginally significant (see Figure 2). Although the interaction did not reach significance, we examine the simple effects to test our preregistered primary predictions. Participants from middle/upper-class backgrounds reported greater threat in the working-class partner condition than the middle/upper-class partner condition (H1), $F(295) = 5.22, 95\% \text{ CI } [0.02, 0.24], \eta_p^2 = .017, p = .023$. Participants from working-class backgrounds reported similar levels of threat across conditions (H2), $F(295) = 0.02, 95\% \text{ CI } [-0.12, 0.10], \eta_p^2 < .001, p = .902$.

Additionally, when assigned a working-class partner, participants from middle/upper-class backgrounds reported greater threat than participants from working-class backgrounds, $F(295) = 4.49, 95\% \text{ CI } [-0.23, -0.01], \eta_p^2 = .015, p = .035$. This is consistent with our exploratory H1b, which was not included in our preregistration. When assigned a middle/upper-class partner, participants from middle/upper-class and working-class backgrounds reported similar levels of threat, $F(295) = 0.20, 95\% \text{ CI } [-0.09, 0.13], \eta_p^2 < .001, p = .754$.

Figure 2*Condition by Participant's Social Class Background on Threat Results (Study 2)*

Note. * $p < .05$

Individual Task Performance

No main or interactive effects were significant.

Status Concerns

Neither the main effect of condition nor the interaction was significant. However, the main effect of social class background was significant. Participants from middle/upper-class backgrounds reported greater status concerns than participants from working-class backgrounds.

Overprivileged Concerns

The main effect of condition was significant. Participants reported greater overprivileged concerns in the working-class (vs. middle/upper-class) partner condition. The main effect of social class background was also significant. Participants from middle/upper-class backgrounds

reported greater overprivileged concerns than participants from working-class backgrounds. The interaction was not significant.

Experience in Cross-Class Contexts

Neither the main effect of condition nor interaction was significant. However, the main effect of social class background was significant. Participants from middle/upper-class backgrounds reported less experience in cross-class contexts than participants from working-class backgrounds.

For each of these potential mediators (status concerns, overprivileged concerns, and experience in cross-class contexts), we ran moderated mediation analyses, in line with our preregistered analysis plan. However, because these analyses did not yield significant results, we report them in the Supplemental Materials.

Table 2*Raw Means and Standard Deviations for Threat and Individual Task Performance (Study 2)*

	<i>Variable</i>									
	Threat		Individual Task Performance		Status Concerns		Overprivileged Concerns		Experience in Cross-Class Contexts	
	Partner Condition		Partner Condition		Partner Condition		Partner Condition		Partner Condition	
<i>Raw Means and Standard Deviations</i>	WK <i>N</i> ; <i>M (SD)</i>	MD <i>N</i> ; <i>M (SD)</i>	WK <i>N</i> ; <i>M (SD)</i>	MD <i>N</i> ; <i>M (SD)</i>	WK <i>N</i> ; <i>M (SD)</i>	MD <i>N</i> ; <i>M (SD)</i>	WK <i>N</i> ; <i>M (SD)</i>	MD <i>N</i> ; <i>M (SD)</i>	WK <i>N</i> ; <i>M (SD)</i>	MD <i>N</i> ; <i>M (SD)</i>
Participants' Backgrounds										
MD	72; 0.93 (0.44)	74; 0.81 (0.30)	63; 3.05 (1.65)	66; 3.35 (1.68)	73; 0.08 (0.92)	74; 0.20 (0.76)	72; 3.60 (1.95)	74; 2.49 (1.60)	73; 4.08 (1.59)	74; 3.81 (1.54)
WK	79; 0.82 (0.28)	76; 0.83 (0.34)	59; 2.88 (1.73)	57; 2.79 (1.66)	78; -0.18 (0.87)	76; -0.09 (0.82)	75; 2.19 (1.62)	71; 1.58 (1.07)	79; 4.87 (1.44)	76; 5.00 (1.38)

Note. MD = middle/upper-class, WK = working-class.

Discussion

Consistent with Study 1, participants from middle/upper-class backgrounds reported greater threat when anticipating initial cross-class (vs. same-class) interactions (H1), however, participants from working-class backgrounds reported similar threat in these two interactions (H2). Additionally, we again found that when assigned a working-class partner, participants from middle/upper-class backgrounds exhibited greater threat than participants from working-class backgrounds. When assigned a middle/upper-class partner, participants from working-class and middle/upper-class backgrounds reported similar threat. Although Study 2 was still underpowered to detect the interaction effect, the high-impact study design, consistency with Study 1, and the preregistered nature of our threat predictions all lend confidence in our threat findings.

We did not find support for our preregistered hypothesis for individual task performance (i.e., participants from middle/upper-class backgrounds performed similarly across conditions). It appears that anticipating an upcoming cross-class (vs. same-class) interaction, may not be a strong enough situation to reliably affect performance. It is possible that having participants' partners in the room during the individual task completion may elicit threat and affect performance (Croizet & Claire, 1998). Given our focus on experiences of threat due to cross-class interactions, we do not examine individual task performance in Studies 3 or 4.

The patterns of effects on our potential mediators were consistent with previous research (i.e., participants from middle/upper-class versus working-class backgrounds reported greater status concerns, greater concerns about being perceived as overprivileged, and less experience in cross-class contexts; Phillips & Lowery, 2020; Carey et al., 2022). However, none of the mediators explained the greater threat that participants from middle/upper-class backgrounds

experienced when anticipating a cross-class (vs. same-class) interaction. In Study 3, we aimed to examine alternative potential mediators for this effect and extend our findings to virtual interactions. As we describe below, we did not find support for our primary predictions (e.g., Hypotheses 1 and 2) in Study 3 but did find support for Hypothesis 1B.

Study 3

We conducted Study 3 (preregistered; https://osf.io/dets6/?view_only=1e60655660b7476e8e8eee8b842968e9) in the Fall of 2020 to Spring of 2021 while the Stay Home Order was in place restricting access to indoor activities (Centers for Disease Control and Prevention [CDC], 2020). As a result, it was necessary to conduct Study 3 online which provided an opportunity to extend our findings from Studies 1 and 2 to a virtual setting where participants anticipated an initial video interaction. We also explored whether participants' concerns about being perceived as overprivileged and perceptions of their partner's typicality would mediate threat among participants from middle/upper-class backgrounds. However, as we discuss in more detail below, participants from middle/upper-class backgrounds were *not* more threatened when anticipating a cross-class (vs. same-class) interaction. Given that there was no effect to mediate, we describe our potential mediators and report the preregistered mediational analyses in the Supplemental Materials.

Method

Participants

We recruited 345 undergraduate students over one semester. Like Studies 1 and 2, we recruited participants based on parental educational attainment. We excluded the following participants: 28 who wanted to withdraw their data (13 in the working-class partner condition, 15 in the middle/upper-class partner condition; no significant differences by condition, $\chi^2(1, N =$

345) = 0.14, $p = .844$), seven due to experimenter chat errors (five in working-class partner condition, three in middle/upper-class partner condition; no significant differences by condition, $\chi^2(1, N = 345) = 1.33, p = .249$), and 32 who were suspicious that their partner was not an actual participant (11 in working-class partner condition, 21 in middle/upper-class partner condition; no significant differences by condition, $\chi^2(1, N = 345) = 3.38, p = .094$), $N_{final} = 280$. We conducted the same sensitivity power analyses as above, which indicated that we had 80% power to detect an interaction effect size of $\eta_p^2 = .027$.

Procedure

The procedure mirrored Studies 1 and 2 with the primary exception being that participants introduced themselves using ChatPlat (Brooks & Schweitzer, 2011), an online chat platform that allows participants to chat with another partner (or confederate). See Supplemental Materials for full details.

Measures

Participant Social Class Background. Participants reported their parents' educational attainment using the same categories as Study 2 and classify participants as being from working-class ($n = 126$) or middle/upper-class ($n = 219$) backgrounds in the same way.

Manipulation Check. Participants completed the same manipulation check as Studies 1 and 2.

Threat. We used the same threat measure as Study 2 and created a threat ratio by dividing demand appraisals, $\alpha = .811, M = 3.42, SD = 1.17$, by resource appraisals, $\alpha = .824, M = 4.94, SD = 0.94$. Larger values indicate greater threat, $M = 0.74, SD = 0.34$.

We included exploratory measures and a filler task that were not directly related to our hypotheses regarding threat (e.g., identification with partner; see the Supplemental Materials).

Results

Analysis Plan

We conducted a 2×2 ANCOVA controlling for gender and race. Following our preregistration, we also controlled for participants' year in school because the confederate was a first-year undergraduate and participants were not all first-year undergraduates (i.e., 54 first-years, 57 second-years, 71 third-years, and 165 fourth-years). See Table 5 for statistical results, means, and standard deviations.

Table 5

Univariate Analysis of Covariances Results for Threat (Study 3)

	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	95% CI
<i>Covariate</i>					
Gender		0.68	.409	.002	-0.05, 0.11
Race		0.13	.724	<.001	-0.11, 0.08
Year in School		0.46	.499	.002	-0.02, 0.05
<i>Main and Interactive Effect</i>					
Condition		8.28	.004	.029	0.09, 0.35
Participant Social Class Background		1.49	.223	.005	0.03, 0.27
Condition × Social Class Background	1, 273	5.16	.024	.019	-0.36, -0.03
<i>Raw Means and Standard Deviations</i>					
		<i>N; M (SD)</i>		<i>N; M (SD)</i>	
		WK Partner Condition		MD Partner Condition	
Participants from MD Backgrounds		93; 0.74 (0.33)		87; 0.77 (0.30)	
Participants from WK Backgrounds		49; 0.60 (0.24)		51; 0.81 (0.47)	

Note. MD = middle/upper-class, WK = working-class.

Manipulation Check

The manipulation was successful: 100% of participants in both conditions correctly indicated their partner's parental educational attainment.

Threat

The main effect of condition was significant such that participants reported greater threat in the middle/upper-class partner condition than the working-class partner condition. The main effect of social class background was not significant. Although the interaction was significant, simple effects tests revealed that our hypotheses were not supported. Participants from middle/upper-class backgrounds reported similar threat across conditions, $F(273) = 0.27$, 95% CI [-0.07, 0.13], $\eta^2 < .001$, $p = .606$, and participants from working-class backgrounds reported greater threat in the middle/upper-class partner condition than the working-class partner condition, $F(273) = 10.32$, 95% CI [0.09, 0.35], $\eta^2 = .036$, $p = .001$.

However, consistent with Studies 1 and 2 and our exploratory H1b, when assigned a working-class partner, participants from middle/upper-class backgrounds reported greater threat than participants from working-class backgrounds, $F(273) = 6.07$, 95% CI [0.03, 0.27], $\eta^2 = .022$, $p = .014$. When assigned to a middle/upper-class partner, participants from middle/upper-class backgrounds and working-class backgrounds reported similar levels of threat, $F(273) = 0.53$, 95% CI [-0.16, 0.07], $\eta^2 = .002$, $p = .466$.

Discussion

Inconsistent with Studies 1 and 2 and our hypotheses, participants from middle/upper-class backgrounds reported similar threat when anticipating a cross-class (vs. same-class) interaction, while participants from working-class backgrounds were more threatened when anticipating an initial cross-class (vs. same-class) interaction. However, consistent with Studies 1 and 2 and exploratory H1b, we found that when assigned a working-class partner, participants from middle/upper-class backgrounds experienced greater threat than those from working-class backgrounds.

Although there are several potential reasons for the divergent findings between this study and Studies 1 and 2, we find two most compelling. First, it is possible that in-person versus virtual interactions differently affect threat in cross-class interactions (e.g., Manstead et al. 2011; Studies 1 and 2 were in-person and Study 3 was virtual). Second, we conducted Study 3 during Fall 2020 when there were substantial concerns about rising COVID-19 cases and discourse about the disproportionate impact of COVID-19 on historically marginalized groups (e.g., working-class individuals). This may have shifted social class dynamics and affected participants' experiences in our study. To minimize these potential external effects, we conduct Study 4 during Summer 2021 when such concerns and discourse declined. Specifically, COVID-19 vaccinations became available in the U.S. and rates of new COVID-19 cases declined along with unemployment (Bureau of Labor Statistics, 2021; Gupta et al., 2021).

Study 4

In Study 4 (preregistered; https://osf.io/xhz78/?view_only=9680605d6e9643b89cba7bc454ee25aa), we examined experiences of threat when participants engaged in an online interaction with an *actual* stranger

(i.e., another participant). Across Studies 1-3, we found that when assigned a working-class partner, participants from middle/upper-class backgrounds experienced greater threat than participants from working-class backgrounds (H1b). We sought to replicate this finding and preregistered H1b as our primary hypothesis. We also preregistered two tentative hypotheses to disentangle *who* is more threatened in initial cross-class (vs. same-class) interactions: people from middle/upper-class backgrounds and/or people from working-class backgrounds. First, we predicted that participants from middle/upper-class backgrounds will be more threatened in cross-class (vs. same-class) interactions (H1; as found in Studies 1 and 2). Second, we predicted that participants from working-class backgrounds will be more threatened in cross-class (vs. same-class) interactions (as found in Study 3).

Additionally, although experiences of threat during anticipation can predict subsequent experiences in cross-group interactions (Sawyer et al., 2012), Study 4 also provided an opportunity to examine retrospective reports of threat *after* an interaction. Specifically, participants reported how threatening they experienced the interaction to be after they engaged in it. Finally, we also extended our sample beyond undergraduate students and recruited adult participants using Prolific Academic.

Method

Participants

We recruited 392 participants on Prolific Academic. Five participants did not finish the survey, $N_{final} = 387$. We conducted the same sensitivity power analyses as above, which indicated that we had 80% power to detect an interaction effect size of $\eta_p^2 = .020$.

Procedure

Participants were told that they would complete a task with a partner and report their perceptions about the interaction and their partner. Then, participants were paired up on ChatPlat and instructed to take turns answering four questions to get to know each other better (e.g., What would constitute a “perfect” day for you?). After, participants engaged in a 4-minute activity with their partner (i.e., another participant) over chat where they came up with ideas for a new product or service and picked the best idea. Then participants reported their perceptions about their partner and threat during the interaction.⁶

Measures

Participant Social Class Background. Participants reported their parents’ highest level of education. We classify participants as being from a working-class background ($n = 94$) if their parents are without a 4-year college degree and middle/upper-class background ($n = 298$) if their parents have a 4-year college degree.

Partner’s Social Class Background. We used the participant’s perception of the educational attainment of their partner’s parents as a measure of their partner’s social class background. We classify the partner as working-class ($n = 106$) if the participant indicated that their partner’s parents are without a 4-year college degree and as middle/upper-class ($n = 281$) if the participant indicated that the partner’s parents have a 4-year college degree. We examined perceptions of the partner’s social class background because during initial interactions people often make guesses about various aspects of strangers, including social class (Kraus et al., 2017). Given that social class is relatively concealable, *perceptions* of one’s partner’s social class background may play a substantive role in whether an interaction is experienced as cross-class or

⁶ In the larger survey, participants responded to additional measures including impressions of partner and emotions. Following our preregistration, we limited our analyses to the following measures: threat, demographics, and participants’ perceptions regarding their partners’ parents’ educational attainment.

same-class, irrespective of accuracy. Indeed, research demonstrates that undergraduates' perceptions that their interactions are cross-class (vs. same-class) can impact their sense of belonging (Carey et al., 2022).

In our preregistration, we stated that our measure of partner's social class background would be based on the partner's reported parental educational attainment and that our alternate measure would be based on the participant's perception of the educational attainment of the partner's parents. We made the decision to use participant's perception of the educational attainment of their partner's parents post hoc because it most closely mirrored our manipulation of partner social class background in Studies 1-3 (i.e., we manipulated participants' perceptions of their partner's background not the confederate's actual social class background). We did not find a significant interaction using the partner's reported parental educational attainment as the measure of social class background in the analyses. See Supplemental Materials for analyses.

Threat. We used an abbreviated version of the measure from Studies 2 and 3 to examine threat retrospectively after participants interacted with their partner. Participants completed 6 items: 3 demand appraisal items, $\alpha = .897$, $M = 2.47$, $SD = 1.40$, and 3 resource appraisal items, $\alpha = .856$, $M = 5.69$, $SD = 1.11$. We again created a threat ratio by dividing demand appraisals by resource appraisals, $M = 0.51$, $SD = 0.60$.

Results

Analysis Plan

We conducted a 2 (participant social class background: working-class vs. middle/upper-class) \times 2 (partner's social class background (perceived): working-class vs. middle/upper-class) ANCOVA controlling for gender, race, and age. Although the intraclass correlation (ICC; a measure of how dependent observations within a group are) is $\rho < 0.10$, indicating low

dependence of observations within dyads (Danyluck & Page-Gould, 2018), we also conducted a 2-level mixed-effects linear regression analysis in which participants were nested within dyads. The results are similar across both types of analyses. Therefore, we report results from the ANCOVA, which is consistent with analyses in our earlier studies. See Table 6 for statistical results, means, and standard deviations.

Table 6*Univariate Analysis of Covariances Results for Threat (Study 4)*

	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	95% CI
<i>Covariate</i>					
Gender		1.90	.169	.005	-0.04, 0.20
Race		1.38	.241	.004	-0.06, 0.24
Year in School		1.61	.205	.004	-0.01, 0.00
<i>Main and Interactive Effect</i>					
Partner's Social Class Background		3.40	.066	.009	-0.20, 0.34
Participant Social Class Background		0.42	.518	.001	0.05, 0.53
Partner × Participant Social Class Background	1, 380	7.04	.008	.018	-0.81, -0.12
<i>Raw Means and Standard Deviations</i>					
		<i>N; M (SD)</i>		<i>N; M (SD)</i>	
		WK Partner		MD Partner	
Participants from MD Backgrounds		36; 0.84 (1.17)		257; 0.45 (0.36)	
Participants from WK Backgrounds		70; 0.54 (0.82)		24; 0.59 (0.51)	

Note. MD = middle/upper-class, WK = working-class.

Threat

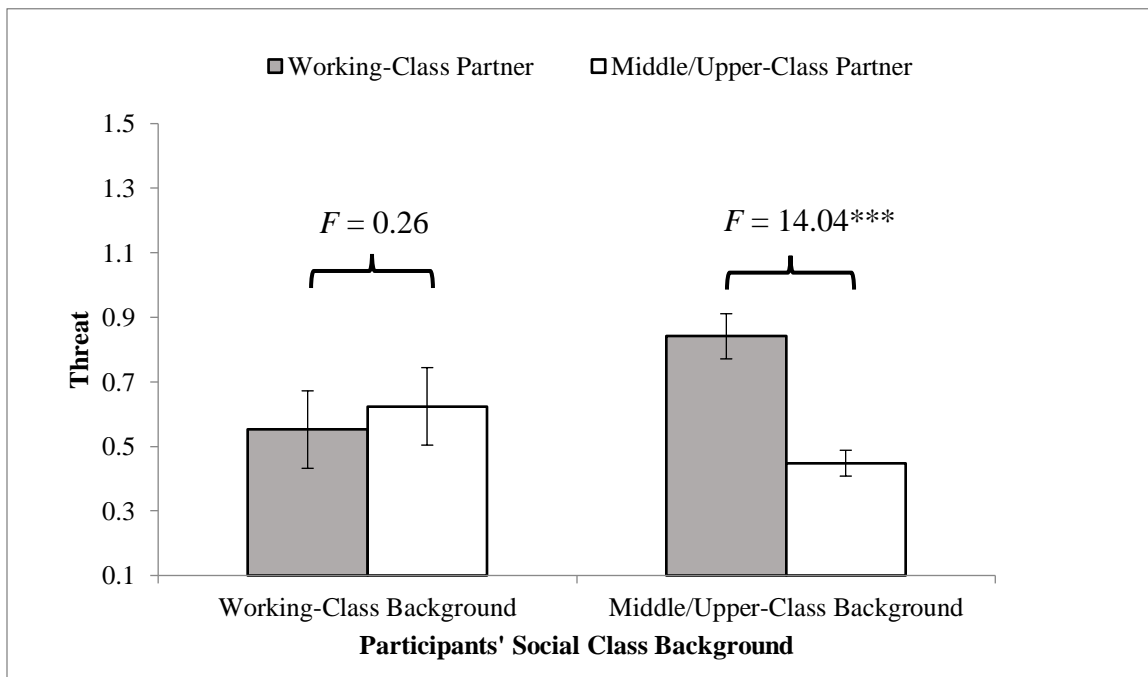
Neither the main effect of partner's social class background nor of participants' social class background was significant. The interaction was significant (see Figure 3). Participants from middle/upper-class backgrounds reported greater threat in interactions with a working-class partner than a middle/upper-class partner (H1), $F(380) = 14.04$, 95% CI [-0.60, -0.19], $\eta_p^2 =$

.036, $p < .001$. In contrast, participants from working-class backgrounds reported similar levels of threat in interactions with a middle/upper-class or working-class partner (H2), $F(380) = 0.26$, 95% CI [-0.20, 0.35], $\eta_p^2 = .001$, $p = .610$.

When participants had a working-class partner, participants from middle/upper-class backgrounds reported greater threat than participants from working-class backgrounds (H1b), $F(380) = 5.72$, 95% CI [0.05, 0.53], $\eta_p^2 = .015$, $p = .017$. When participants had a middle/upper-class partner, participants from middle/upper-class and working-class backgrounds reported similar levels of threat, $F(380) = 1.91$, 95% CI [-0.43, 0.07], $\eta_p^2 = .005$, $p = .168$.

Figure 3

Condition by Participant's Social Class Background on Threat Results (Study 4)



Note. $***p < .001$

Discussion

Consistent with Studies 1 and 2, participants from middle/upper-class backgrounds experienced greater threat when engaging in an initial cross-class (vs. same-class) interaction (H1), however, participants from working-class backgrounds experienced similar threat levels in these two interactions (H2). Consistent with Studies 1-3 and our preregistered primary hypothesis, we found that in interactions with a working-class partner, participants from middle/upper-class backgrounds experienced greater threat than participants from working-class backgrounds (H1b).

These findings suggest that experiences of threat when people *anticipate* initial cross-class (vs. same-class) interactions and when they *engage* in these interactions are similar. Importantly, findings from our in-lab interaction studies extend to online interactions and are robust among undergraduate student and non-student participants. Given our use of participants' perceptions of their partner's social class background, Study 4 results also indicate that merely perceiving cross-class interactions can elicit threat for people from middle/upper-class backgrounds.

Internal Meta-Analysis

To establish the significance of our effects, we conducted a meta-analysis on our simple effect results reported in Studies 1-4 in which effect sizes were weighted by sample size (Goh et al., 2016). We converted the partial-eta squared values (i.e., our effect sizes) into Pearson's correlation which were then Fisher's z transformed for analyses. We conducted separate meta-analyses for each simple effect using the MEANES macro in SPSS (Wilson, 2001) and find support for our hypotheses. Specifically, across all studies, participants from middle/upper-class backgrounds experienced greater threat when they perceived interacting with a working-class

(vs. middle/upper-class) partner (H1), Mean $ES = .139$, 95% CI [0.06, 0.22], $SE = .04$, $z = 3.36$, $p = .001$. Participants from working-class backgrounds had similar experiences of threat across working-class and middle/upper-class partners (H2), Mean $ES = .058$, 95% CI [-0.04, 0.16], $SE = .05$, $z = 1.17$, $p = .241$. Additionally, when participants perceived interacting with a working-class partner, those from middle/upper-class backgrounds experienced greater threat than those from working-class backgrounds (H1b), Mean $ES = .142$, 95% CI [0.05, 0.23], $SE = .05$, $z = 3.02$, $p = .003$. We also found that when participants perceived interacting with a middle/upper-class partner, those from middle/upper-class and working-class backgrounds had similar experiences of threat, Mean $ES = .046$, 95% CI [-0.03, 0.12], $SE = .04$, $z = 1.15$, $p = .252$.

General Discussion

In four time-intensive and high-impact studies, using cardiovascular and self-report responses, we find evidence that people's social class backgrounds matter for experiences of threat when anticipating or engaging in initial cross-class versus same-class interactions with strangers. In Studies 1, 2, and 4, we find that people from middle/upper-class backgrounds experience greater threat when they have a cross-class versus same-class partner (H1). In contrast, people from working-class backgrounds experience similar threat when they have a cross-class or same-class partner (H2). Although Study 3 does not support H1 or H2, the internal meta-analysis across all studies reveals overall support for these hypotheses. Across all studies and the meta-analysis, we also find that when people have a working-class partner, those from middle/upper-class backgrounds experience greater threat than those from working-class backgrounds (H1b).

In the present research, we are the first to directly examine experiences of threat when anticipating or engaging in initial cross-class interactions with strangers and make several

contributions. First, our findings suggest that initial cross-class interactions with strangers are uniquely threatening for people from middle/upper-class backgrounds. This experience of threat indicates one reason people from middle/upper-class backgrounds may avoid cross-class interactions. In turn, this avoidance may limit the frequency of these interactions and the important benefits they can produce (Carey et al., 2022). Strategies to reduce threat during the anticipation period could help to increase people's willingness to interact across class lines (e.g., Jamieson et al., 2012).

Second, we contribute to intergroup relations research by demonstrating that findings from one type of cross-group interaction may not generalize to another type (Apfelbaum et al., 2016). We find that not everyone is threatened by cross-group interactions and that people from different social class backgrounds have divergent experiences. Finally, we contribute to the literature on the psychology of social class and reveal that being from working-class backgrounds may buffer people from threat when crossing the class divide. That is, these findings suggest that individuals from working-class backgrounds may be relatively comfortable connecting or working with people from a variety of social class backgrounds.

Limitations and Future Directions

This work also leaves important questions for future research. Although we theorize that people's own social class backgrounds moderate experiences of threat in cross-class (vs. same-class) interactions, we rely on previous work showing social class differences in perceived fluidity and importance of social class identity. Future research should examine how these, and additional social class differences may contribute to experiences of cross-class interactions. For example, people from working-class backgrounds tend to cope more adaptively in uncertain situations than people from middle/upper-class backgrounds (e.g., Townsend, et al., 2014;

Young, et al., 2018). Such differences in coping may help explain why people from middle/upper-class backgrounds, but not people from working-class backgrounds, experience greater threat in cross-class interactions.

Additionally, our participants anticipated or engaged in an interaction with their partner while working on a collaborative task (i.e., a task that requires working with others towards a shared goal). Collaborative and competitive tasks require different behaviors and are experienced differently (Dittmann et al., 2020). Importantly, these tasks are not class-neutral. For instance, compared to people from middle/upper-class backgrounds, people from working-class backgrounds may feel more comfortable when working on collaborative tasks (Dittmann et al., 2020). Future research should examine how the level of collaboration versus competition required by the interaction might affect threat.

Finally, our participants were on equal footing with their interaction partner; they were “partners” working on a collaborative task. We did not manipulate relative power because we were interested in threat anticipating or engaging in cross-class compared to same-class interactions with potential peers. However, power differences may be part of many cross-class interactions (e.g., supervisor-employee interactions) and may affect threat. Future research should investigate how having or lacking power impacts threat in cross-class interactions.

Conclusion

Social class shapes much of social life, however, scholars have yet to thoroughly understand how cross-class interactions are experienced. Our work suggests that people from middle/upper-class backgrounds are uniquely threatened when anticipating or engaging in initial cross-class versus same-class interactions with strangers. Critically, this threat may deter them from initiating interactions across social class lines. Given that people from middle/upper-class

backgrounds are often gatekeepers in sites of upward mobility, their avoidance of cross-class interactions may represent an obstacle to creating equality in gateway institutions.

Context of the Research

This work was motivated by the burgeoning body of research examining the unique psychology of social class and the important role social class plays in people's daily lives. Despite increased social class diversity in gateway institutions (e.g., colleges and professional workplaces), people from working-class backgrounds still face unique psychological obstacles in these settings (Stephens et al., 2012; Townsend & Truong, 2017). Recent work has shown that cross-class interactions may mitigate such obstacles but are relatively uncommon (Carey et al., 2022). We extend on this work and suggest one reason why there lacks cross-class interactions: people expect them to be, or experience them as, threatening. By illuminating who is threatened, we aim to inform effective interventions aimed at promoting positive cross-class interactions. We hope to build on our findings in future work and explore effective strategies for reducing people's threat when they encounter people from different social class backgrounds.

References

- Apfelbaum, E. P., Stephens, N. M., & Reagans, R. E. (2016). Beyond one-size-fits-all: Tailoring diversity approaches to the representation of social groups. *Journal of Personality and Social Psychology, 111*, 547. <https://doi.org/10.1037/pspi0000071>
- Aries, E. (2008). *Race and class matters at an elite college*. Temple University Press.
- Bergsieker, H. B., Shelton, J. N., & Richeson, J. A. (2010). To be liked versus respected: Divergent goals in interracial interactions. *Journal of Personality and Social Psychology, 99*(2), 248–264. <https://doi.org/10.1037/a0018474>
- Bettencourt, B. A., Dill, K. E., Greathouse, S. A., Charlton, K., & Mulholland, A. (1997). Evaluations of ingroup and outgroup members: The role of category-based expectancy violation. *Journal of Experimental Social Psychology, 33*(3), 244-275. <https://doi.org/10.1006/jesp.1996.1323>
- Blascovich, J., & Mendes, W. B. (2000). Challenge and threat appraisals: The role of affective cues. In J. P. Forgas (Eds.), *Feeling and thinking: The role of affect in social cognition* (pp. 59-82). Cambridge University Press.
- Blascovich, J., Mendes, W. B., Hunter, S. B., Lickel, B., & Kowai-Bell, N. (2001). Perceiver threat in social interactions with stigmatized others. *Journal of Personality and Social Psychology, 80*, 253. <https://psycnet.apa.org/doi/10.1037/0022-3514.80.2.253>
- Brooks, A. W., & Schweitzer, M. E. (2011). Can nervous Nelly negotiate? How anxiety causes negotiators to make low first offers, exit early, and earn less profit. *Organizational Behavior and Human Decision Processes, 115*(1), 43-54.

- Bureau of Labor Statistics (2021, September 9). *Unemployment rate drops to 5.2 percent in August 2021*. <https://www.bls.gov/opub/ted/2021/unemployment-rate-drops-to-5-2-percent-in-august-2021.htm>
- Carey, R. M., Stephens, N. M., Townsend, S. S., & Hamedani, M. G. (2022). Is diversity enough? Cross-race and cross-class interactions in college occur less often than expected, but benefit members of lower status groups when they occur. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/pspa0000302>
- Carli, L. L. (1989). Gender differences in interaction style and influence. *Journal of Personality and Social Psychology*, 56(4), 565. <https://psycnet.apa.org/doi/10.1037/0022-3514.56.4.565>
- Centers for Disease Control and Prevention. (2021, September 1). Title U.S. State and Territorial Stay-At-Home Orders: March 15, 2020 – August 15, 2021 by County by Day. <https://data.cdc.gov/Policy-Surveillance/U-S-State-and-Territorial-Stay-At-Home-Orders-Marc/y2iy-8irm>
- Chakraborty, A. (2002). Issues in social indicators, composite indices and inequality. *Economic and Political Weekly*, 37(13), 1199-1202. <http://www.jstor.org/stable/4411922>
- Chetty, R., Jackson, M. O., Kuchler, T., Stroebel, J., Hendren, N., Fluegge, R. B., ... & Wernerfelt, N. (2022). Social capital I: measurement and associations with economic mobility. *Nature*, 1-14. <https://doi.org/10.1038/s41586-022-04996-4>
- Concordance. (2018, July 10). <https://collegereadiness.collegeboard.org/educators/highered/scoring/concordance>

- Côté, S., Kraus, M. W., Carpenter, N. C., Piff, P. K., Beermann, U., & Keltner, D. (2017). Social affiliation in same-class and cross-class interactions. *Journal of Experimental Psychology: General*, *146*(2), 269-285. <https://doi.org/10.1037/xge0000258>
- Croizet, J. C., & Claire, T. (1998). Extending the concept of stereotype threat to social class: The intellectual underperformance of students from low socioeconomic backgrounds. *Personality and Social Psychology Bulletin*, *24*(6), 588-594. <https://doi.org/10.1177/0146167298246003>
- Danyluck, C., & Page-Gould, E. (2018). Intergroup dissimilarity predicts physiological synchrony and affiliation in intergroup interaction. *Journal of Experimental Social Psychology*, *74*, 111-120. <https://doi.org/10.1016/j.jesp.2017.08.001>
- Davies, K., Tropp, L. R., Aron, A., Pettigrew, T. F., & Wright, S. C. (2011). Cross-group friendships and intergroup attitudes: A meta-analytic review. *Personality and Social Psychology Review*, *15*(4), 332-351. <https://doi.org/10.1177/1088868311411103>
- Dickinson, E. R., & Adelson, J. L. (2014). Exploring the limitations of measures of students' socioeconomic status (SES). *Practical Assessment, Research, and Evaluation*, *19*(1), 1. <https://doi.org/10.7275/mkna-d373>
- Dimaggio, P. (2012). Sociological perspectives on face-to-face enactment of class distinctions. In S. T. Fiske & H. R. Markus (Eds.), *Facing Social Class: Social Psychology of Social Class* (pp. 15–38). Russell Sage Foundation.
- Dittmann, A. G., Stephens, N. M., & Townsend, S. S. M. (2020). When people from working-class contexts outperform people from middle-class contexts. *Journal of Personality and Social Psychology*. <https://psycnet.apa.org/doi/10.1037/pspa0000194>

- Duncan, O. D., Featherman, D. L., & Duncan, B. (1972). *Socio-economic background and achievement*. Seminar Press.
- Durante, F., & Fiske, S. T. (2017). How social-class stereotypes maintain inequality. *Current Opinion in Psychology*, 18, 43-48. <https://doi.org/10.1016/j.copsyc.2017.07.033>
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191. <http://dx.doi.org/10.3758/BF03193146>
- Graetz, B. (1995). Socioeconomic status in education research and policy. In J. Ainley, B. Graetz, M. Long, & M. Batten (Eds.), *Socioeconomic status and school education* (pp. 23–51). Government Publishing Service.
- Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social and Personality Psychology Compass*, 10(10), 535-549. <https://doi.org/10.1111/spc3.12267>
- Gray, B., & Kish-Gephart, J. J. (2013). Encountering social class differences at work: How “class work” perpetuates inequality. *Academy of Management Review*, 38(4), 670-699. <https://doi.org/10.5465/amr.2012.0143>
- Gupta, S., Cantor, J., Simon, K. I., Bento, A. I., Wing, C., & Whaley, C. M. (2021). Vaccinations against COVID-19 may have averted up to 140,000 deaths in the United States. *Health Affairs*, 40(9), 1465-1472.
- Jamieson, J. P., Nock, M.K., & Mendes, W.B. (2012). Mind over matter: reappraising arousal improves cardiovascular and cognitive responses to stress. *Journal of Experimental Psychology: General*, 141(3), 417-22. <https://doi.org/10.1037/a0025719>

- Kraus, M. W., & Keltner, D. (2013). Social class rank, essentialism, and punitive judgment. *Journal of Personality and Social Psychology, 105*(2), 247-261.
<https://doi.org/10.1037/a0032895>
- Kraus, M. W., Park, J. W., & Tan, J. J. (2017). Signs of social class: The experience of economic inequality in everyday life. *Perspectives on Psychological Science, 12*(3), 422-435.
<https://doi.org/10.1177/1745691616673192>
- Krieger, N., Okamoto, A., & Selby, J. V. (1998). Adult female twins' recall of childhood social class and father's education: a validation study for public health research. *American Journal of Epidemiology, 147*(7), 704-708.
<https://doi.org/10.1093/oxfordjournals.aje.a009512>
- Lemyre, L., & Smith, P. M. (1985). Intergroup discrimination and self-esteem in the minimal group paradigm. *Journal of Personality and Social Psychology, 49*(3), 660–670. <https://doi.org/10.1037/0022-3514.49.3.660>
- Lessard, L. M., & Juvonen, J. (2019). Cross-class friendship and academic achievement in middle school. *Developmental Psychology*. <https://doi.org/10.1037/dev0000755>
- Mendes, W. B., Blascovich, J., Lickel, B., & Hunter, S. (2002). Challenge and threat during social interactions with white and black men. *Personality and Social Psychology Bulletin, 26*(7), 939-952. <https://doi.org/10.1177/014616720202800707>
- Mendes, W. B., Blascovich, J., Major, B., & Seery, M. (2001). Challenge and threat responses during downward and upward social comparisons. *European Journal of Social Psychology, 31*(5), 477-497. <https://doi.org/10.1002/ejsp.80>
- Mendes, W. B., Gray, H. M., Mendoza-Denton, R., Major, B., & Epel, E. S. (2007). Why egalitarianism might be good for your health: Physiological thriving during stressful

intergroup encounters. *Psychological Science*, 18(11), 991–998.

<https://doi.org/10.1111%2Fj.1467-9280.2007.02014.x>

Montalan, B., Lelard, T., Godefroy, O., & Mouras, H. (2012). Behavioral investigation of the influence of social categorization on empathy for pain: a minimal group paradigm study. *Frontiers in Psychology*, 3, 389. <https://doi.org/10.3389/fpsyg.2012.00389>

Newcomb, T. M. (1943). *Personality and Social Change: Attitude Formation in a Student Community*. Dryden Press.

Okeke, N. A., Howard, L. C., Kurtz-Costes, B., & Rowley, S. J. (2009). Academic race stereotypes, academic self-concept, and racial centrality in African American youth. *Journal of Black Psychology*, 35(3), 366–387.

<https://doi.org/10.1177/0095798409333615>

Ostrove, J. M., & Cole, E. R. (2003). Privileging class: Toward a critical psychology of social class in the context of education. *Journal of Social Issues*, 59(4), 677–692.

<https://psycnet.apa.org/doi/10.1046/j.0022-4537.2003.00084.x>

Page-Gould, E., Mendoza-Denton, R., & Tropp, L. R. (2008). With a little help from my cross-group friend: Reducing anxiety in intergroup contexts through cross-group friendship. *Journal of Personality and Social Psychology*, 95(5), 1080–1094.

<https://doi.org/10.1037/0022-3514.95.5.1080>

Park, J. J., & Denson, N. (2013). When race and class both matter: The relationship between socioeconomic diversity, racial diversity, and student reports of cross-class interaction. *Research in Higher Education*, 54(7), 725–745.

<https://doi.org/10.1007/s11162-013-9289-4>

Pettit, N. C., & Lount, R. B., Jr. (2010). Looking down and ramping up: The impact of status

- differences on effort in intergroup contexts. *Journal of Experimental Social Psychology*, 46, 9-20. <https://doi.org/10.1016/j.jesp.2009.08.008>
- Phillips, L. T., & Lowery, B. S. (2020). I ain't no fortunate one: On the motivated denial of class privilege. *Journal of Personality and Social Psychology*, 119(6), 1403. <https://doi.org/10.1037/pspi0000240>
- Piff, P. K., Stancato, D. M., Martinez, A. G., Kraus, M. W., & Keltner, D. (2012). Class, chaos, and the construction of community. *Journal of Personality and Social Psychology*, 103(6), 949. <https://doi.org/10.1037/a0029673>
- Plant, E. A. (2004). Responses to interracial interactions over time. *Personality and Social Psychology Bulletin*, 30(11), 1458-1471. <https://doi.org/10.1177/0146167204264244>
- Reardon, S. F., & Bischoff, K. (2011). Income inequality and income segregation. *American Journal of Sociology*, 116(4), 1092-1153. <https://doi.org/10.1086/657114>
- Sawyer, P., Major, B., Casad, B. J., Townsend, S. S. M., & Mendes, W. B. (2012). Discrimination and the stress response: Psychological and physiological consequences of anticipating prejudice in interracial interaction. *American Journal of Public Health*, 102, 1020-1026. <https://doi.org/10.1016/j.socscimed.2016.10.007>
- Schug, M. G., Shusterman, A., Barth, H., & Patalano, A. L. (2013). Minimal-group membership influences children's responses to novel experience with group members. *Developmental Science*, 16(1), 47-55. <https://doi.org/10.1111/j.1467-7687.2012.01193.x>
- Seery, M. D., Weisbuch, M., Hetenyi, M. A., & Blascovich, J. (2010). Cardiovascular measures independently predict performance in a university course. *Psychophysiology*, 47(3), 535-539. <https://doi.org/10.1111/j.1469-8986.2009.00945.x>

- Sherwood, A., Allen, M.T., Fahrenberg, J., Kelsey, R.M., Lovallo, W.R., & Doornen, L.J.P. (1990). Methodological Guidelines for Impedance Cardiography. *Psychophysiology*, 27, 1-23. <https://doi.org/10.1111/j.1469-8986.1990.tb02171.x>
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453. <https://doi.org/10.3102/00346543075003417>
- Snibbe, A. C., & Markus, H. R. (2005). You can't always get what you want: Educational attainment, agency, and choice. *Journal of Personality and Social Psychology*, 88(4), 703–720. <https://doi.org/10.1037/0022-3514.88.4.703>
- Stephan, W. G., & Stephan, C. W. (1985). Intergroup anxiety. *Journal of Social Issues*, 41, 157–175. <https://doi.org/10.1111/j.1540-4560.1985.tb01134.x>
- Stephan, W. G. (2014). Intergroup anxiety: Theory, research, and practice. *Personality and Social Psychology Review*, 18(3), 239-255. <https://doi.org/10.1177/1088868314530518>
- Stephens, N. M., Fryberg, S. A., Markus, H. R., Johnson, C. S., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology*, 102(6), 1178. <https://doi.org/10.1037/a0027143>
- Stephens, N. M., Markus, H. R., & Townsend, S. S. M. (2007). Choice as an act of meaning: The case of social class. *Journal of Personality and Social Psychology*, 93(5), 814. <https://doi.org/10.1037/0022-3514.93.5.814>
- Stephoe, A., & Wardle, J. (2005). Positive affect and biological function in everyday life. *Neurobiology of Aging*, 26(1), 108-112. <https://doi.org/10.1111/j.1467-6494.2009.00599.x>

- Thomas, V., & Azmitia, M. (2014). Does class matter? The centrality and meaning of social class identity in emerging adulthood. *Identity: An International Journal of Theory and Research*, 14(3), 195-213. <http://dx.doi.org/10.1080/15283488.2014.921171>
- Townsend, S. S. M., Eliezer, D., Major, B., & Mendes, W. B. (2014). Influencing the world versus adjusting to constraints: Social class moderates responses to discrimination. *Social Psychological and Personality Science*, 5(2), 226–234. <https://doi.org/10.1177/1948550613490968>
- Townsend, S. S. M., Major, B., Sawyer, P. J., & Mendes, W. B. (2010). Can the absence of prejudice be more threatening than its presence? It depends on one's worldview. *Journal of Personality and Social Psychology*, 99, 933-947. <https://doi.org/10.1037/a0020434>
- Townsend, S. S. M., & Truong, M. (2017). Cultural models of self and social class disparities at organizational gateways and pathways. *Current Opinion in Psychology*, 18, 93-98. <https://doi.org/10.1016/j.copsyc.2017.05.005>
- Trawalter, S., & Brown-Iannuzzi, J.L. (2014). Leadership in a diverse world: Stress and coping in response to interracial contact. *Virginia Policy Review*.
- Vorauer, J. D. (2006). An information search model of evaluative concerns in intergroup interaction. *Psychological Review*, 113(4), 862. <https://doi.org/10.1037/0033-295X.113.4.862>
- Vorauer, J. D., Hunter, A. J., Main, K. J., & Roy, S. A. (2000). Meta-stereotype activation: evidence from indirect measures for specific evaluative concerns experienced by members of dominant groups in intergroup interaction. *Journal of personality and social psychology*, 78(4), 690. <https://doi.org/10.1037/0022-3514.78.4.690>

- Wilson, D. B. (2001). Meta-analytic methods for criminology. *The Annals of the American Academy of Political and Social Science*, 578(1), 71-89.
<http://dx.doi.org/10.1177/0002716201578001005>
- Winkleby, M. A., Jatulis, D. E., Frank, E., & Fortmann, S. P. (1992). Socioeconomic status and health: How education, income, and occupation contribute to risk factors for cardiovascular disease. *American Journal of Public Health*, 82, 816–820.
<https://doi.org/10.2105/ajph.82.6.816>
- Wout, D., Danso, H., Jackson, J., & Spencer, S. (2008). The many faces of stereotype threat: Group- and self-threat. *Journal of Experimental Social Psychology*, 44(3), 792-799.
<http://dx.doi.org/10.1016/j.jesp.2007.07.005>
- Young, E. S., Griskevicius, V., Simpson, J. A., Waters, T. E., & Mittal, C. (2018). Can an unpredictable childhood environment enhance working memory? Testing the sensitized-specialization hypothesis. *Journal of Personality and Social Psychology*, 114(6), 891.
<https://doi.org/10.1037/pspi0000124>