Facilitating or Hindering: Regulatory Focus and Prosocial Behavior Across Social Classes

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Abstract

Recent research suggests that the complex relationship between social class and prosocial behavior should be understood under specific boundary conditions. Through four experiments, we introduced regulatory focus to examine how social class influences prosocial behavior. The findings reveal that social class itself has a relatively limited effect on prosocial behavior; however, compared to individuals of higher social class, the prosocial behavior of lower-class individuals is more susceptible to regulatory focus (Studies 1, 2a, and 2b). This asymmetric sensitivity leads to differences in prosociality between classes, particularly among those holding regulatory orientations that can enhance prosociality (Studies 2a and 2b). Furthermore, a frame-dependent effect of regulatory focus on prosocial behavior was identified. In a positive frame, promotion focus increases prosociality, whereas in a negative frame it decreases prosociality, with prevention focus showing the opposite pattern (Studies 1-3). This phenomenon can be explained by the status quo strategy in decision-making (Study 3). These results further illuminate the connections among social class, regulatory focus, and prosocial behavior.

Full Text

Amplifying or Narrowing: The Effect of Regulatory Focus on the Relationship Between Social Class and Prosocial Behavior

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Abstract

Recent research suggests that the complex relationship between social class and prosocial behavior should be understood within specific boundary conditions.

Across four experiments, we examined how social class influences prosocial behavior by introducing regulatory focus as a moderating factor. Our findings indicate that social class itself has a limited direct effect on prosocial behavior. However, compared to higher-class individuals, lower-class individuals' prosocial behavior is more susceptible to the influence of regulatory focus (Studies 1, 2a, and 2b). This asymmetric sensitivity leads to between-class differences in prosociality, particularly among individuals holding regulatory orientations that enhance prosocial behavior (Studies 2a and 2b). Additionally, we identified a framing-dependent effect of regulatory focus on prosocial behavior: promotion focus increases prosociality in positive frames but decreases it in negative frames, whereas prevention focus shows the opposite pattern (Studies 1–3). This phenomenon can be explained by status quo strategies in decision-making (Study 3). These results further illuminate the connections among social class, regulatory focus, and prosocial behavior.

Keywords: social class, prosocial behavior, regulatory focus, framing

1. Introduction

As economic inequality and wealth disparities intensify globally, both the general public and social scientists have become increasingly concerned about the consequences of such stratification for individuals and society [1]. Among these concerns, the influence of social class on prosocial behavior has received particular attention [2]. However, existing research has yet to reach consistent conclusions in this domain. Factors such as motivation, identity, and the level of economic inequality in the environment may serve as boundary conditions that explain the inconsistent effects of social class on prosocial behavior [3].

Individuals' prosocial decisions essentially involve choosing whether to take action, which entails two strategic options: actively changing the current state or passively maintaining the status quo. This precisely relates to two self-regulatory orientations in goal pursuit: promotion focus, which emphasizes advancement, growth, and positive outcomes, and prevention focus, which emphasizes security and avoiding negative outcomes [4]. Therefore, regulatory focus may influence people' s prosocial decisions. To further clarify the inconsistent findings regarding the relationship between social class and prosocial behavior, we propose regulatory focus as a novel boundary condition moderating this relationship.

1.1 The Influence of Social Class on Prosocial Behavior

Social class is defined by psychologists as socioeconomic status—a combination of income, education, and occupational prestige [3][5]. It profoundly influences social cognition and behavior [6]. Regarding its effect on prosocial behavior, researchers have yet to reach a consensus.

On one hand, research exemplified by Piff et al.' s work [7] suggests that lower social classes exhibit greater prosociality. For instance, lower-class individu-

als behave more generously in dictator games, donate a larger proportion of their income to charity, demonstrate greater trust in game partners, and show more helping behavior [7]. Individuals experiencing stronger economic threat or higher financial vulnerability display greater empathy toward others and engage in more volunteer work and donations [8]. Lower-class individuals pay more attention to [9] and more accurately recognize others' emotions [10], exhibit stronger compassion [11], and show more pronounced empathy-related neural [12] and physiological responses [13]. Higher-class individuals are more likely to engage in unethical self-serving behavior [14][15]. Moreover, these class effects on prosocial behavior emerge early in development: compared to children from high-income families, children from low-income families in both the United States and China donate more to friends, anonymous peers, or sick children [16][17].

On the other hand, high-ecological-validity archival data indicate that higher social classes are more prosocial. Higher-class individuals show stronger donation likelihood and behavior [2][18][19][20], engage more in volunteer activities [2][21][22][23], are more willing to help others, and exhibit greater trust and trustworthiness [2][24]. High-income individuals are more generous in donations, charitable activities, and trust games [25]. Additionally, poorer emotion regulation abilities [26] and interpersonal skills [27] among lower-class individuals result in weaker empathy. Children from higher-class families also display greater altruism than those from lower-class families [28].

Furthermore, some studies find that social class itself has no effect on prosocial behavior, but rather that different classes exhibit different prosocial preferences. For example, higher social classes are more prosocial in public versus private contexts, whereas lower classes show the opposite pattern [29]. Higher classes donate more to charity appeals emphasizing individual goals, while lower classes donate more to appeals emphasizing collective goals [30]. Both urban (higher-class) and rural (lower-class) Chinese children show greater generosity toward lower-class recipients, with this target preference being more pronounced among higher-class children [31]. In these studies, the main effect of social class is non-significant. Additionally, a direct replication of Piff et al.' s study [7] failed to find an effect of socioeconomic status on prosocial behavior [32].

Based on neuroscientific findings that humans have evolved an internalized self-reward mechanism, executed by the caudate nucleus in the midbrain system, that can initiate purely altruistic behavior [33][34], we contend that prosociality is not an inherent consequence of social class itself, but rather that different social classes have different prosocial preferences. Moreover, given the complex findings in existing research and psychology' s reproducibility crisis, we believe that investigating "how" is as important as investigating "how much" [35].

1.2 Regulatory Focus and Prosocial Behavior

Regulatory focus refers to motivational tendencies individuals exhibit during goal-directed self-regulation, comprising promotion focus and prevention focus [4][36][37]. Promotion focus is an advancement motivation that represents desired end-states as growth, development, and aspirations, focusing on the presence of positive outcomes and adopting "eager approach strategies" that involve greater risk-taking in problem-solving and goal pursuit. Prevention focus is a security motivation that represents desired end-states as duties and safety, adopting a ought-self guidance that focuses on the absence of negative outcomes and employs "vigilant avoidance strategies" that involve greater caution in problem-solving and goal pursuit [4][36][37].

Compared to research on regulatory focus in goal pursuit, decision-making, and information processing, its influence on prosocial behavior has received limited attention [38]. Moreover, existing findings on regulatory focus and prosocial behavior are inconsistent. Some studies find that promotion focus (versus prevention focus) enhances prosocial behaviors such as employee helping [39], organizational citizenship behavior [40], and donations [38][41]. Others find that prevention-focused individuals are more prosocial when facing self-sacrificial leadership [42], and that promotion focus leads to more unethical behavior [43]. Additionally, researchers have found that promotion focus produces moral balancing—where high promotion-focused individuals become more moral after unethical behavior and less moral after moral behavior—whereas prevention focus produces moral consistency, where high prevention-focused individuals maintain consistent moral or immoral behavior [44]. These findings suggest that regulatory focus' s effect on prosocial behavior warrants further investigation.

We propose that regulatory focus' s effect on prosocial behavior depends on the prosocial behavior frame. Regulatory focus itself only influences whether and how people act, while the specific consequences of action depend on the frame in which the action occurs.

Promotion focus emphasizes advancement and development, focusing on "getting the job done" [45], maintaining greater openness to change [46], using goal progress strategies [44][47][48], and prioritizing transformation from the current state to the desired state [49]. Thus, promotion-focused individuals are active agents of change. Prevention focus emphasizes security, duty, and avoiding losses, where the status quo serves as a heuristic reference point for subsequent decisions [49][50], prioritizing the negative consequences of deviating from the current state [49]. Thus, prevention-focused individuals are stable conservatives.

Existing evidence supports these differential change-versus-maintenance strategies. In signal detection paradigms, promotion-focused individuals are more inclined to respond or respond actively to ensure "hits" (representing gains), whereas prevention-focused individuals prefer not to respond or respond passively to avoid "false alarms" [51]. Furthermore, promotion-focused individuals exhibit moral balancing based on perceived goal progress: after performing a

moral act and thus fulfilling their goal of being moral, they subsequently engage in less moral behavior and pursue self-interest through immoral acts; conversely, after failing to act morally or acting immorally, they are distant from their moral self-goal and thus need to engage in moral behavior [44]. Prevention-focused individuals, due to their need and strategy of maintaining the status quo, exhibit moral consistency, where subsequent moral decisions always align with previous ones, whether moral or immoral [44][50]. Additionally, promotion-focused individuals consistently reject default options, such that when the default is to accept (or not accept) an app' s data collection, promotion-focused individuals show lower (or higher) privacy exposure; prevention-focused individuals view defaults as norms and perceive changing them as risky, thus consistently accepting the status quo, resulting in higher (or lower) privacy exposure depending on the default [52].

In prosocial contexts, the prosocial consequences of action versus inaction depend on the prosocial behavior frame [53][54]. In positive frames, any action produces positive externalities for others [53][54], such as investing in a public pool, where acting individuals are clearly more prosocial than non-acting individuals. In negative frames, any action produces negative externalities for others [53][54], such as withdrawing from a public pool, where non-acting individuals are more prosocial than acting individuals.

Thus, regulatory focus influences strategies of changing versus maintaining the status quo, and when these strategies produce different prosocial consequences, the phenomenon of promotion or prevention focus being more prosocial emerges. Accordingly, we hypothesize:

H1: The effect of regulatory focus on prosocial behavior depends on the prosocial task frame: in positive frames, promotion-focused individuals are more prosocial than prevention-focused individuals; in negative frames, prevention-focused individuals are more prosocial than promotion-focused individuals.

H2: Prevention-focused individuals (compared to promotion-focused individuals) have stronger motivation to maintain the status quo, thus being more inclined toward inaction, which subsequently produces more (less) prosocial behavior in negative (positive) frames.

1.3 The Influence of Regulatory Focus on Prosocial Behavior Across Social Classes

How, then, does regulatory focus affect the relationship between social class and prosocial behavior? We argue that this influence must be understood from two perspectives. First, although the framing-dependent effect of regulatory focus on prosocial behavior exists across social classes, it may be more pronounced among lower classes, with lower-class prosocial behavior being more strongly influenced by regulatory focus. According to social cognitive style theories related to social class [11], lower-class individuals' contextualistic cognitive style and interdependent self-concept make them more sensitive to situational cues

[55][56][57]. For instance, lower-class individuals pay more attention to [9] and more accurately recognize others' emotions [10][58][59], and brain regions involved in mental state inference are more active among lower-class individuals when reading about others' thoughts and feelings [60]. Consequently, lower-class decisions are more susceptible to external influences. Working-class individuals more readily change their consumption choices based on others' selections, whereas middle-class individuals maintain their choices [61]. Lower-class support for pro-environmental behavior is more influenced by social norms [62]. Lower-class consumers' evaluations of other service dimensions are more affected by a prior service failure compared to higher-class consumers [63]. More directly, financial resource scarcity amplifies the effect of advertising frames on product evaluations [64].

These indirect and direct evidence suggest that lower social classes may be more susceptible to regulatory focus cues and prosocial frames. Therefore, we hypothesize:

H3: The influence of regulatory focus on prosocial behavior differs asymmetrically across social classes: lower-class prosocial behavior is more easily influenced by regulatory focus than higher-class prosocial behavior.

Second, precisely because regulatory focus has stronger effects on lower classes, it amplifies social class differences in prosocial behavior. Specifically, in regulatory orientations that enhance prosocial behavior, lower classes are more prosocial than higher classes (H4a); in regulatory orientations that diminish prosocial behavior, lower classes are less prosocial than higher classes (H4b).

In summary, this research examines how regulatory focus influences prosocial behavior across social classes through four experiments, enriching our understanding of the social class-prosocial behavior relationship and regulatory focus effects while providing practical insights for enhancing charitable appeal effectiveness. Experiment 1 uses an economic game paradigm, manipulating SES and regulatory focus to test H1, H3, and H4.

Experiment 1

2.1 Method

Design and Participants. Experiment 1 employed a 2 (social class: low vs. high) × 2 (regulatory focus: promotion vs. prevention) × 2 (prosocial frame: positive vs. negative) mixed design, with social class and regulatory focus as between-subjects variables and prosocial frame as a within-subjects variable. G*Power recommended a minimum of 179 participants to achieve medium effect size ($f = 0.25$) and 80% statistical power. We recruited 204 university students (138 male, mean age = 19.94 ± 1.65) from a comprehensive university, who received course credit for participation.

Social Class Manipulation. We manipulated social class between-subjects by assigning participants high/low socioeconomic status game roles. The low-

SES group received a player account with ¥500 cash, ¥500 savings, and ¥1,000 total assets, situated in a world with a high price index (10), where their entire assets could only purchase one land plot (¥1,000/plot). The high-SES group received an account with ¥200,000 cash, ¥550,000 savings, and ¥950,000 total assets, situated in a world with a low price index (1), where their assets could purchase 950 land plots (¥1,000/plot).

Regulatory Focus Manipulation. In the promotion focus condition, participants were asked to describe their character' s aspirations and hopes during the biography task, and to pursue the goal of gaining more assets in subsequent decision-making tasks. In the prevention focus condition, participants described their character' s duties and obligations, and pursued the goal of avoiding asset loss in subsequent tasks.

Prosocial Frames. Based on the conceptualization of positive and negative frames [53], where action produces positive externalities in positive frames and negative externalities in negative frames, we used public goods games and dictator games to represent the two frames.

Positive Frame. The classic public goods game represents a positive frame [54]. Participants were told they formed a group with three other players, each having a personal account and a common account. Money allocated to personal accounts remained with the individual, while money allocated to the common account was doubled and then distributed equally among all four players. Participants decided how to allocate ¥500 between the two accounts. The proportion allocated to the common account represented their cooperativeness. Since any action (allocating to the common account) increased collective and others' benefits, producing positive externalities, this constituted a positive prosocial frame.

Negative Frame. We adapted the dictator game to create a negative frame. Participants arrived at a decision point with ¥500 that would disappear after two players passed by. As the first arrival, participants decided how much to take for themselves and how much to leave for the next player. The proportion kept represented self-interest, while the proportion left represented altruism—leaving more indicated greater willingness to sacrifice personal benefit for others [7]. Since any action (taking money) reduced others'benefits, producing negative externalities, this constituted a negative prosocial frame.

Manipulation Checks. Social class manipulation was assessed through participants' ratings of their character' s "wealth" (7-point scale, 1 = poorest, 7 = richest) and subjective socioeconomic status (10-point scale, 1 = lowest SES, 10 = highest SES). Regulatory focus manipulation was assessed using a 4-item measure adapted from Schwabe et al. [44], with two items measuring promotion focus and two measuring prevention focus on a 7-point scale (1 = strongly disagree, 7 = strongly agree).

Procedure. Participants were recruited for a "new game evaluation." After reading game rules (similar to Monopoly) and answering a comprehension ques-

tion (listing three ways to earn money in the game) as an attention check, participants were randomly assigned to a high or low social class game account. The "evaluation" consisted of three tasks: first, a "character biography" where participants wrote about their character' s background (occupation, education, daily life) and aspirations/duties, which served as both a social class prime and regulatory focus manipulation; second and third, the public goods game and dictator game, presented in random order. Finally, participants completed manipulation checks and a demographic survey.

2.2 Results

Manipulation Checks. For social class, high-SES participants rated their in-game character as higher in social class (M_{high} = 7.54, SD_{high} = 1.19) than low-SES participants (M_{low} = 3.04, SD_{low} = 1.00), F(1, 198) = 862.03, p < .001, p^2 = .81, and as having more abundant resources (M_{high} = 5.50, SD_{high} = 1.02; M_{low} = 2.17, SD_{low} = 0.67), F(1, 198) = 788.14, p < .001, p^2 = .80. Neither regulatory focus manipulation nor its interaction with social class significantly affected these ratings, confirming successful social class manipulation.

For regulatory focus, the promotion focus group showed higher promotion orientation (M_{promotion} = 5.38, SD_{promotion} = 1.16) and lower prevention orientation (M_{promotion} = 3.38, SD_{promotion} = 1.30) than the prevention focus group (M_{prevention}*{promotion} = 4.10, SD*{prevention}*{promotion} = 1.60; M*{prevention}*{prevention} = 4.83, SD*{prevention}_{prevention} = 1.14), F(1, 198) = 42.18, p < .001, p^2 = .18 for promotion orientation and F(1, 198) = 75.79, p < .001, p^2 = .28 for prevention orientation. Social class manipulation and its interaction with regulatory focus did not significantly affect regulatory focus orientation, confirming successful regulatory focus manipulation.

Hypothesis Testing. Repeated-measures ANOVA, controlling for gender and age, revealed no significant main effect of regulatory focus, F(1, 198) = 0.30, p = .588, p^2 = .001. However, the regulatory focus × frame interaction was significant, F(1, 198) = 36.07, p < .001, p^2 = .154. Simple effects analysis showed that in the positive frame, the promotion focus group (M = 0.40, SD = 0.27) contributed more prosocially than the prevention focus group (M = 0.30, SD = 0.24), F(1, 202) = 8.65, p = .004, p^2 = .04. In the negative frame, the pattern reversed (M_{promotion} = 0.06, SD_{promotion} = 0.13; M_{prevention} = 0.19, SD_{prevention} = 0.21), F(1, 202) = 26.76, p < .001, p^2 = .12.

The main effect of social class was not significant, F(1, 198) = 0.40, p = .526, p^2 = .01, nor was its interaction with regulatory focus and frame, F(1, 198) = 1.22, p = .271, p^2 = .002. However, further analysis revealed that across both frames, regulatory focus influenced low-class participants' prosocial contributions more strongly (t_{positive}*{frame}(198) = -2.55, p*{positive}*{frame} =

.011; t{negative}*{frame}(198) = 3.98, p*{negative}*{frame} < .001) than high-class participants (t*{positive}*{frame}(198) = -1.40, p*{positive}*{frame} = .163; t*{negative}*{frame}(198) = 3.11, p*{negative}_{frame} = .002).

[Figure 1: see original paper]

Experiment 1

Using a simulated real-world game, Experiment 1 manipulated social class and regulatory focus across different framed economic games, confirming the framing-dependent effect of regulatory focus on prosocial behavior and its asymmetric influence across social classes. Lower-class prosocial behavior was more susceptible to regulatory focus manipulation. However, social class differences in prosocial behavior were not altered by regulatory focus; regardless of regulatory orientation, no differences emerged between high and low classes. We suspect this may relate to the experimental task. Experiment 1 was embedded in a Monopoly-style game where players held the goal of becoming "tycoons," meaning that regulatory focus-induced preferences for gains/losses and risk-taking [4] may have also influenced game strategies. Promotion-focused individuals may have contributed more in the public goods game to gain returns while taking more in the dictator game, whereas prevention-focused individuals may have contributed less to avoid losses from others' non-cooperation while taking less in the dictator game to avoid losing existing assets. Therefore, Experiment 2 will examine regulatory focus effects using prosocial tasks that do not involve personal gain/loss or risk.

Experiment 2

Experiment 2 aims to further investigate regulatory focus effects on prosocial behavior using tasks that minimize personal gain/loss and risk characteristics. Specifically, Experiment 2a examines regulatory focus effects in a positive-frame prosocial task, while Experiment 2b addresses this question in a negative-frame prosocial task.

3.1 Experiment 2a

Method. Using G*Power, we determined that 77 participants were needed for multiple regression analysis of interaction effects with medium effect size ($f^2 = 0.15$) and 80% power. We recruited 154 participants (95 male, M_{age} = 19.80 years, SD_{age} = 1.21) through a psychology course who received experimental credit. The study was approved by the ethics committee.

Participants were recruited for a "material evaluation" task. Upon arrival, they first completed an unrelated experiment (WeChat avatar evaluation) and a demographic survey including economic resources. After these tasks, participants were informed the study had ended and were redirected to a new page. This page explained that a previous, time-consuming and boring experiment had

many participants quit midway. One student had completed half the experiment and earned half the credit. Participants decided whether to help this student complete the remaining sections to gain the other half credit (promotion focus) or avoid losing the other half credit (prevention focus).

Measures and Materials

Social Class. Given the student sample, we measured family social class [65]. Objective social class included family annual income and parental education [65]. Family income was measured using 8 categories adapted from Piff et al. [7], ranging from "¥15,000 and below" to "¥150,000 and above." Parental education was adapted from the Chinese General Social Survey with six categories from primary school to master' s degree and above. These two indicators were standardized and averaged to create an overall objective socioeconomic status index. Subjective social class was measured using the MacArthur Scale of Subjective Social Status.

Regulatory Focus Manipulation. We used a between-subjects design with two levels (promotion/prevention focus). The manipulation materials were adapted from Xiao et al. [66], presenting a helping scenario where the promotion focus condition emphasized that helping would enable the recipient to gain benefits, while the prevention focus condition emphasized that helping would enable the recipient to avoid losses.

Helping Behavior. The number of sections participants were willing to help the target student complete (0–10) represented helping willingness, with higher numbers indicating stronger prosocial intention [66]. Since taking action produced positive outcomes for others, this constituted a positive frame [53].

Results. Using PROCESS Model 1 with 5,000 bootstrap samples and 95% confidence intervals, we tested the moderating effect of regulatory focus on the relationship between socioeconomic status and helping intention, controlling for age and gender. For objective socioeconomic status, higher status predicted weaker helping intention, b = -0.55, SE = 0.22, p = .016, 95% CI [-0.99, -0.10]. Regulatory focus (reference = prevention focus) showed a significant main effect, with promotion focus producing stronger helping intention than prevention focus, b = 2.74, SE = 0.38, p < .001, 95% CI [1.99, 3.49]. The regulatory focus × socioeconomic status interaction was significant, b = -1.21, SE = 0.45, p = .008, 95% CI [-2.10, -0.32].

Simple slope analysis (see Figure 2a [Figure 2: see original paper]) revealed that in the prevention focus condition, socioeconomic status did not affect helping intention, b = 0.06, SE = 0.30, p = .843, 95% CI [-0.53, 0.65]. In the promotion focus condition, higher socioeconomic status significantly reduced helping intention, b = -1.15, SE = 0.34, p < .001, 95% CI [-1.81, -0.49]. Moreover, the effect of regulatory focus manipulation was larger for low socioeconomic status (M - 1SD; b = 3.77, SE = 0.53, p < .001) than for high socioeconomic status (M + 1SD; b = 1.71, SE = 0.55, p = .002).

Identical results emerged for subjective socioeconomic status: higher status predicted weaker helping intention, b = -0.40, SE = 0.13, p = .002, 95% CI [-0.65, -0.15]. Promotion focus produced stronger helping intention than prevention focus, b = 2.80, SE = 0.38, p < .001, 95% CI [2.05, 3.54]. The regulatory focus × socioeconomic status interaction was marginally significant, b = -0.50, SE = 0.26, p = .052, 95% CI [-1.01, 0.004]. Simple slope analysis (see Figure 2b) showed that in the prevention focus condition, socioeconomic status did not affect helping intention, b = -0.15, SE = 0.17, p = .403, 95% CI [-0.49, 0.20]. In the promotion focus condition, higher socioeconomic status reduced helping intention, b = -0.65, SE = 0.19, p < .001, 95% CI [-1.02, -0.28]. Again, regulatory focus effects were larger for low socioeconomic status (b = 3.55, SE = 0.53, p < .001) than for high socioeconomic status (b = 2.04, SE = 0.54, p < .001).

[Figure 2: see original paper]

Discussion. Experiment 2a replicated the finding that in positive frames, promotion focus enhances helping intention compared to prevention focus. Regulatory focus produced larger changes in lower-class prosocial behavior. Promotion focus amplified social class differences in prosocial behavior, while prevention focus narrowed them.

3.2 Experiment 2b

Experiment 2b further examines regulatory focus and social class effects on prosocial behavior in a negative frame, using different regulatory focus manipulations and adding a control group to test whether both orientations exert centrifugal effects or only one orientation drives the effects. Additionally, Experiment 2b employs a quasi-experimental approach to social class manipulation, using students from an underdeveloped region' s regular university and a developed region' s high-tuition international university as low and high social class samples to increase class differences and representativeness [29].

Method. Using G*Power, we determined that 158 participants were needed for a 2 × 3 between-subjects design with medium effect size (f = 0.25) and 80% power. We collected 243 samples, excluding 10 who failed attention checks, leaving 233 valid participants (119 male, M_{age} = 19.76 years, SD_{age} = 2.02). Of these, 117 were from a high-tuition university and 126 from a regular university. Average annual household income per capita was ¥125,900 for the high-tuition university sample and ¥27,800 for the regular university sample. According to China' s National Bureau of Statistics, national per capita disposable income was ¥35,100 in 2021. Thus, on income alone, the two samples represented distinct socioeconomic strata.

Measures and Materials

Social Class. Same as Experiment 2a.

Regulatory Focus. Following previous methods (e.g., De Cremer et al., 2009; Schwabe et al., 2017), promotion focus participants wrote about their current

hopes and aspirations and how to achieve them; prevention focus participants wrote about their duties and obligations and how to fulfill them; control participants described the previous week' s weather.

Prosocial Behavior. The basic task was identical to Experiment 2a, informing participants about a time-consuming, uncompensated experiment with few volunteers and asking their willingness to participate. Following Cheng et al. (2013), we created a negative frame by having all ten sections pre-selected by default, with participants expressing helping intention by keeping or deselecting options. More action (deselecting more options) produced worse outcomes for the requester, constituting a negative frame. The number of sections retained represented helping behavior, with more retained sections indicating greater helping.

Manipulation Checks. We used the same regulatory focus measure as Experiment 1. Between the regulatory focus manipulation and helping task, we included a number cancellation test where participants counted occurrences of the number 9 in a 20$×$10 matrix (44 total). This ostensible task served as an attention check; participants scoring beyond 2.5 SD from the mean (M = 45.39, SD = 2.89; N = 5) were excluded [66][67]. After the helping task, participants confirmed their selection status (retained all, selected some, or selected none) and their decision state (intentional, random, or confused). Mismatches between reported and actual selections or non-intentional decisions led to exclusion (N = 5).

Results. One-way ANOVA indicated that, controlling for gender and age, the promotion focus group (M = 6.01, SD = 0.95) showed higher promotion orientation than both the prevention focus group (M = 5.55, SD = 1.21; p = .016) and control group (M = 5.36, SD = 1.13; p < .001), F(2, 226) = 6.92, p = .001, p^2 = .06. For prevention orientation, the prevention focus group (M = 5.16, SD = 1.20) scored higher than both the promotion focus group (M = 4.65, SD = 1.21; p = .004) and control group (M = 4.68, SD = 1.22; p = .008), F(2, 226) = 5.17, p = .006, p^2 = .04. The regulatory focus manipulation was successful.

Using university type as a social class proxy, we conducted a 2 (social class) × 3 (regulatory focus) ANOVA. Social class main effect was not significant, F(1, 225) = 0.05, p = .822, p^2 = .000. Regulatory focus main effect was significant, F(2, 225) = 14.19, p < .001, p^2 = .11. The interaction was marginally significant, F(2, 225) = 2.41, p = .092, p^2 = .02. Simple effects analysis (see Figure 3 [Figure 3: see original paper]) showed that in the control condition, helping intention did not differ between classes (M_{low} = 3.63, SD_{low} = 4.29; M_{high} = 4.18, SD_{high} = 4.45), t(255) = 0.53, p = .595, Cohen's d = 0.12. This pattern held in the promotion focus condition (M_{low} = 2.20, SD_{low} = 3.28; M_{high} = 2.97, SD_{high} = 3.38), t(255) = 0.98, p = .327, Cohen' s d = 0.23. However, in the prevention focus condition, lower-class participants (M = 7.31, SD = 3.95) showed stronger helping intention than higher-class participants (M = 4.92, SD = 4.11), t(255) = 1.90, p = .059, Cohen' s d = 0.44. Furthermore, among lower-class participants, both prevention focus (t(255) =

3.51, p < .001, Cohen' s d = 0.80) and promotion focus (t(255) = -1.78, p = .077, Cohen' s d = 0.40) altered helping intention compared to control; among higher-class participants, neither regulatory focus condition differed significantly from control (t_{prevention}(255) = 1.06, p_{prevention} = .291, Cohen' s d = 0.24; t_{promotion}(255) = -1.25, p_{promotion} = .213, Cohen' s d = 0.29).

[Figure 3: see original paper]

Discussion. Experiment 2b again confirmed the framing-dependent effect of regulatory focus: in negative frames, promotion focus decreased prosocial intention while prevention focus increased it. The control group demonstrated that regulatory focus effects are bidirectional rather than unipolar, with both prevention and promotion orientations exerting influence. Moreover, Experiment 2b replicated that regulatory focus effects on prosociality were more pronounced in low-SES than high-SES groups. Due to this differential sensitivity, in regulatory orientations that enhanced prosociality, lower-SES individuals were more prosocial.

Experiment 3

Experiment 3 investigates the mechanism underlying regulatory focus effects on prosocial behavior—specifically, the mediating role of status quo strategies—to further test H1 and H2.

4.1 Method

Participants. Using G*Power, we determined that 158 participants were needed for a 2 (prosocial frame: positive vs. negative) × 3 (regulatory focus: promotion vs. prevention vs. control) between-subjects design with medium effect size (f = 0.25) and 80% power. Given the need for subsequent mediation analysis and similar studies using 523 participants [68], we ultimately recruited 523 online participants. Twenty-two failed attention checks (2 for number cancellation performance beyond 2.5 SD, 1 for insufficient sentences in the priming task, 19 for mismatched confirmation of selection or reported non-intentional decisions), leaving 501 valid participants (196 male, M_{age} = 27.64, SD_{age} = 5.56). All provided informed consent and received ¥5 compensation.

Measures and Materials

Regulatory Focus. Same as Experiment 2b.

Prosocial Behavior. Same helping task as Experiment 2. The positive frame group had a zero-default model with no sections pre-selected [69]; the negative frame matched Experiment 2b.

Status Quo Strategy. After the helping task, participants reflected on the action strategies used when selecting sections, rating the extent to which they wanted to maintain or change the default option state. Two items adapted from Cheng et al. [69] measured status quo preference: "I wanted to maintain the default

option state" and "I wanted to change the default option state" on 7-point scales (1 = strongly disagree, 7 = strongly agree). The status quo strategy index was created by subtracting the change preference score from the maintain preference score, with higher scores indicating stronger status quo preference.

Manipulation Checks. Same as Experiment 2b.

Control Variables. Gender, age, objective social class (household income per capita, occupation, education), and subjective social class (family, personal). Objective and subjective socioeconomic status were measured as in previous studies, using parental occupation and education for students and personal occupation and education for working adults.

4.2 Results

Manipulation Checks. Two ANCOVAs with regulatory focus manipulation and prosocial task frame as independent variables and promotion/prevention orientation as dependent variables, controlling for age, gender, and objective/subjective social class, revealed that the promotion focus group (M = 6.15, SD = 0.74) showed significantly higher promotion orientation than both prevention (M = 5.34, SD = 1.29; $p < .001$) and control groups (M = 5.04, SD = 1.41; $p < .001$), $F(2, 489) = 37.53$, $p < .001$, $p^2 = .13$. Main effects of frame and the frame × regulatory focus interaction were non-significant, confirming successful promotion focus manipulation.

For prevention orientation, the prevention focus group (M = 5.02, SD = 1.07) scored significantly higher than both promotion (M = 4.00, SD = 1.39; $p < .001$) and control groups (M = 4.25, SD = 1.46; $p < .001$), $F(1, 489) = 31.05$, $p < .001$, $p^2 = .11$. The frame main effect was significant, $F(2, 489) = 5.33$, $p = .021$, $p^2 = .01$, as was the frame × regulatory focus interaction, $F(2, 489) = 3.55$, $p = .029$, $p^2 = .01$. However, simple effects analysis confirmed that in both positive and negative frames, the prevention focus group (M_{positive} = 5.04, SD_{positive} = 0.87; M_{negative} = 4.99, SD_{negative} = 1.25) showed significantly higher prevention orientation than both promotion (M_{positive} = 3.56, SD_{positive} = 1.38, p_{positive} < .001; M_{negative} = 4.47, SD_{negative} = 1.24, p_{negative} = .001) and control groups (M_{positive} = 4.13, SD_{positive} = 1.48, p_{positive} < .001; M_{negative} = 4.39, SD_{negative} = 1.43, p_{negative} = .001). Thus, prevention focus manipulation was also successful.

Hypothesis Testing. A 2 (prosocial task frame) × 3 (regulatory focus) ANOVA on helping behavior, controlling for gender, age, and objective/subjective social class, revealed a significant frame × regulatory focus interaction, $F(2, 489) = 35.26$, $p < .001$, $p^2 = .13$. Simple effects analysis showed that in the positive frame, regulatory focus had a significant main effect, $F(2, 489) = 10.92$, $p < .001$, $p^2 = .04$. The promotion focus group (M = 5.11, SD = 4.08) showed significantly higher helping intention than the control group (M = 3.67, SD = 3.50), $p = .028$, while the prevention focus group (M =

2.37, SD = 2.59) showed significantly lower helping intention than the control group, p = .013. In the negative frame, regulatory focus also had a significant main effect, F(2, 489) = 25.63, p < .001, p^2 = .10. The prevention focus group (M = 6.69, SD = 4.17) showed significantly higher helping intention than the control group (M = 3.98, SD = 4.34), p < .001, while the promotion focus group (M = 2.28, SD = 3.00) showed significantly lower helping intention than the control group, p = .006.

Mediation Analysis. To examine why framing reverses regulatory focus effects on helping intention, we conducted a moderated mediation analysis using PROCESS macro Model 15 [70], with regulatory focus as the independent variable, helping intention as the dependent variable, status quo strategy as the mediator, and prosocial task frame as the moderator. As regulatory focus is categorical, we recoded it into two dummy variables with the control group as reference. Results showed that, controlling for gender, age, and objective/subjective social class, the moderated mediation was significant, index = 1.25, SE = 0.48, 95% CI [0.29, 2.18].

We then used PROCESS macro Model 4 [70] to test the mediating role of status quo strategy separately in positive and negative frames. Again, regulatory focus was dummy-coded with the control group as reference. In the positive frame (see Figure 4a [Figure 4: see original paper]), status quo strategy explained the difference between the prevention focus and control groups (effect = -0.20, SE = 0.08, 95% CI [-.37, -.05]) but did not explain the difference between the promotion focus and control groups (effect = 0.09, SE = 0.08, 95% CI [-.06, .24]).

In the negative frame (see Figure 4b [Figure 4: see original paper]), status quo strategy explained both the prevention focus versus control difference (effect = 0.30, SE = 0.10, 95% CI [.10, .50]) and the promotion focus versus control difference (effect = -0.24, SE = 0.10, 95% CI [-.43, -.05]).

[Figure 4: see original paper]

Experiment 3 demonstrates that status quo preference partially explains the framing-dependent effect: promotion focus reduced status quo strategy use, facilitating action and thus producing more helping when the default was zero (positive frame) but less helping when the default was all sections (negative frame). Conversely, prevention focus increased status quo strategy use, facilitating inaction and thus producing less helping in the positive frame but more helping in the negative frame.

Notably, in the positive frame, status quo preference did not mediate the promotion focus versus control difference, primarily because the promotion and control groups did not differ significantly on status quo strategy (p = .212). We suspect this may reflect that general status quo bias [71] weakened promotion focus' s change-oriented appeal, increasing status quo preference in the promotion group and thereby reducing the difference from the control group.

5. General Discussion

The current research examined how regulatory focus—a fundamental motivational factor influencing human behavior—affects prosocial behavior across social classes through four experiments, offering a new perspective on boundary conditions in the social class-prosocial behavior relationship. Results demonstrate that regulatory focus effects on prosocial behavior are framing-dependent: promotion focus enhances prosocial behavior in positive frames, while prevention focus enhances it in negative frames. Regulatory focus shows asymmetric effects across social classes, with lower socioeconomic status individuals being more sensitive to regulatory focus cues. Based on this differential sensitivity, regulatory focus (particularly orientations that enhance prosociality) amplifies social class differences in prosocial behavior. Status quo bias explains the framing-dependent effects of regulatory focus.

First, although limited, previous research has examined motivational influences on the social class-prosocial behavior relationship. For instance, concern for reputation makes higher classes more prosocial in public contexts and lower classes more prosocial in anonymous contexts [29]. Higher classes donate more to charity appeals emphasizing individual goals, while lower classes donate more to appeals emphasizing collective goals [30]. Notably, these motivations are "class-specific," with different classes showing quantitative or qualitative differences. Regulatory focus, as one of the most fundamental motivations in goal pursuit [4], provides a "cross-class" perspective (i.e., all individuals can hold these motivations at varying levels) that offers a more universal boundary condition, expanding this theoretical framework.

Second, our framing-dependent effect of regulatory focus reconciles previous inconsistencies in this literature. Existing research on regulatory focus and prosocial behavior is limited and yields mixed results, with some studies finding prosocial benefits of promotion focus [38][39][40][41] and others finding opposite results [42][43]. Starting from regulatory focus' s essential characteristics, we argue that it influences action strategies during goal pursuit, which subsequently affect action/inaction decisions. Whether action/inaction produces prosocial consequences depends on the prosocial task frame—whether action increases or decreases prosocial outcomes. Thus, regulatory focus effects on prosocial behavior have boundary conditions, with prosocial task frame being one such condition. This perspective is supported by moral decision-making research showing that individuals' prior moral decisions moderate regulatory focus effects on current moral behavior, with promotion focus producing moral balancing and prevention focus producing moral consistency [43][44].

Additionally, these results help explain recent "failures" of framing effects in domains like organ donation appeals. "Opt-in" and "opt-out" systems are commonly used participation frames. While prospect theory suggests "opt-out" should increase participation, recent analyses of 35 OECD countries found no difference in donation rates [72]. Our research may explain this phenomenon:

participation frames may not match individuals' regulatory orientations, thereby weakening framing effects. In "opt-out" frames, prevention-focused individuals may maintain the default (higher participation), while promotion-focused individuals may change the default (lower participation), with the mixture of both orientations neutralizing the "opt-out" advantage.

Furthermore, we found asymmetric effects of regulatory focus across social classes, with lower classes being more sensitive to regulatory focus and prosocial frame cues. This aligns with previous findings that lower-class decisions are more influenced by others [61], social norms [62], prior decisions [63], and frames [64]. This also suggests that future research on boundary conditions in the social class-prosocial behavior relationship should consider differential sensitivity across classes.

Finally, our research offers practical guidance for enhancing charitable appeal effectiveness. Based on our findings, charitable appeals should match task settings with implied motivational orientations. Many current appeals use "opt-out" frames—a typical negative frame where action (deselecting "participate" or selecting "not participate") reduces prosociality. Such appeals should activate prevention focus by emphasizing duty, obligation, and avoiding negative consequences, thereby encouraging individuals to maintain the default option and achieve the appeal' s goal.

Limitations and Future Directions. Several limitations suggest avenues for future research. First, although we argue that clarifying prosocial preferences across classes is more meaningful than simply identifying which class is more prosocial, our experiments did not yield consistent main effects of social class. Experiment 2a found evidence of "having less, giving more," while Experiments 1 and 2b found no class differences. We suspect this may reflect sample differences. Experiment 2b used a quasi-experimental design with distinct university samples to enhance ecological validity, and Experiment 1 simulated real-world conditions. Experiment 2a, however, measured relative socioeconomic status within a more homogeneous student population. Thus, the populations represented may differ across studies, and social class effects on prosocial behavior may be non-linear rather than simple linear relationships, as found for other behaviors [68]. Future research should further investigate these possibilities.

Second, our research focused on prosocial frames defined by whether actions produce positive or negative externalities. However, "framing" encompasses many other presentation modes [73], such as gain/loss frames emphasizing "increasing happiness" versus "avoiding misfortune." These frames could further specify boundary conditions for regulatory focus effects on prosocial behavior, and the underlying mechanisms may differ from our status quo strategy account. For instance, regulatory fit theory may explain gain/loss frame effects, where persuasion occurs only when regulatory focus matches frame characteristics (promotion in gain frames, prevention in loss frames). Different framing systems may also moderate class differences in sensitivity to regulatory focus. For example, regulatory fit effects in gain/loss frames are stronger among indi-

viduals high in private self-focus [74], a characteristic of higher social classes [11]. When frames contain monetary cues, poorer individuals may be less sensitive due to focus on immediate needs [75][76]. Future research should examine regulatory focus effects across other prosocial framing modes and their differential impact across social classes.

Finally, our findings show that regulatory orientations enhancing prosocial behavior amplify social class differences, while those diminishing prosocial behavior reduce (Experiment 2a) or fail to alter (Experiment 2b) class differences. Given our assumption that social class itself has minimal direct effect, we hypothesized that regulatory orientations diminishing prosocial behavior would also amplify class differences due to lower classes'greater sensitivity. In Experiment 2a, where lower classes were more prosocial overall, the reduction of class differences by a prosociality-diminishing regulatory orientation actually aligns with our logic: lower classes' prosociality decreased more than higher classes' , averaging out the difference. In Experiment 2b, although lower classes' prosociality decreased more, the difference in reduction between classes was insufficient to produce a class difference. Whether this result is coincidental or indicates that class differences in prosociality reduction are larger in positive than negative frames warrants further investigation.

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Note: Figure translations are in progress. See original paper for figures.