Article

In time, we will simply disappear: Racial demographic shift undermines privileged group members' support for marginalized social groups via collective angst

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Abstract
The racial demographic shift occurring in many Western countries provides a unique context to study the reactions of a high-power group (White people) to the potential loss of their privileged position in society. Three experiments ($N = 77$, $N = 302$, $N = 555$) conducted in Canada, the US, and the UK showed that White people who are reminded about the ongoing demographic changes and who see race relations as a zero-sum game whereby any gains by minorities must come at the expense of the majority, experience stronger collective angst and, to a lesser extent, fear (but not anger). In turn, collective angst, but not the other negative group-based emotions, fuels their motivation to protect the existing intergroup hierarchy by withdrawing support for progressive social movements and increases anti-immigration sentiments. Downregulating the existential threat experienced by White majorities in the face of a racial demographic shift may be one way to reduce acrimonious behavioral intentions aimed at preserving their place in the social hierarchy.

Keywords
Black Lives Matter, collective angst, existential threat, racial demographic shift, zero-sum beliefs

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On August 3, 2019, a White gunman shot and killed 23 people and injured 23 others in El Paso, Texas. In the attacker's alleged manifesto, he cited protecting White people (the current dominant social group in most Western countries) from "the great replacement" (i.e., the belief that the White race is being replaced by people of color) as his primary motivation (Eligon, 2019; Wood, 2019). Putting a dark line under the attacker's troubling sentiment,

Eddie S. Glaude Jr., an African American studies professor at Princeton University, forcibly argued that,

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[S]ocial scientists were already writing that what was driving the Tea Party were anxieties about demographic shifts—that the country was changing, they were seeing these racially ambiguous babies on Cheerios commercials. That the country wasn't quite feeling like a white nation anymore. (Scott, 2019)

In doing so, he pointed to a powerful social force that may be guiding some White people's attitudes and behavior—a perceived threat stemming from changes in the racial make-up of the country. In point of fact, there is a growing body of research that suggests changes in the racial make-up of countries in which White people are currently the privileged majority are threatening those people (Craig & Richeson, 2014a, 2014b), which results in negative emotions, as well as attitudes and behaviors aimed to maintain the existing social hierarchy (e.g., prejudice toward disadvantaged groups; Abascal, 2015; Bai & Federico, 2020; Craig & Richeson, 2014a, 2017; Outten et al., 2018).

In the current research, we tested the assumption that those who believe that any gains by one social group must come at the expense of others (i.e., those who espouse zero-sum beliefs) will perceive a racial demographic shift to be more threatening than those who do not harbor such beliefs. Consequently, we expected that those high in zero-sum beliefs will react to information about the racial demographic shift occurring in their country with more negative group-based emotions than those low in zero-sum beliefs. In the extreme, the "great replacement" (i.e., a belief that non-White people will displace White people[1]) stems from a perceived existential threat (Alba, 2020; Bromley, 2018, 2019) and thus should elicit collective angst (i.e., a group-based emotion that reflects concern for the ingroup's future vitality; Wohl et al., 2010). Similarly, we hypothesized that collective angst should be experienced when a racial demographic shift is perceived in existential terms. Herein, we tested the idea that this would be the case among those who hold zero-sum beliefs about intergroup relations (i.e., gains by the outgroup necessarily result in ingroup loss).

Importantly, collective angst is functional in that it motivates action tendencies aimed at protecting the ingroup's future vitality (for a review, see Wohl et al., 2012). In this light, we also assessed downstream consequences of this group-based emotion. Specifically, we posited that White people who espouse zero-sum beliefs and are exposed to information about the racial demographic shift occurring in their country should respond defensively by experiencing collective angst (as well as anger and fear), which should then manifest in their lack of support for progressive social movements (e.g., Black Lives Matter [BLM]) and in anti-immigration sentiments. We assessed the utility of this mediated moderation model in three Western societies: Canada, the United States (US), and the United Kingdom (UK).

How Racial Demographic Shift Affects White People

Due to higher birth rates in minority and immigrant groups (compared to White people) as well as increased immigration from non-White countries (Kaufmann, 2018), many Western countries are projected to become majority-minority societies in the near future (Giannakouris, 2010; Kaufmann, 2018; U.S. Census Bureau, 2012). The growing diversity influences attitudes and behavior of the currently dominant social groups—groups that are facing the prospect of becoming numeric minorities and thus potentially losing some of their long-standing privileges. When the racial demographic shift in the US is made salient to White Americans (the currently dominant social group), there is a significant increase in their support for conservative policies such as increased funding for the Department of Defense (Craig & Richeson, 2014b, 2017). Among other negative effects, racial demographic shift salience triggers stronger explicit and implicit antiminority prejudice (Craig & Richeson, 2014a), social distance towards minorities (Bai & Federico, 2020), discrimination towards racial outgroups (Abascal, 2015), and an expectation among White people that they will become targets of discrimination in the future (Craig & Richeson, 2017).

These negative responses have been explained as a result of White people framing the racial demographic shift as a threat to the privileged position they currently occupy. Craig and Richeson (2014a, 2014b), for example, reported that being informed about the changes in the racial make-up of their country made White Americans experience a status threat, and Outten et al. (2012) showed that White Canadians experienced generalized threat as a response to the racial demographic shift. Bai and Federico (2020, Study 2) showed that some White Americans believed the racial demographic shift (framed as a decrease in the global White population) posed an existential threat—a sentiment akin to the "great replacement" concern expressed by the White gunman in El Paso, Texas we noted earlier.

Zero-Sum Beliefs Turn the Racial Demographic Shift Into an Existential Threat

There is abundunt evidence for the negative effects of the racial demographic shift on White people's emotions, attitudes, and policy preferences (see Craig & Richeson, 2014a, 2014b, 2017). However, limited research attention has been directed toward the boundary conditions of these effects (for exceptions, see Major et al., 2018; Perkins et al., 2022). We contend that zero-sum beliefs are critical for understanding when White people will respond defensively to information that their country is experiencing a racial demographic shift. Zero-sum beliefs, examined as metaphors capturing folk economic beliefs by Perkins et al. (2022), can be defined more broadly as pertaining to people's convictions about the nature of contingency between elements of a system (Binmore, 2007; Colman, 1995; Esses et al., 1998, 2001). This system can be understood as the economy (Perkins et al., 2022), the society (Esses et al., 2001), or simply relations between people in general (Różycka-Tran et al., 2015). Regardless of the scale, endorsing a zero-sum outlook entails seeing relations between elements (or, to use a game theory terminology, players) of the system as inherently antagonistic: A gain by one person or group must necessarily come at the expense of another (Binmore, 2007; Różycka-Tran et al., 2015; Stefaniak et al., 2020). In the context of intergroup relations, zero-sum beliefs contribute to the persistence of intractable intergroup conflict (Bar-Tal & Halperin, 2011; Maoz & McCauley, 2005), and predict anti-immigrant attitudes (Esses et al., 2001) as well as high-power social groups' unwillingness to engage in activities that promote greater equality (Radke et al., 2018; Schmitt et al., 2007; Stefaniak et al., 2020).

In the present research, we tested the hypothesis that zero-sum beliefs moderate racial demographic shift effects among privileged (White) group members. Privileged group members who believe that any gains by one social group must come at the expense of others should be particularly sensitive to a racial demographic shift. This is because the status threat posed by the racial demographic shift likely takes on an existential flavor. Not only might the racial demographic shift reduce ingroup status, there may also be concern that it will lead to the "great replacement" (see Alba, 2020; Cosentino, 2020). That is, it may lead to concern that, in the near future, if nothing is done to stop the shift, the privileged ingroup's values, its lifestyle, and the "color" of the country will be changed forever.

Collective Angst: Why Demographic Shift Prompts Negative Responses From High-Power Groups

Although the link between racial demographic shift and a host of negative intergroup outcomes (e.g., prejudice towards minorities: Craig & Richeson, 2014a; discrimination: Abascal, 2015) is well established, a paucity of empirical research has explicitly assessed why this link exists. Yet, it is known that group-based emotions are the mechanism by which appraisals of threat influence group members' attitudes and behaviors (see Cottrell & Neuberg, 2005; E. R. Smith, 1993, 1999). According to intergroup emotions theory (E. R. Smith, 1993, 1999), events (real or imagined) that are appraised as consequential for the

ingroup will elicit group-based emotions. Moreover, group-based emotions mediate the relation between group-relevant appraisals and the resulting behavioral intentions to respond; emotions and intentions are not merely independent paths that stem from appraisals.

The significance of emotions (as mediator) lies in the fact that every group-based emotion produces a specific behavioral intention (Mackie et al., 2000). Put differently, behavior is not simply a response to a cognitive appraisal of an event, behavior is the product of emotions that are elicited from the appraisal process. For instance, a plethora of empirical work has shown that appraising one's group to be under existential threat induces collective angst—a group-based emotion that reflects concern for the ingroup's future vitality (for reviews, see Dupuis et al., 2015; Wohl et al., 2012; see also Tabri et al., 2018).

Because collective angst is a future-oriented emotion (i.e., it is a response to the prospect of threat-related outcomes), most theorists (e.g., Barlow, 1991) distinguish it from fear, which is characterized by an immediate surge in arousal and activation of the fight-or-flight response. Providing empirical support for this supposition at the group level, Wohl et al. (2010) showed that whilst an existential group-based threat (e.g., that the ingroup may, one day, disappear) elicits collective angst, it fails to elicit collective fear (or anger). Importantly, the goal of collective angst is to motivate action deemed capable of protecting the group against the perceived existential threat (Wohl et al., 2012). For instance, collective angst heightens support for policies that are believed to solidify the ingroup's future vitality (e.g., Quebecois' support for an eventual Quebec's sovereignty from Canada; Wohl et al., 2011)—a behavioral intention that is not produced by fear (or anger; Wohl et al., 2010).

In the current research, we tested the idea that the prospect of White people losing their status as the numeric majority is seen by many Whites in existential terms (for a similar argument, see Bai & Federico, 2020). However, unlike previous research, we put forth the yet untested hypothesis that appraisal of the shift as an existential threat

will depend on the extent to which people see intergroup relations as a zero-sum game. Members of the currently dominant social group who are reminded about the ongoing demographic changes in their country, and who believe that gains by minorities must come at the expense of their own group should be most likely to experience collective angst. Thus, we hypothesized that the prospect of White people losing their numeric majority status will elicit collective angst among people who identify as White and espouse zero-sum beliefs. In turn, the collective angst induced by the racial demographic shift should motivate attempts to preserve the existing intergroup hierarchy as a way to remedy (i.e., protect against) the existential threat.

We also hypothesized that collective angst should better capture the negative emotional reactions of currently dominant social groups than emotions previously explored in the racial demographic shift literature (i.e., anger and fear). Previous research has shown that racial demographic shift increases White people's anger and fear (Outten et al., 2012, 2018; Stefaniak et al., 2020). These two emotions are seen as particularly likely when members of a social group appraise outgroups as obstructing valuable resources (anger) or endangering the well-being of the ingroup (fear; Cottrell & Neuberg, 2005; Outten et al., 2012; H. J. Smith et al., 2008). However, whilst fear and anger are attuned to immediate, clear, and present dangers (Barlow, 1988, 1991; Rank, 1914/2017; Sartre, 1956), collective angst is attuned to prospective existential threats, dangers, or other possible negative events that can undermine the ingroup's future vitality—such as the possibility of a racial demographic shift. In the present research, we predicted that, among Whites, collective angst would mediate the relation between racial demographic shift salience (i.e., an existential threat) and intentions to protect the ingroup by securing the existing intergroup hierarchy, above and beyond the previously tested emotions of anger and fear. Understanding whether a particular group-based emotion uniquely mediates the relation between racial demographic shift and intergroup attitudes is not

merely a methodological (and statistical) sleight of hand. If the ultimate goal is to decrease groups' negative responses to racial demographic shifts, understanding the specific group-based emotion elicited can be used to target its associated behavioral tendency via emotion downregulation procedures (see Goldenberg et al., 2016; Halperin et al., 2013).

That zero-sum beliefs may heighten collective angst among those who are exposed to information about a racial demographic shift makes theoretical and intuitive sense. According to the social identity approach to intergroup relations (Tajfel et al., 1971; Tajfel & Turner, 1986), group members are motivated to maximize differences (e.g., profit, status) between the ingroup and outgroups, even in the absence of intergroup conflict. In essence, group members' social identity becomes activated in defense against changes that are perceived to be creating material (i.e., economic and political) or symbolic (i.e., modern ideals displacing traditional values) imbalance or loss (see Ashmore et al., 2001). High-status group members who hold zero-sum beliefs should be especially sensitive to the relative demographic gains by outgroups because they imply possible power and status loss. A racial demographic shift is not, in and of itself, threatening. It is only among group members who believe that gains by outgroups mean losses for the ingroup that racial demographic shift takes on an existential flavor. This idea is in line with theory and research (see Ashmore et al., 2001; Bai & Federico, 2020; Breakwell, 1986) suggesting that various forms of social change involving demographic, organizational, ideological, and environmental shifts that alter the social environment are taken by some as striking at the heart of the ingroup. In the extreme, as evidenced by the White gunman in El Paso or the Charlottesville mob chanting "Jews will not replace us" (Rosenberg, 2017), a racial demographic shift implies that "they" are replacing "us." In other words, when racial demographic shift is mixed with zero-sum beliefs, an existential threat cocktail is the likely product—one that elicits collective angst.

Overview

In three experiments conducted among White majority members in three different national contexts, we tested the idea that a racial demographic shift produces stronger collective angst (as well as anger and fear) among those who believe that intergroup relations constitute a zero-sum game, and that these negative emotions, in turn, translate to intentions to preserve the current intergroup hierarchy (operationalized as lack of support for progressive social movements and as anti-immigration sentiments). We chose support for BLM because it was the most prominent social movement at the time of this research in the US as well as in Canada (https://www.blacklivesmatter.ca/origins) and the UK (https://ukblm.org/). In fact, in recent years, BLM has organized large protests in both Canada and the UK as a result of police mistreatment of and brutality towards Black people in their community as well as the mistreatment and brutality witnessed in the US (e.g., CBC News, 2020; Pidd, 2016).

All three experiments were preregistered, and all materials and data (including items and scales collected, but not analyzed herein) are publicly available via the Open Science Framework (Experiment 1: https://osf.io/594gd; Experiments 2 and 3: https://osf.io/26mdn).

Sample size for Experiment 1 was determined as a function of the available pool of student participants. We recruited them from a sample of 582 students who, when filling out a screening questionnaire at the beginning of the semester, displayed a minimal level of zero-sum beliefs (i.e., mean answer > 1).[2] Based on previous studies using the same student pool, we expected a response rate of 40%; therefore, we preregistered the sample size to 250. Sample sizes for Experiments 2 and 3 were determined by Monte Carlo simulations (Schoemann et al., n.d.). We used a previously conducted study with a similar design (Stefaniak et al., 2020) as well as coefficients reported by Bai and Federico (2020) as input. The two sources of the potential effect sizes gave divergent estimates (the former, at least $N = 500$; the latter, $N = 63$, to achieve .80 power

with α = .05). Taking into account budget constraints and the hypothesized mediated moderation effects, we decided to preregister sample sizes of 350 in Experiment 2, and 600 in Experiment 3.

Experiment 1

Experiment 1[3] was conducted using a sample of Canadian students for four reasons. First, Canada is the most diverse Western country (Morin, 2013). Second, demographic estimates place it as one of the first countries in which visible minorities will become a majority (Morency et al., 2017; Todd, 2017). Third, unlike many other Western countries, Canada has not been swiped by right-wing populism, and it has retained its proimmigration policies (Kaufmann, 2018). Fourth, it explicitly endorses a policy of multiculturalism that celebrates differences rather than promoting assimilation (Brosseau & Dewing, 2009). Thus, Canada provides a conservative setting to test whether making the racial demographic shift salient among White Canadians yields similar effects to those observed in previous research with White US Americans (e.g., Craig & Richeson, 2014b).

Participants

According to our preregistration, we intended to recruit 250 Canadian university students who identify as White. Possibly due to the COVID-19 pandemic and all coursework being moved online, the recruitment process was very slow (as compared to previous studies using the same recruitment method), and despite numerous reminders, only 118 students accessed the online study through the university's SONA student recruitment portal. Moreover, four indicated that they were not yet 18 years old, 10 indicated that they were not Canadian, 18 did not identify as White. Because they did not meet the eligibility criteria, they were not allowed to access the study materials. Additionally, one person indicated that they did not consent to their data being used, while another did not answer that question in the

affirmative, thus both of their data were permanently removed from the data set. Further seven participants were excluded from analyses for failing the multiple-choice attention check (*n* = 3), the open-ended attention check (*n* = 2), or for indicating that they did not identify as Canadian and White in a quality check item placed at the end of the survey (*n* = 2). We were left with a sample of 77 individuals who ranged in age from 18 to 42 (*M* = 20.13, *SD* = 4.46). Twenty-five (31.6%) identified as male, 53 (67.1%) as female, one person identified as nonbinary (1.3%). Most of the sample (60.3%) identified as strongly or moderately liberal, 15.9% as "in between," while 23.8% as moderately or strongly conservative. Because the result was a significantly underpowered study,[4] we decided to treat it as a preliminary test of whether our racial demographic shift manipulation would produce greater collective angst (alongside fear and anger), and whether collective angst and other negative emotional reactions would be particularly pronounced among participants with relatively high levels of zero-sum beliefs. We also wanted to report the results for the sake of transparency and due to the uniqueness of the Canadian political context.

Procedure

The students filled out a measure of zero-sum beliefs during a mass testing session at the beginning of the academic year and were then invited to participate in the present study. After granting consent, participants were randomly assigned to one of two experimental conditions in which they read an ostensibly real magazine article. In the experimental condition, they read about the racial demographic shift occurring in Canada. In the control condition, they read about current Canadian demographics. Although the articles were not from a real magazine, the data presented were real (for a similar manipulation with real data, see Craig & Richeson, 2014a, 2014b, 2017; Stefaniak et al., 2020). Following the manipulation, participants completed a questionnaire battery that assessed collective angst, anger, and fear (the hypothesized mediators), as well as anti-immigration sentiments

and willingness to support the BLM movement (the hypothesized dependent variables).

For exploratory purposes (and thus not analyzed in the current report), participants completed measures of social dominance orientation (Pratto et al., 2013), system justification (Jost & Kay, 2005), and collective narcissism (de Zavala et al., 2009), as well as (again) the measure of zero-sum beliefs (the same they filled out before the study). These measures were placed at the end of the study. Participants were debriefed at the end of the session.

Materials

Zero-sum beliefs. Zero-sum beliefs were measured with four items (α = .69; e.g., "More racial minorities in positions of power means fewer opportunities for White people"; Stefaniak et al., 2020) anchored at 1 (*strongly disagree*) and 7 (*strongly agree*).

Collective angst. Collective angst was measured with five items adapted from Jetten and Wohl (2012). For example, participants were asked to what extent the prospect of Canada having a majority non-White population made them feel "concerned that the future vitality of White people is in jeopardy" (1 = *not at all*, 7 = *very much*). After recoding two reverse-scored items, a composite score was calculated (α = .73).

Anger and fear. Participants were asked about the extent to which the article that they read made them "feel angry" and "feel scared" (1 = *not at all*, 7 = *very much*). As a filler, they were also asked whether they experienced "happiness."[5] The two questions were treated as separate indicators of emotional experiences.

Anti-immigration sentiments. Five items adapted from Wohl et al. (2020) assessed participants' opinion about immigration to Canada and allowing illegal immigrants to become citizens. For example, participants were asked the extent to which they agreed that "Canada does not need to give citizenship to currently undocumented

immigrants" (1 = *strongly disagree*, 7 = *strongly agree*). All items loaded strongly onto a single factor and were averaged to create a composite score (α = .86).

Willingness to support BLM. Support for Black Lives Matter was assessed with a 12-item measure (Stefaniak et al., 2020) that asked participants whether they would be "willing to support or participate in the following activities on behalf of the BLM movement." A sample item was, "Donating money to BLM" (1 = *definitely not*, 7 = *definitely yes*). Participants also completed one general BLM support item "Overall, would you say that you support or do not support the Black Lives Matter movement?" (1 = *I do not support at all*, 7 = *I support very strongly*). All 13 items loaded strongly onto a single factor and were averaged to create a composite score (α = .96).

Results

Table 1 presents means, standard deviations, comparisons between the experimental and the control group on all measured variables, and correlations among variables in the two conditions.

Comparison between students exposed to the racial demographic shift manipulation (coded = 1) and the control group (coded = 0) showed that the former reported significantly stronger collective angst (p = .001, d = 0.82), while differences in the levels of anger (p = .247, d = −0.27) and fear (p = .076, d = 0.41) were not significant. Participants in the experimental group showed lower intentions to support BLM (p = .002, d = −0.72) and significantly stronger anti-immigration sentiments (p < .001, d = 0.88).

To verify whether zero-sum beliefs moderated the effect of the experimental manipulation on the experience of negative group-based emotions, three separate moderation analyses were conducted, in which collective angst, anger, and fear served as the dependent variables (PROCESS 3.5, Model 1; Hayes, 2017).[6] Given that political conservatism is typically positively associated with the desire to preserve the status quo, and negatively with support for collective action that

Table 1. Means, standard deviations, differences between experimental and control conditions, and correlations among variables: Experiment 1.

	M (SD)		t	d	1.	2.	3.	4.	5.	6.
	Control	Racial shift								
1. Zero-sum	2.19 (0.89)	2.45 (0.97)	1.22	0.28		.28	.40*	.46**	−.21	.45**
2. Collective angst	2.12 (0.66)	2.88 (1.13)	3.61**	0.82	.19		.56***	.70***	−.17	.39*
3. Anger	1.95 (1.54)	1.59 (1.12)	−1.17	−0.27	.11	−.17		.63***	−.20	.39*
4. Fear	1.61 (1.76)	2.15 (1.48)	1.80	0.41	.23	−.09	.84***		−.15	.61***
5. BLM support	5.68 (1.43)	4.56 (1.65)	−3.17**	−0.72	−.21	−.18	.26	.18		−.43***
6. Anti-immigration	2.65 (0.85)	3.64 (1.33)	3.88**	0.88	.32*	.20	−.03	.07	−.65***	

Note. Anti-immigration = anti-immigration sentiments. Correlations for the experimental group are presented above the diagonal, and the ones for the control group, below the diagonal.
*p < .05. **p < .01. ***p < .001.

may alter it (Jost et al., 2017), we conducted all analyses presented herein (for all three experiments) controlling for political orientation. When doing so, the pattern of results was unchanged (see supplemental material, Appendix C).

The effect of the experimental manipulation on collective angst (B = 0.19, SE = 0.23, 95% CI [−0.26, 0.64]), anger (B = 0.27, SE = 0.33, 95% CI [−0.39, 0.92]), and fear (B = 0.40, SE = 0.31, 95% CI [−0.22, 1.02]) was not moderated by zero-sum beliefs. However, the relations between manipulation and collective angst at different levels of the moderator (16th, 50th, and 84th percentiles) were in the predicted direction. Specifically, making the racial demographic shift salient had a significant positive effect on collective angst at medium (B = 0.64, SE = 0.22, 95% CI [0.20, 1.07]) and high levels (B = 0.93, SE = 0.34, 95% CI [0.25, 1.60]) of zero-sum beliefs, but not at low levels (B = 0.55, SE = 0.28, 95% CI [−0.01, 1.10]). No effects were significant for anger (all ps > .104) or for fear (all ps > .062).

Discussion

In line with our expectations, the racial demographic shift took on existential significance among White people who hold zero-sum beliefs, as evidenced by their elevated levels of collective angst. Additionally, participants exposed to the racial demographic shift manipulation (as compared to the control condition) reported stronger experience of collective angst, but not fear or anger. They also displayed the predicted decrease in support for progressive social movements (here, the BLM movement) as well as more negative attitudes towards immigrants when confronted with the racial demographic shift.

Of note, the results of Experiment 1 were observed among a sample of Canadian university students—a notoriously liberal group in one of the most liberal and multicultural countries in the world (Social Progress Imperative, 2020). This suggests zero-sum beliefs may trump progressive sentiments present in liberal societies. Unfortunately, due to a lack of statistical power (which was the result of recruitment issues), we

were unable to test our hypothesized mediated moderation model, which we did in Experiment 2.

Experiment 2

Experiment 2 is best framed as a replication and an extension of Experiment 1. This is because Experiment 2 used a very similar design as that of Experiment 1, but it was run in a different cultural context (US). Additionally, in contrast to Experiment 1, Experiment 2 was sufficiently powered, thus allowing us to assess the hypothesized mediated moderation model. Specifically, we tested the idea that a racial demographic shift becomes an existential threat among White people who hold zero-sum beliefs. As a result, negative emotions will be experienced, collective angst in particular, which motivates the desire to preserve the ingroup's position in the social hierarchy—operationally defined as lack of support for BLM.[7]

Participants

Four hundred and twenty-three MTurk workers accessed an online study described as an examination of current social issues in the US targeted at Americans, residing in the US, who identify as White. They were compensated with US$0.70 for their participation.

Participants were presented with a series of eligibility items. One person indicated that they were not 18 years old, one said that they did not reside in the US, 21 indicated that they did not identify as White. They were not allowed to continue with the main survey, which left a sample of 400 participants. One person did not consent to their data being used, which were permanently deleted from the database. Additionally, 35 participants did not pass a multiple-choice attention check, 53 did not pass an open-ended attention check (e.g., provided a nonsensical response, a response that did not align with the question posed, or left the item blank),[8] and nine indicated mixed, non-White, or did not answer an additional demographic question about their racial identification at the end of the study. They were excluded from analyses, which left a final sample of 302 participants.

Participants were on average 39.93 years old (*SD* = 12.01);[9] 43.4% identified as somewhat or strongly liberal, 18.5% as "in between," while 38.1% declared somewhat or strongly conservative political orientation.

Procedure

The procedure was virtually identical to that in Experiment 1. The only differences were that the text of the experimental manipulation was adjusted to the local context and reflected American demographic data and projections, and that participants' zero-sum beliefs were measured in the same survey as all other variables, though before the experimental manipulation. After the manipulation, participants completed a questionnaire battery that assessed collective angst, anger, and fear (the hypothesized mediators), as well as willingness to support the BLM movement (the hypothesized dependent variable). As in Experiment 1, social dominance orientation and system justification were measured at the end of the questionnaire as exploratory variables, but not analyzed for the current report. Participants were debriefed at the end of the session.

Materials

Collective angst (α = .76), anger, fear, intention to support BLM (α = .98), and zero-sum beliefs (α = .89) were measured with the same items as in Experiment 1, but adjusted to the American context (e.g., "[I feel] that the existence of White people in America is in danger," to measure collective angst).

Results

Means, standard deviations, comparisons between the experimental and the control group on all measured variables, and correlations among variables in the two conditions are presented in Table 2.

Comparisons between the experimental (coded = 1) and the control group (coded = 0) revealed that making the impending racial

Table 2. Means, standard deviations, differences between experimental and control conditions, and correlations among variables: Experiment 2.

	M (SD)		t	d	1.	2.	3.	4.	5.
	Control	Racial shift							
1. Zero-sum	2.82 (1.52)	2.77 (1.52)	−0.33	−0.04		.71***	.56***	.59***	−.37***
2. Collective angst	2.76 (1.04)	3.13 (1.31)	2.72**	0.31	.66***		.62***	.66***	−.34***
3. Anger	1.74 (1.36)	1.92 (1.42)	1.12	0.13	.46***	.46***		.85***	−.10
4. Fear	1.74 (1.31)	2.22 (1.72)	2.72**	0.31	.47***	.48***	.84***		−.12
5. BLM support	3.29 (1.93)	3.43 (1.91)	0.63	0.07	−.42***	−.27***	−.02	−.02	

Note. BLM support = intentions to support the Black Lives Matter movement. Correlations for the experimental group are presented above the diagonal, and for the control group, below the diagonal.
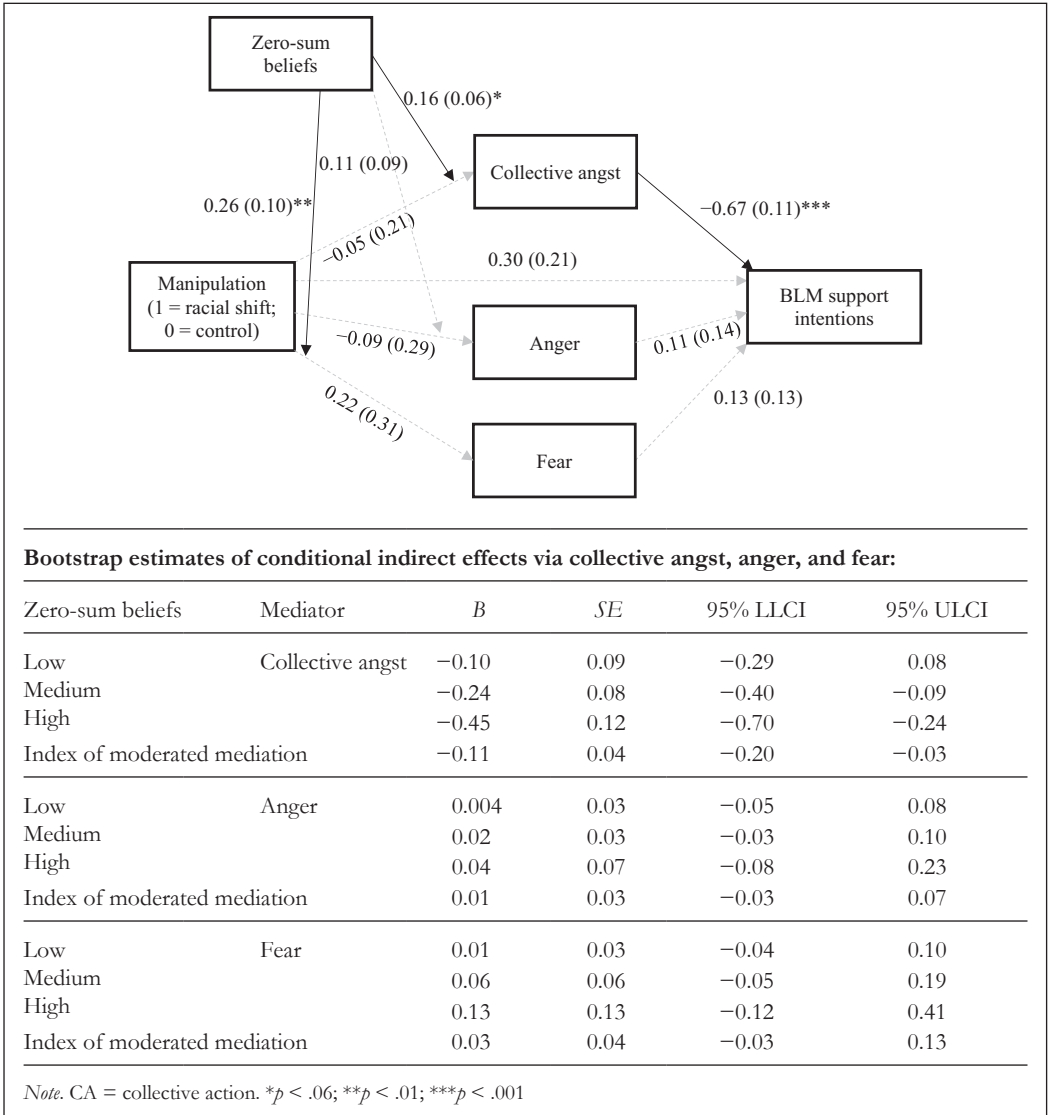**p < .01. ***p < .001.

demographic shift salient led participants to experience stronger collective angst ($p = .007$, $d = 0.31$) and fear ($p = .007$, $d = 0.31$), but not anger ($p = .265$, $d = 0.13$). The manipulation did not have an effect on support for BLM ($p = .529$, $d = 0.07$). There were also no differences between the control and the experimental group in level of zero-sum beliefs (measured before the manipulation; $p = .741$, $d = −0.04$)

Next, we tested whether zero-sum beliefs moderated the effects of the experimental manipulation on participants' negative group-based emotions and, in turn, their desire to support the intergroup status quo that privileges their social group. To do so, we conducted a mediated moderation analysis (PROCESS 3.5, Model 7; Hayes, 2017). Experimental condition was entered as the independent variable; collective angst, anger, and fear served as mediators; support for BLM was entered as the dependent variable; and zero-sum beliefs as the moderator of the link between the manipulation and negative emotions (see Figure 1).

Zero-sum beliefs significantly moderated the influence of the experimental manipulation on collective angst ($B = 0.16$, $SE = 0.06$, 95% CI [0.03, 0.29]) and fear ($B = 0.26$, $SE = 0.10$, 95% CI [0.07, 0.45]), but not anger ($B = 0.11$, $SE = 0.09$, 95% CI [−0.07, 0.29]). The racial demographic shift manipulation led to stronger experience of collective angst among participants with moderate (50th percentile: $B = 0.35$, $SE = 0.10$, 95% CI [0.15, 0.55]) and high (84th percentile: $B = 0.67$, $SE = 0.15$, 95% CI [0.38, 0.96]) levels of zero-sum beliefs, but not among those with low levels (16th percentile: $B = 0.15$, $SE = 0.14$, 95% CI [−0.12, 0.43]) of such beliefs. The same pattern was detected for fear: the effect of the manipulation was not significant at low levels of zero-sum beliefs ($B = 0.11$, $SE = 0.21$, 95% CI [−0.31, 0.52]); however, participants with moderate ($B = 0.43$, $SE = 0.15$, 95% CI [0.14, 0.72]) and strong zero-sum beliefs ($B = 0.95$, $SE = 0.22$, 95% CI [0.51, 1.38]) experienced more fear when reading about the racial demographic shift (compared to the control condition). Only collective angst ($B = −0.67$, $SE = 0.11$, 95% CI [−0.89,

Figure 1. Moderated mediation of the impact of the experimental manipulation (demographic racial shift vs. control) on intention to support the Black Lives Matter movement via collective angst, anger, and fear at different levels of zero-sum beliefs: Experiment 2.

Bootstrap estimates of conditional indirect effects via collective angst, anger, and fear:

Zero-sum beliefs	Mediator	B	SE	95% LLCI	95% ULCI
Low	Collective angst	−0.10	0.09	−0.29	0.08
Medium		−0.24	0.08	−0.40	−0.09
High		−0.45	0.12	−0.70	−0.24
Index of moderated mediation		−0.11	0.04	−0.20	−0.03
Low	Anger	0.004	0.03	−0.05	0.08
Medium		0.02	0.03	−0.03	0.10
High		0.04	0.07	−0.08	0.23
Index of moderated mediation		0.01	0.03	−0.03	0.07
Low	Fear	0.01	0.03	−0.04	0.10
Medium		0.06	0.06	−0.05	0.19
High		0.13	0.13	−0.12	0.41
Index of moderated mediation		0.03	0.04	−0.03	0.13

Note. CA = collective action. *p < .06; **p < .01; ***p < .001

−0.45]), but not fear (B = 0.13, SE = 0.13, 95% CI [−0.13, 0.39]) or anger (B = 0.11, SE = 0.14, 95% CI [−0.17, 0.38]) predicted BLM support. Consequently, only the indirect effect of the manipulation on BLM support via collective angst was significant and moderated by zero-sum beliefs (B = −0.11, SE = 0.04, 95% CI [−0.20, −0.03]). The indirect effect was significant among participants with moderate (B = −0.23, SE = 0.08, 95%

CI [−0.40, −0.09]) and high (B = −0.44, SE = 0.12, 95% CI [−0.70, −0.24]) levels of zero-sum beliefs. It was not significant among participants with low levels of zero-sum beliefs (B = −0.10, SE = 0.09, 95% CI [−0.29, 0.08]). The indices of mediated moderation for anger (B = 0.01, SE = 0.03, 95% CI [−0.03, 0.07]) and fear (B = 0.03, SE = 0.04, 95% CI [−0.03, 0.12]) were not statistically significant (see Figure 1).

Discussion

As predicted, the results of Experiment 2 showed that, when confronted with the prospect of becoming a numerical minority in the US, White American participants experienced significantly greater collective angst and fear (but not anger), as compared to participants who read about present-day demographics of the US in which their group still dominates. Importantly, reading about the demographic shift led to greater collective angst and fear only among those who moderately and strongly endorsed a competitive view of intergroup relations (zero-sum beliefs). Among participants with low levels of zero-sum beliefs, there were no differences as a function of racial demographic shift salience. Concern about the future vitality of their group (but not fear or anger), in turn, led White Americans to be less supportive of the BLM movement.

Experiment 3

The primary purpose of Experiment 3 was to assess the replicability of the effects observed in Experiment 2 in a different national context. Most studies on the psychological effects of racial demographic shift to date (e.g., Bai & Federico, 2020; Craig & Richeson, 2014a, 2014b; Danbold & Huo, 2015; Major et al., 2018; Outten et al., 2018; Perkins et al., 2022) have been conducted in North America, with the majority coming from the US, leaving open the question of whether similar processes would be at play in other countries that face a similar prospect of the currently privileged White majority becoming a numerical minority in the future. To address this issue, in Experiment 3, we recruited a sample of British participants and exposed them to a racial demographic shift manipulation adjusted to the local context. Experiment 3 also assessed whether we could extend the predictive utility of our mediated moderation model to another outcome measure reflecting the dominant group's desire to preserve the existing intergroup hierarchy: anti-immigration sentiments.

Participants

Six hundred and eight self-identified White citizens of the UK residing in Britain accessed a link to an online survey posted on the Prolific platform. One potential participant did not consent to the study and thus was not allowed to proceed with it. Six participants did not consent to their data being used upon being debriefed, thus their data were permanently deleted from the database. At the end of the survey, as a check, we once again asked participants to indicate their ethnicity and place of residence. Six indicated an ethnicity other than White or a place of residence other than Britain. Another participant indicated that they did not provide good quality data in a quality check item placed at the end of the survey. All of these participants were excluded from analyses. Additionally, 40 participants were excluded from the analyses for incorrectly answering attention check items (25 provided nonsensical responses to an open-ended attention check item, and 15 failed a multiple-choice attention check item). As such, the final sample consisted of 555 individuals (184 males, 370 females, one unidentified) who ranged in age from 18 to 73 ($M = 34.89$, $SD = 12.27$); 43.6% of the sample politically identified as somewhat or strongly left-wing, 23.2% as center, and 19.2% as somewhat or very right-wing (we used "left" and "right" in this study to better reflect the local context).

Procedure

The procedure was identical to that of Experiment 2 except that the text of the manipulation was adjusted to the local context and reflected British demographic data and projections, and that we added another dependent variable: anti-immigration sentiments.

Materials

Collective angst ($\alpha = .88$), anger, fear, intention to support BLM ($\alpha = .98$), and zero-sum beliefs ($\alpha = .89$) were measured with the same items as in Experiment 2, with the exception that they

Table 3. Means, standard deviations, differences between experimental and control conditions, and correlations among variables: Experiment 3.

	M (SD) Control	M (SD) Racial shift	t	d	1.	2.	3.	4.	5.	6.
1. Zero-sum	2.16 (1.36)	2.43 (1.35)	2.32*	0.20		.67***	.63***	.60***	−.69***	.67***
2. Collective angst	2.30 (1.06)	3.25 (1.55)	8.44***	0.72	.63***		.71***	.74***	−.61***	.66***
3. Anger	1.95 (1.54)	2.34 (1.66)	2.88**	0.24	.27***	.27***		.80***	−.54***	.58***
4. Fear	1.69 (1.24)	2.48 (1.72)	6.21***	0.53	.41***	.41***	.66***		−.53***	.56***
5. BLM support	4.48 (1.8)	4.18 (1.89)	−1.90†	−0.16	−.61***	−.45***	−.06	−.20**		−.69***
6. Anti-immigration	3.42 (1.60)	3.89 (1.53)	3.60***	0.31	.73***	.50***	.18***	.33***	−.69***	

Note. Anti-immigration = anti-immigration sentiments. Correlations for the experimental group are presented above the diagonal, and the ones for the control group, below the diagonal.

†$p < .06$. *$p < .05$. **$p < .01$. ***$p < .001$.

were adjusted for the British context (e.g., "[I feel] anxious about the future of White people in Britain," in the collective angst measure). Anti-immigration sentiments were assessed with the same measure as in Experiment 1, with the wording adjusted to the British context ($\alpha = .93$). We also included the same two exploratory measures noted in Experiment 2; they were strategically placed after the central measures.

Results

Means, standard deviations, comparisons between the experimental and the control group on all measured variables, and correlations among variables in the two conditions are presented in Table 3.

Participants exposed to the racial shift manipulation (coded = 1) compared to those in the control condition (coded = 0) experienced more collective angst ($p < .001$, $d = 0.72$), more anger ($p = .004$, $d = 0.24$), and more fear ($p < .001$, $d = 0.53$). Their support for the BLM movement became marginally weaker ($p = .058$, $d = −0.16$), while their anti-immigration sentiments became significantly stronger ($p < .001$, $d = 0.31$). Despite the fact that the zero-sum beliefs measure was assessed prior to the experimental manipulation, participants in the experimental group (relative to those in the control condition) reported slightly higher zero-sum beliefs ($p = .021$, $d = 0.20$).

Next, we conducted two separate mediated moderation analyses. In both, the experimental manipulation was the independent variable; collective angst, fear, and anger served as mediators; and zero-sum beliefs as the moderator of the link between manipulation and negative emotions. Intention to support BLM and anti-immigration sentiments served as two separate dependent variables (PROCESS 3.5, Model 7; Hayes, 2017).

Zero-sum beliefs emerged as a significant moderator of the link between racial demographic shift salience and all three negative emotions (the interactions were all significant): collective angst: $B = 0.29$, $SE = 0.06$, 95% CI [0.17, 0.41]; anger: $B = 0.48$, $SE = 0.09$, 95% CI [0.31, 0.65]; fear: $B = 0.39$, $SE = 0.08$, 95% CI

[0.23, 0.54]. The experimental manipulation (as compared to the control condition) led to greater experience of collective angst at all levels of zero-sum beliefs, but the effect became stronger the more participants endorsed zero-sum beliefs; for participants at the 16th percentile: $B = 0.41$, $SE = 0.12$, 95% CI [0.17, 0.64]; for participant at the 50th percentile: $B = 0.70$, $SE = 0.09$, 95% CI [0.52, 0.87]; for participants at the 84th percentile: $B = 1.20$, $SE = 0.13$, 95% CI [0.96, 1.45]. Participants with low zero-sum beliefs actually experienced less anger when in the experimental (vs. control) group ($B = -0.37$, $SE = 0.16$, 95% CI [−0.70, −0.05]), while participants with moderate zero-sum beliefs were not affected by the manipulation ($B = 0.10$, $SE = 0.12$, 95% CI [−0.13, 0.34]), and those with strong zero-sum beliefs ($B = 0.94$, $SE = 0.17$, 95% CI [0.60, 1.28]) reported significantly more anger in the experimental than in the control group. Fear was experienced equally by experimental and control group participants at low levels of zero-sum beliefs ($B = 0.14$, $SE = 0.15$, 95% CI [−0.16, 0.43]), but at moderate ($B = 0.52$, $SE = 0.11$, 95% CI [0.31, 0.74]) and high ($B = 1.20$, $SE = 0.16$, 95% CI [0.89, 1.51]) levels of zero-sum beliefs, the experimental group reported significantly greater levels of fear.

Collective angst was a significant predictor of BLM support ($B = -0.69$, $SE = 0.07$, 95% CI [−0.82, −0.56]), but fear ($B = -0.12$, $SE = 0.07$, 95% CI [−0.26, 0.03]) and anger ($B = 0.03$, $SE = 0.06$, 95% CI [−0.10, 0.15]) were not. The indirect effect of experimental manipulation on intention to support BLM via collective angst was significant and moderated by zero-sum beliefs ($B = -0.20$, $SE = 0.06$, 95% CI [−0.31, −0.09]). Specifically, the magnitude of the indirect effect increased alongside participants' zero-sum beliefs; for low zero-sum beliefs: $B = -0.28$, $SE = 0.08$, 95% CI [−0.45, −0.13]; for average level: $B = -0.48$, $SE = 0.07$, 95% CI [−0.62, −0.35]; for strong zero-sum beliefs: $B = -0.84$, $SE = 0.13$, 95% CI [−1.11, −0.59]. Neither the indirect effect via fear ($B = -0.05$, $SE = 0.03$, 95% CI [−0.11, 0.01]) nor via anger ($B = 0.01$, $SE = 0.03$, 95% CI [−0.04,

0.07]) were significant or moderated by zero-sum beliefs (see Figure 2a).

In the model for anti-immigration sentiments, the pattern of moderation effects of the experimental manipulation on negative emotions was identical to that of the previous model. Collective angst ($B = 0.57$ $SE = 0.05$, 95% CI [0.47, 0.67]) and fear ($B = 0.14$, $SE = 0.06$, 95% CI [0.02, 0.25]), but not anger ($B = 0.03$, $SE = 0.05$, 95% CI [−0.07, 0.12]), predicted anti-immigration sentiments. The hypothesized mediated moderation was significant for collective angst ($B = 0.17$, $SE = 0.05$, 95% CI [0.07, 0.26]) and fear ($B = 0.05$, $SE = 0.03$, 95% CI [0.01, 0.11]), but not anger ($B = 0.01$, $SE = 0.03$, 95% CI [−0.04, 0.06]; see Figure 2b). The indirect effect of experimental manipulation on anti-immigration sentiments via collective angst was the largest among participants with high levels of zero-sum beliefs, and the smallest among participants with low levels of zero-sum beliefs. At low levels of zero-sum beliefs: $B = 0.23$, $SE = 0.07$, 95% CI [0.10, 0.37]; at moderate levels: $B = 0.40$, $SE = 0.06$, 95% CI [0.29, 0.52]; at high levels: $B = 0.69$, $SE = 0.11$, 95% CI [0.48, 0.91]. The indirect effect via fear was not significant at low (−1 *SD*; $B = 0.02$, $SE = 0.02$, 95% CI [−0.05, 0.03]) levels of zero-sum beliefs; however, it was significant at average ($B = 0.09$, $SE = 0.04$, 95% CI [0.02, 0.17]) and high ($B = 0.16$, $SE = 0.07$, 95% CI [0.03, 0.31]) levels.
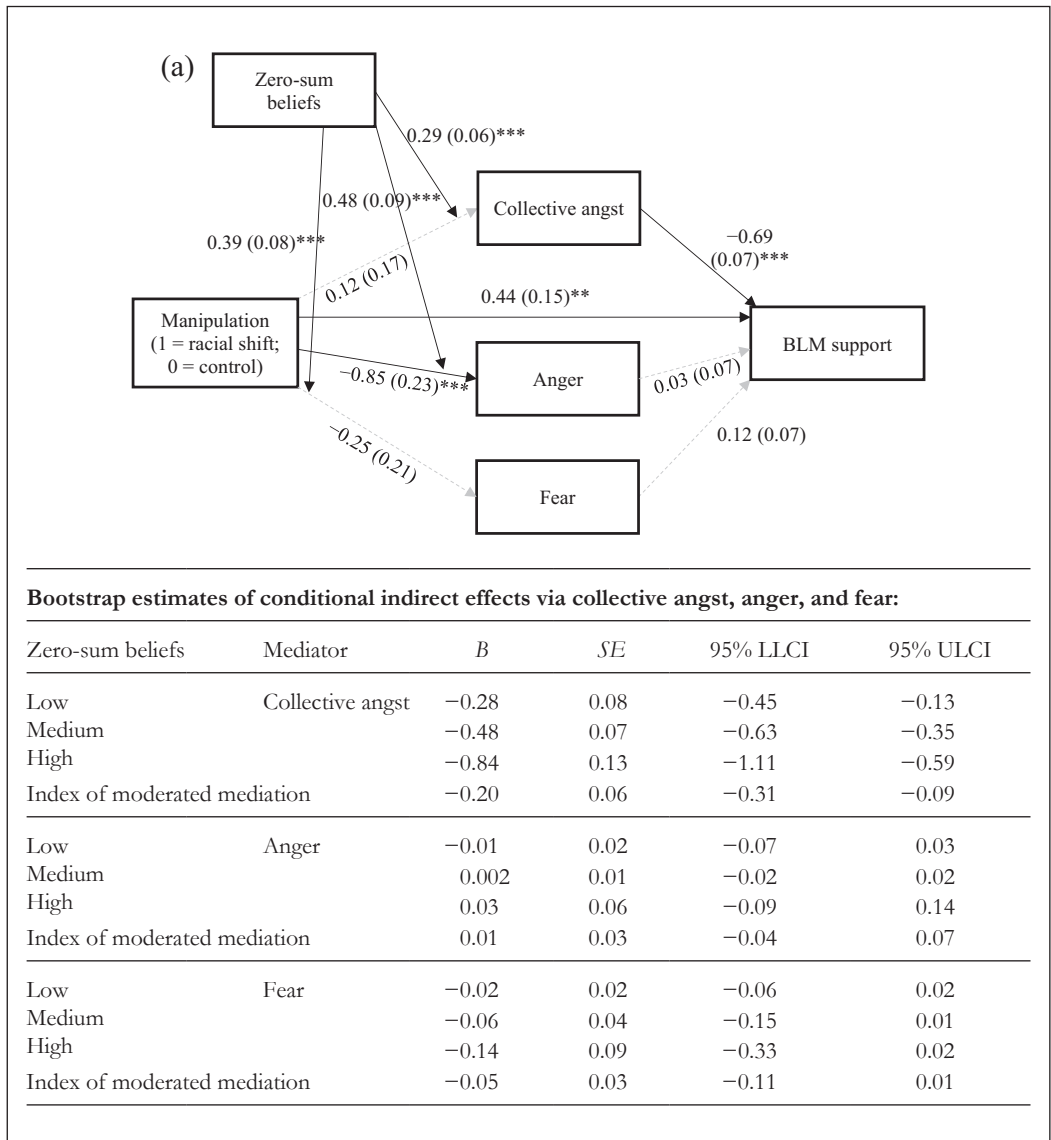
Discussion

Experiment 3 replicated the results of Experiment 2 by demonstrating again that making salient the rapid demographic changes that impact the currently dominant position of White people in Britain leads members of this high-power group to experience elevated levels of collective angst and fear, and to express stronger anti-immigration sentiments as well as (marginally) lower intentions to support a progressive social movement (BLM). The latter two effects may be treated as indicators of the motivation of members of a currently privileged social group to preserve the existing intergroup hierarchy in the face of an impending racial demographic shift.

Collective angst emerged as a reliable predictor of anti-immigration sentiments and unwillingness to support the BLM movement. Fear was also a predictor of anti-immigration sentiments (but not of BLM 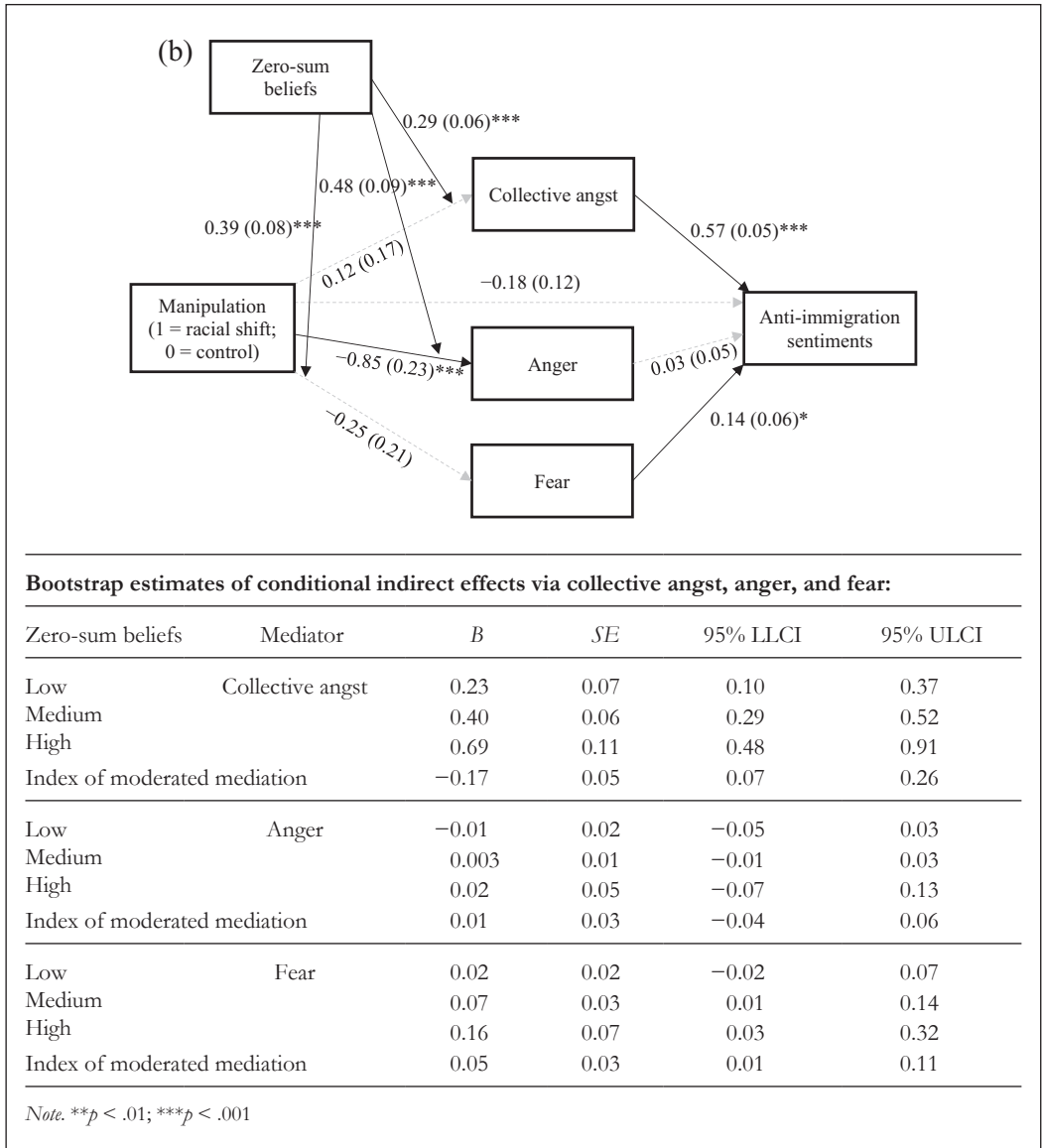support), whereas anger did not predict any of the dependent variables. Importantly, the intensity of the negative emotions experienced by participants depended on the extent to which they perceived intergroup relations as a zero-sum game. The experimental

Figure 2. Moderated mediation of the impact of experimental manipulation (demographic racial shift vs. control) on (a) intention to support the Black Lives Matter movement and (b) anti-immigration sentiments via collective angst, anger, and fear at different levels of zero-sum beliefs: Experiment 3.

Bootstrap estimates of conditional indirect effects via collective angst, anger, and fear:

Zero-sum beliefs	Mediator	B	SE	95% LLCI	95% ULCI
Low	Collective angst	−0.28	0.08	−0.45	−0.13
Medium		−0.48	0.07	−0.63	−0.35
High		−0.84	0.13	−1.11	−0.59
Index of moderated mediation		−0.20	0.06	−0.31	−0.09
Low	Anger	−0.01	0.02	−0.07	0.03
Medium		0.002	0.01	−0.02	0.02
High		0.03	0.06	−0.09	0.14
Index of moderated mediation		0.01	0.03	−0.04	0.07
Low	Fear	−0.02	0.02	−0.06	0.02
Medium		−0.06	0.04	−0.15	0.01
High		−0.14	0.09	−0.33	0.02
Index of moderated mediation		−0.05	0.03	−0.11	0.01

(Continued)

Figure 2. (Continued)

Bootstrap estimates of conditional indirect effects via collective angst, anger, and fear:

Zero-sum beliefs	Mediator	*B*	*SE*	95% LLCI	95% ULCI
Low	Collective angst	0.23	0.07	0.10	0.37
Medium		0.40	0.06	0.29	0.52
High		0.69	0.11	0.48	0.91
Index of moderated mediation		−0.17	0.05	0.07	0.26
Low	Anger	−0.01	0.02	−0.05	0.03
Medium		0.003	0.01	−0.01	0.03
High		0.02	0.05	−0.07	0.13
Index of moderated mediation		0.01	0.03	−0.04	0.06
Low	Fear	0.02	0.02	−0.02	0.07
Medium		0.07	0.03	0.01	0.14
High		0.16	0.07	0.03	0.32
Index of moderated mediation		0.05	0.03	0.01	0.11

Note. **p < .01; ***p < .001

manipulation led to stronger anti-immigration sentiments and less BLM support partly because it increased collective angst and fear (only in the model for anti-immigration sentiments) in participants, but the strength of these effects was greater among participants who believed that intergroup relations constitute a zero-sum game.

General Discussion

The racial demographic shift occurring in many Western countries provides a unique context to study the reactions of a high-power group (i.e., White people) to the potential loss of their privileged position in society. In the current research,

we tested the idea that high-power group members who are exposed to information about the possibility of losing this power (by way of a racial demographic shift) will respond in ways that preserve the intergroup hierarchy. Importantly, we argued and showed that the racial demographic shift produces hierarchy-protective outcomes because it elicits collective angst—a group-based emotion that reflects concern for the ingroup's future vitality. Moreover, we demonstrated that it is those high-power group members who hold strong zero-sum beliefs that are particularly likely to display these ingroup protective behavior intentions. The effects of the racial demographic shift were observed in three different countries in which White people are the current racial majority but will likely not be in the near future, and emerged when controlling for participants' political orientation (see Appendix C).

In Experiment 1, we explored our ideas with White Canadian university students because Canada has an official policy of multiculturalism (Brosseau & Dewing, 2009) and, as such, White Canadians may not feel the threat of a racial demographic shift as intensely as their American counterparts. Moreover, university students tend to be more liberal than the general population (Hastie, 2007), and thus should be more supportive of BLM and express more proimmigration sentiments than the general population. Unfortunately, due to recruitment difficulties, Experiment 1 was underpowered and only allowed us to test the experimental manipulation's effects, rather than the full mediated moderation model. That said, even in this very liberal and underpowered sample, we observed that the racial shift led to stronger collective angst, decreased willingness to support BLM, and heightened anti-immigration sentiments, and that zero-sum beliefs shaped the experience of collective angst among participants.

In Experiment 2, we found that a racial demographic shift reminder led White Americans to experience stronger collective angst and fear (but not anger). Collective angst, in turn, decreased willingness to support a progressive social movement (BLM). Experiment 2 also showed that the

effects of the racial demographic shift for privileged group members depend on the presence of zero-sum beliefs. Elevated levels of collective angst and fear were not observed among participants with low levels of zero-sum beliefs, which demonstrates that among participants who do not see intergroup relations as inherently antagonistic, a racial demographic shift may not be seen as an existential threat.

In Experiment 3, we replicated and extended the predictive utility of our mediated moderation model with a British sample. Not only did we find that zero-sum beliefs interact with salience of the racial demographic shift to heighten opposition to BLM via collective angst, we also showed that our model predicted anti-immigration sentiments, and that collective angst and fear mediated this relation. Similar to Experiment 2, the effect of racial shift manipulation on collective angst and fear depended on the strength of participants' zero-sum beliefs. The stronger the zero-sum beliefs, the more negative group-based emotions were experienced.

Implications and Future Directions

The current research demonstrated a heretofore unexamined group-based emotional mechanism (collective angst) by which racial demographic shift salience leads members of highly privileged groups to support action to maintain their privileged position. Collective angst was the most consistent outcome of racial demographic shift salience (above and beyond anger and fear) and was a reliable predictor of intentions to preserve intergroup hierarchy in our three studies.

The research reported here also extends the existing racial demographic shift literature by showing that zero-sum beliefs give the racial demographic shift its existential threat flavor. In fact, in Experiments 1 and 2, racial demographic shift salience only had an effect on participants with moderate and high levels of zero-sum beliefs. Additionally, by using a Canadian (Experiment 1) and a British (Experiment 3) sample, we showed that the effects of the shift are

not unique to the US[10] (i.e., the country in which most racial demographic shift research has been conducted). We also showed that the effect extends to a country (Canada) that strongly embraces multiculturalism and diversity.

Given that there is little doubt that a racial demographic shift will occur in many Western countries, it is crucial to find ways to downregulate the resulting sense of existential threat that produces behavioral intentions to preserve the status quo in White majorities. One possibility is to emphasize that while the proportion of White people may shrink, their position in society would not change (see Craig & Richeson, 2014b). In doing so, collective angst should subside given that the future of the ingroup would no longer be in jeopardy (Wohl et al., 2010). Such a manipulation would also be in line with Kaufmann (2018), who argued that demographic-shift-anchored support for populist leaders among White people can be counteracted by expressing support for White identity politics. Although we want to make clear that we do not support White identity politics, there is empirical evidence showing that identity affirmation may be effective in alleviating threat (e.g., Derks et al., 2009). Another avenue to downregulate some White people's feelings of threat may be to employ emotion regulation strategies (e.g., Goldenberg et al., 2016; Halperin et al., 2013).

Limitations

Our experimental materials were not identical in all three countries (e.g., they differed with regard to when a given country will become majority-minority) because they were fully adjusted to reflect the local context. Although this may affect the intensity of threat experienced by White participants and the resulting negative emotions and behavioral intentions, we decided that such design would allow us to use real demographic data and projections rather than making up numbers and presenting participants with fake data. An additional benefit of this approach is higher external validity because participants were reacting to processes that are really underway where they live.

We also did not manipulate our proposed moderator, zero-sum beliefs, and its levels were generally low in all studied samples. Manipulating zero-sum beliefs would have allowed us to argue with greater confidence that they moderate the effects of racial demographic shifts as opposed to, for example, being an outcome of such shifts. That said, we measured zero-sum beliefs prior to the racial demographic shift manipulation, thus, it is difficult to argue that the manipulation could have influenced zero-sum beliefs. Additionally, zero-sum beliefs are notoriously difficult to manipulate. This could be because, as argued by Różycka-Tran et al. (2015), zero-sum beliefs are relatively stable expectations about the nature of the social or physical world. Regarding levels of zero-sum beliefs, we found that most participants scored significantly below the neutral point of the scale. Having said that, even at these low levels of zero-sum beliefs, we saw that stronger endorsement was related to more negative emotional and intergroup outcomes.

Lastly, we acknowledge that we assessed behavioral intentions toward BLM and anti-immigration sentiments, and not actual hierarchy-preserving behavior. Although this limits the implications of the current research in that behavioral intentions and behavior are not equivalent, intention to engage in a behavior is a reliable predictor of it (Ajzen, 1991; Gollwitzer, 1999).

Conclusion

A diminishing birth rate among White but not among non-White people coupled with accelerated non-White immigration (Kaufmann, 2018) are contributing to a racial demographic shift in Western countries. As a result, White people, the majority high-power group in most of the Western world, are projected to become a numeric minority. Across three experiments, we found that in the face of the racial demographic shift, zero-sum beliefs and collective angst determine White people's experience of threat and intentions to protect their position in the social hierarchy. These results underline the need for researchers and policymakers to examine the

means to downregulate the existential threat White people may experience from the racial demographic shift, as well as to (potentially) decrease zero-sum beliefs.

Funding

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. Please note that since our work focuses on the US, the UK, and Canada, in the remainder of the article we will refer to White people as the high-power, privileged social group.

2. All experiments presented in the manuscript included a four-item measure of positive-sum beliefs (i.e., a perception of positive interdependence between groups in society; Stefaniak et al., 2020) that is currently being investigated in our lab. When determining the sample size for Experiment 3, we included participants who exhibited at least minimal zero-sum beliefs and at least a minimal disagreement with positive-sum beliefs in the prescreening session. Given that the positive-sum beliefs measure quite consistently emerges as a construct separate from zero-sum beliefs, yet it is highly correlated with them, we are not yet sure about its theoretical status and thus decided to only present the results obtained for zero-sum beliefs herein. However, we did conduct mediated moderation analyses using the positive-sum beliefs measure on data from all three experiments (the results, largely mirroring those presented for zero-sum beliefs, are presented in the supplemental material, Appendix B). Data sets available online contain both measures.

3. Please note that Experiment 1 was conducted as the final study in this line of research. Given the recruitment difficulties we experienced and the associated low power, we decided to describe the results of this study first, but focused only on the analysis of the effects of the experimental manipulation rather than testing the hypothesized mediated moderation models, for which a sample of $N = 77$ was simply not sufficiently large. Also, in our pre-registration documents Experiment 1 is referred to as "Study 2" which reflects the order in which the studies were conducted.

4. A sensitivity analysis indicated that with such a small sample size, even for the simple between-group comparison (i.e., the difference between control and experimental condition), the smallest detectable effect size would be $d = 0.65$. With the current sample size, the study had .21 power to detect the effects of the experimental manipulation on anger, and .43 on fear.

5. The same filler item was included in the other two experiments.

6. Please note that, in the preregistration, we indicated that we would conduct mediation (Model 4; Hayes, 2017) and moderated mediation (Model 7; Hayes, 2017) analyses. While the main analyses testing our main hypothesis remained unchanged (we present Model 7 for Experiments 2 and 3 in the manuscript, and for Experiment 1 in the supplemental material, Appendix B), we decided to present moderation analyses in the manuscript. They better capture the hypothesized interactive effects of experimental manipulation and participants' zero-sum beliefs on experience of negative group-based emotions. Mediation analyses are presented in the supplemental material, Appendix A.

7. Please note that we were forced to rerun Experiment 2 due to very low data quality. In the initial data collection, we did not employ all quality control measures offered by TurkPrime, which resulted in obtaining a data set in which both positively and reverse-scored items correlated positively (an indicator of participants' tendency to click through the questionnaire without reading). Furthermore, out of 398 eligible participants, 76 did not pass the multiple-choice attention check, 216 did not pass the open-ended attention check, and 120 indicated mixed or non-White race in a demographic question (even though the study was described as being targeted at people who identify as White, and had an eligibility item that asked about participants' identification as White at the beginning of the study, which they all answered in the affirmative). Some participants failed more than one of the three quality controls. Overall, we were left with 147 participants (37% of the original

sample), much smaller than the preregistered sample size of 350. All these reasons led us to decide to rerun the study with stricter quality controls.

8. In all reported experiments, the open-ended attention check asked participants to summarize the contents of the article they read.

9. Due to a programming error, gender was not recorded in this sample. However, MTurk data showed that among the recruited 400 participants, 174 (43.5%) were female, 179 (44.75%) were male, and no data were available for the remaining 47 (11.75%).

10. Note that Outten et al. (2012) had previously reported racial shift effects in Canada.

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