



(RESEARCH ARTICLE)



# The influence of subjective socioeconomic status on inclination to offline collective action: a sequential mediation framework of group relative deprivation and online collective behavioral intentions

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## Abstract

This study investigates the influence of subjective socioeconomic status (SES) on the inclination towards collective action among college students while exploring the mediating roles of group relative deprivation and intentions of online collective behavior. A sample of 250 undergraduate students from diverse Chinese universities participated in a survey, anonymously completing measures of subjective SES, group relative deprivation, intention of online collective behavior, and intention of offline collective action. Utilizing Model 6 of the SPSS PROCESS macro, the data was analyzed to examine sequential mediation effects. Results indicate a significant negative predictive relationship between SES and offline collective behavior intention ( $\beta=-0.843$ ,  $p<0.001$ ). Mediation analysis reveals a sequential mediating mechanism, with SES exerting an indirect effect on offline collective behavior dispositions through group relative deprivation ( $\beta=-0.423$ ,  $p<0.001$ ), further influencing the intention of online collective behavior ( $\beta=0.657$ ,  $p<0.01$ ). The sequential mediation model explains 21.9% of the total effect. This study contributes to understanding the complex mechanisms underlying the impact of subjective SES on collective action intentions, emphasizing the importance of considering subjective perceptions in predicting collective behavior. These findings have implications for theoretical frameworks and practical interventions aimed at fostering collective action in various societal contexts.

**Keywords:** Subjective Socioeconomic Status; Collective Action; Group Relative Deprivation; Online Collective Behavior; Sequential Mediation; Intention Analysis

## 1. Introduction

The emergence of the COVID-19 pandemic brought about a plethora of intricate social challenges, one of which is the phenomenon of collective action. Particularly within the student community, unprecedented limitations on access to campus facilities and traditional in-person learning environments have catalyzed numerous instances of collective action aimed at navigating the multifaceted challenges posed by the pandemic and facilitating holistic recovery—emotionally, physically, psychologically, and financially. As the process of recovery from the pandemic continues, opportunities for collective action persist, underscoring the importance of comprehending the underlying mechanisms driving such behavior. A nuanced understanding of this phenomenon is crucial for averting potential negative social ramifications that may disrupt the established social order and stability (Sablonnière & Taylor, 2020). Given the complexities of collective behavior and its ethical implications, accurately forecasting collective behavior in real-world settings remains a daunting task, often necessitating the assessment of collective behavior intention (Bavel et al., 2020;

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Heins et al., 2023). Theories such as the theory of planned behavior (Zaremohzzabieh et al., 2019; Ajzen, 1991) and empirical research (Zhang et al., 2009) have consistently demonstrated the predictive validity of behavioral intention for actual behavior. In line with this literature, the present study adopts a measure of collective behavior intention to explore the determinants of college students' collective behavior intention within the Chinese context, offering valuable insights for a more precise understanding and prediction of individual and collective behaviors.

Collective behavior, a prominent phenomenon in social groups, is characterized by actions undertaken by group members to advance the interests of the collective entity (Lee, 2020; Wright, 2009; Wright et al., 1990). It encompasses spontaneous and sometimes unstable actions, where individuals voluntarily engage under the influence of others without explicit directives (Lee & Littles, 2020). Described by social psychologists as a popular yet unorganized form of behavior, collective behavior often conforms to institutional norms through demonstrations and petitions (Yan, 2012; Zavala, 2019). However, it can deviate from legal boundaries, manifesting in destructive acts such as violence and vandalism (Bak-Coleman, 2021; Tausch et al., 2011). Within the realm of higher education, college students' collective behavior has been historically significant, serving as a traditional mode of political participation in Chinese society (Liu, 2004).

The student body in college comprises individuals from diverse backgrounds, encompassing various social classes. Extensive research has underscored the profound influence of social class on individual psychology and behavior (Côté, 2022). Scholars posit that individuals from lower social strata may experience heightened negative emotions due to the socioeconomic challenges they encounter, subsequently fostering a propensity for collective action (Yao & Enright, 2022; Wyer et al., 2019). Recognizing the multidimensional nature of social class evaluation, researchers advocate for the inclusion of subjective perceptions alongside objective economic indicators such as income, education, and occupation (Goodman, 2001; Christie & Barling, 2009; Adler et al., 2000). Moreover, subjective assessments of social class demonstrate superior predictive validity compared to objective measures (Bai et al., 2021; Hu et al., 2014; Kraus & Stephens, 2012). Chu & Bi (2016) further elucidate that subjective socioeconomic status significantly influences individual socialization behaviors, thereby shaping collective actions. Thus, it becomes evident that subjective socioeconomic status inevitably permeates typical socialization behaviors, thereby impacting collective behavior.

### **1.1. The Direct effect**

Subjective social status, defined as individuals' perception of their own socioeconomic standing (Tan et al., 2020; Navarro-Carrillo et al., 2020; Adler et al., 2000), encompasses not only objective socioeconomic factors but also their relative position in the social hierarchy and perceived class (Yang et al., 2020; Manstead, 2018). Grounded in life history theory (Kaplan & Gangestad, 2005; Wang & Wang, 2018), which posits varied life strategies in response to pivotal life decisions, socioeconomic status in childhood is linked to the adoption of distinct life strategies. Empirical evidence suggests that children from lower socioeconomic backgrounds tend to favor fast life strategies, exhibiting greater propensity for risk-taking and aggression (Zhang et al., 2020; Griskevicius et al., 2013; Peverill et al., 2020; Simpson et al., 2012; Brumbach et al., 2009). Moreover, individuals with lower socioeconomic status are more prone to engaging in stressful and impulsive collective behaviors (Gur et al., 2019; Guo et al., 2017), a phenomenon prevalent in the contemporary Chinese social landscape (Cao et al., 2020; Yan, 2012; Chen et al., 2010). Building upon these observations, this study posits Hypothesis 1 (H1): Subjective socioeconomic status negatively predicts the propensity to offline collective action.

### **1.2. The First Mediating Effect**

The Relative Deprivation Gratification (RD-G) model posits that an individual's perception of their position relative to a reference group significantly influences their behavior (Zhang et al., 2010; Power et al., 2020). Specifically, individuals with higher subjective socio-economic status tend to experience greater life satisfaction when they perceive themselves as being in a favorable position compared to the reference group, while those with lower subjective socio-economic status may experience heightened feelings of deprivation when perceiving themselves as disadvantaged (He et al., 2021; Ren et al., 2022). This prolonged sense of relative deprivation has been identified as a catalyst for collective action (Zhai et al., 2020; Wright & Taylor, 1990; Zhang et al., 2012; Xiong & Ye, 2016). Moreover, research has demonstrated that group-relative deprivation exerts a stronger predictive effect on collective behavior and other outcome variables at the group level (Xiong et al., 2021; Smith et al., 2012; Abrams & Grant, 2012; Zhang et al., 2009). Building upon these findings, we propose Hypothesis 2 (H2): group relative deprivation mediates the relationship between subjective economic status and the intention of offline collective action.

### 1.3. The Second Mediating Effect

Online collective behavior refers to the coordinated actions of numerous internet users as they interact across virtual platforms, disseminating their perspectives and opinions in response to common stimuli, thereby shaping online and real-world societies (Lu et al., 2020; Nguyen et al., 2020; Du & Wei, 2010). Objective social factors, including social background, class, and structure, significantly influence the formation and dynamics of online clusters (Li, 2020; Festl, 2020). Fritsche et al. (2016) underscored the association between participation in collective behavior and social class, with individuals from lower socioeconomic strata often feeling marginalized by higher class groups (Yin & Zhang, 2017). Even unintended power imbalances can evoke feelings of resentment, fueling collective action among disadvantaged groups. Given that subjective economic status serves as a proxy for social class, it is reasonable to infer that perceptions of economic standing can shape engagement in online collective behavior.

Collective action, as an extension and manifestation of online collective behavior, is intrinsically linked to the dynamics of online interactions. Previous studies have suggested that online collective behavior may serve as a precursor to real-life group events (Ferreira et al., 2022; Lu & Nie, 2019). While empirical research directly exploring online collective behavior as an intermediary variable remains scarce, existing literature provides insights into the relationship among these constructs (Achdut et al., 202; Lilly et al., 2023; Meuleman et al., 2019). With the pervasive influence of the internet, elucidating the interaction between online collective behavior and real-world collective action holds significant implications for advancing our understanding of collective behavior dynamics. Moreover, insights derived from such investigations can inform the development of policies and regulations pertaining to social order. Hence, this study posits Hypothesis 3 (H3): The intention of online collective behavior mediates the relationship between subjective socioeconomic status and the intention of offline collective action.

### 1.4. The Sequential Mediation Effect

Theories such as cognitive dissonance theory (Festinger, 1957) and relative deprivation theory (Smith et al., 2012; Xiong & Ye, 2016) propose that negative emotions stemming from perceived group deprivation and social class conflicts can motivate individuals to seek change through collective action. This fundamental motivation influences individual participation in online collective behaviors (Li, 2020). Relative deprivation has been linked to increased engagement in online group events (Dollard et al., 1939; Foster & Matheson, 1995), triggering negative emotions such as inferiority, depression, resentment, and anger (Ni, 2018). Moreover, the internet's characteristics of openness, anonymity, and transcendence can amplify these negative emotions, potentially leading to extremist speech or violent behavior (Gaudette et al., 2020; Zhang, 2023; Petrovskiy & Chikunov, 2019). Research suggests that group relative deprivation has a stronger predictive effect on collective action compared to individual relative deprivation (Rottweiler & Gill, 2022; Grasso et al., 2019). Therefore, it can be inferred that individuals with low subjective socioeconomic status may experience a heightened sense of group relative deprivation.

This heightened perception of group relative deprivation is associated with increased engagement in online collective behavior and also serves as a predictive factor for actual collective action (Rotella & Mishra, 2020; Guo & Li, 2020). Despite limited prior investigations concurrently examining both group relative deprivation and online individual behavior in dual mediation analyses, existing research and theoretical frameworks suggest the feasibility of exploring the interrelationships among these variables. Consequently, this study suggests Hypothesis 4 (H4): group relative deprivation and the intention of online collective behavior exhibit a chain mediating effect in the mechanism through which subjective socioeconomic status influences the propensity for offline collective action.

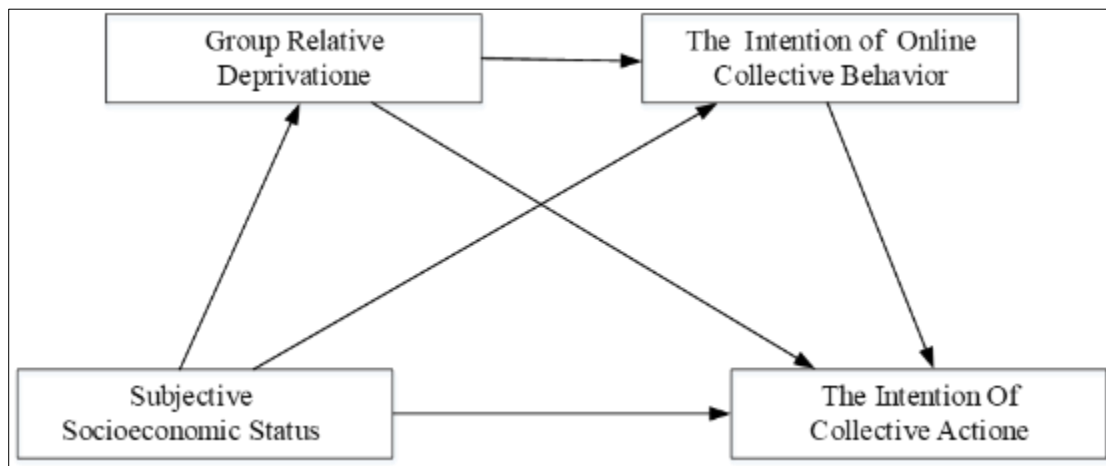
### 1.5. The Current Study

There is a notable correlation between subjective socioeconomic status (SES), group relative deprivation, the intention of online individual behavior, and the tendency to offline collective action. However, empirical research on the elaborate mechanisms underlying the impact of socioeconomic status on offline cluster behavioral propensities, particularly integrating group relative deprivation and online collective behavior intention, remains relatively scarce. Therefore, the present study aims to comprehensively investigate the underlying mechanisms of subjective socioeconomic status (SES) on the inclination to offline collective action, through the sequential mediating effect of group relative deprivation and the intention of online collective behavior. The study posits four hypotheses as follows:

- **H1:** Subjective socio-economic status negatively predicts the propensity to collective action.
- **H2:** Group relative deprivation mediates the relationship between subjective socioeconomic status and the propensity to offline collective action.
- **H3:** The intention of online collective behavior mediates the association between subjective socioeconomic status and the propensity to offline collective action.

- **H4:** Group relative deprivation and the intention of online collective behavior sequentially mediate the effect of subjective socioeconomic status on the propensity to collective action.

These hypotheses are delineated below in further detail.



**Figure 1** Sequential mediation model of the current study

## 2. Material and Methods

### 2.1. Participants and Procedures

The study employed a random sampling survey methodology to gather data from undergraduate students across various universities. Questionnaires were distributed using both online and offline modalities. A total of 250 participants completed the questionnaires, providing information on demographic characteristics, subjective socioeconomic status, group relative deprivation, intention of online behavior, and offline cluster behavior intention. From the responses received, 209 questionnaires were deemed valid, representing a response rate of 83.6%. Among the respondents, 133 were female and 76 were male, with ages ranging from 18 to 28 years ( $M=20.92$  years,  $SD=1.53$  years).

### 2.2. Measures

#### 2.2.1. Subjective socio-economic status

In this study, we utilized the MacArthur Scale of Subjective Social Status (SSS), as developed by Adler et al. (2000), to assess the subjective socioeconomic status of college students. The SSS employs a ladder scale comprising ten levels, where participants are asked to indicate the level on the ladder that best represents their perceived socioeconomic status. Each level is associated with a numerical value ranging from 1 to 10, with higher scores indicating a higher perceived socioeconomic status. While the scale's reliability was not assessed due to its single-item nature, it was subjected to validity analysis to ensure its appropriateness for measuring subjective socioeconomic status among our study participants.

#### 2.2.2. Group Relative Deprivation

The current study operationalized group relative deprivation by utilizing a reference point derived from the organization of internships and employment guidance within 985 universities, underpinned by the dual dimensional structure model of cognitive-emotional relative deprivation. Drawing on Zagefka et al.'s (2013) adaptation of a questionnaire assessing economic relative deprivation among British college students in comparison to their German counterparts, participants were presented with two items to gauge the cognitive and emotional components of group relative deprivation. Items such as "How do you perceive your university's arrangements for internships and employment guidance relative to those of 985 universities?" (Cognitive component, rated on a scale from 1 indicating very poor to 7 indicating very good) and "How satisfied are you with the arrangements for internships and employment guidance at your university compared to those of 985 universities" were employed. Reverse scoring was applied to these items, which were then aggregated to yield a composite score reflecting the level of relative deprivation within the group. A robust correlation coefficient of 0.752 ( $p < 0.01$ ) between the two scales attests to the close relationship

and suitability for measurement across the two dimensions. Moreover, the high internal consistency, as indicated by Cronbach's  $\alpha$  coefficient of 0.857, underscores the reliability of the measurement instrument.

### 2.2.3. *The Intention of Online Individual Behavior*

The measurement of online collective behavior intention in this study followed established methodologies employed in previous literature (Yin et al., 2017; Zhang et al., 2012). Utilizing a Likert 7-point scale, participants responded to six items assessing their willingness to engage in various forms of collective action, such as sharing messages with friends for collective protest or participating in online voting. Responses ranged from 1, indicating complete unwillingness, to 7, indicating strong willingness. High scores on this scale indicated a heightened propensity for network collective behavior. The scale demonstrated satisfactory internal consistency, with a Cronbach's  $\alpha$  coefficient of 0.864, indicative of good reliability.

### 2.2.4. *The Intention of Collective Action*

The measurement of cluster behavior intention was informed by previous studies in the field (van Zomeren et al., 2012) and subsequently revised to suit the context of the present study. This scale comprises six items designed to assess individuals' willingness to engage in offline collective actions aimed at addressing issues related to student internships and employment guidance within the school setting. Items such as "I am willing to unite with other classmates to exert pressure on the school through face-to-face discussions with school leaders" and "I am willing to participate in protest activities to protest against the school's shortcomings" were included. Responses were scored using a 7-point Likert scale, ranging from 1 (completely impossible) to 7 (completely possible), with higher scores indicating greater intention to engage in cluster behavior. The scale demonstrated good reliability, with a Cronbach's  $\alpha$  coefficient of 0.822.

## 2.3. Statistical Analysis

Data analysis was conducted using SPSS 26.0 software, encompassing data entry, organization, descriptive statistics, and correlation analysis among variables. To examine the mediation model, the nonparametric percentile Bootstrap method was employed alongside the SPSS macro program developed by Hayes (2013). This assessment aimed to discern the indirect influence of subjective socioeconomic status (SES), relative group deprivation, online collective behavior intention, and propensity to offline collective action. Control variables included the type of school the student attends and the objective monthly income of the family. Subsequently, chain-mediated analysis was performed using Model 6 of the PROCESS macro plugin provided by Hayes (2013), adjusting for school types and average monthly income. This analysis scrutinized the mediating and chain-mediating effects of subjective SES, group relative deprivation, online collective behavior intention, and offline collective action propensity. The significance level was set at  $p < 0.05$ , and all variables were standardized to facilitate uniform quantification and streamline data analysis.

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## 3. Results

### 3.1. Common method bias test

Since the questionnaire approach may lead to common method bias, a common method bias test was performed on the data using Harman's single factor test. The results showed that there were a total of 4 factors with eigenvalues greater than 1, with a maximum eigenvalue of 6.143 and a maximum factor variance interpretation rate of 32.334% (less than 40%). Therefore, there was no significant common method bias in this study.

To address the potential issue of common method bias stemming from the questionnaire approach, we conducted a common method bias test utilizing Harman's single factor test. The results indicated the presence of four factors with eigenvalues exceeding 1, with the highest eigenvalue recorded at 6.143 and a corresponding maximum factor variance interpretation rate of 32.334%, falling below the recommended threshold of 40%. Consequently, based on these findings, it can be inferred that no significant common method bias was detected in the current study. Participants were assured of the anonymity and confidentiality of their responses, with explicit clarification that the study's findings would remain solely within the realm of academic research.

### 3.2. Correlation Analysis of Variables

**Table 1** presents the mean scores, standard deviations, and correlation matrices for the variables under study. The correlation analysis reveals several significant associations. Specifically, a negative correlation is observed between school type and the intention of online collective behavior ( $r = -0.08$ ,  $p < 0.05$ ), while a positive correlation is found between family monthly average income and subjective socioeconomic status ( $r = 0.30$ ,  $p < 0.01$ ). Notably, subjective socioeconomic status (SES) exhibits a negative correlation with group relative deprivation ( $r = -0.37$ ,  $p < 0.01$ ) and the

intention of online collective behavior ( $r = -0.28, p < 0.01$ ). Furthermore, group relative deprivation demonstrates a positive correlation with both the intention of online behavior ( $r = 0.23, p < 0.001$ ) and the propensity for offline collective action ( $r = 0.25, p < 0.01$ ), while the intention of online behavior exhibits a positive correlation with the propensity for collective action ( $r = 0.71, p < 0.01$ ).

**Table 1** Descriptive statistics and correlational analysis of variables (n =209)

Variables	M	SD	1	2	3	4	5	6
1 School type	2.986	0.119	1					
2 FMAI	1.761	0.721	0.072	1				
3 SES	4.703	1.608	0.078	0.304**	1			
4 GRD	8.378	1.802	0.025	-0.115	-0.374**	1		
5 IOCB	28.325	5.373	-0.083	-0.154*	-0.279**	0.226**	1	
6 POCA	27.459	5.512	-0.144*	-0.090	-0.205**	0.254**	0.707**	1

Note: School type; FMAI= Family Monthly average income (1= Below 5000,2=5000-8000,3= over 8000); SES= subjective socioeconomic status; GRD= group relative deprivation; IOCB= the intention of online collective behavior; POCA= propensity to offline collective action  
\* $p < 0.05$ ,\*\* $p < 0.01$ . Double tailed, the same below.

### 3.3. Chain Mediating Effects Analysis

The mediation analysis was conducted using the Bootstrap method implemented in the SPSS macro program developed by Hayes (2013). Specifically, Model 6 of the SPSS macro was employed to test the chain mediation model. Control variables included school type and monthly household average income, while subjective socioeconomic status served as the independent variable. Mediating variables comprised group relative deprivation and the intention of online collective behavior, with the propensity to collective action as the dependent variable.

The results, presented in **Table 2** and **Figure 2**, revealed several key findings. Firstly, subjective socioeconomic status negatively predicted offline collective action inclination ( $B = -0.843, p < 0.001$ ), thereby supporting hypothesis 1 (H1). Furthermore, subjective socioeconomic status exhibited a significant negative prediction of group relative deprivation ( $B = -0.423, p < 0.001$ ). While group relative deprivation positively predicted online collective behavior intention ( $B = 0.657, p < 0.01$ ), subjective socioeconomic status did not significantly predict the intention of online collective behavior ( $B = -0.368, p > 0.05$ ).

Notably, the individual mediating effect of group relative deprivation between subjective socioeconomic status and the propensity to offline collective action was found to be non-significant, thereby refuting hypotheses 2 (H2). However, subjective socioeconomic status significantly predicted online collective behavior intention ( $B = -0.415, p < 0.05$ ), which, in turn, positively predicted the propensity to offline collective action ( $B = 0.664, p < 0.001$ ), supporting H3. The sequential mediation effect between group relative deprivation and online collective behavior intention was deemed significant, thereby providing support for Hypothesis 4 (H4).

**Table 2** Regression results of the chain mediating effects model (n =209)

Outcome (Y)	Predictors (X)	R	R <sup>2</sup>	F	B	t	Boot LLCI	Boot ULCI
Equation 1								
POCA		0.294	0.086	6.457				
	SY				-2.606	-0.863	-8.563	3.351
	FMAI				-0.544	-1.040	-1.575	0.487
	SES				-0.843	-3.592***	-1.305	-0.380
Equation 2								
GRD		0.378	0.143	11.420				
	SY				0.833	0.849	-1.101	2.768

	FMAI				-0.011	-0.067	-0.346	0.324
	SES				-0.423	-5.551***	-0.573	-0.273
Equation 3								
IOCB		0.314	0.099	5.576				
	SY				-6.427	-2.079*	-12.523	-0.331
	FMAI				-0.171	-0.319	-1.224	0.883
	SES				-0.368	-1.432	-0.875	0.139
	GRD				0.657	2.991**	0.224	1.090
Equation 4								
POCA		0.723	0.523	44.462				
	SY				1.301	0.586	-3.079	5.681
	FMAI				-0.426	-1.120	-1.175	0.324
	SES				-0.415	-2.261*	-0.777	-0.053
	GRD				-0.004	-0.023	-0.318	0.311
	IOCB				0.664	13.340***	0.566	0.762
Note: SY= School type ; FMAI= Family Monthly average income; SES= subjective socioeconomic status ; GRD= group relative deprivation ; POCA= the propensity to offline collection action ; IOCB= intention of online collective behavior. *P<0.05, **p<0.01.***p<0.001, Double tailed, the same below.								

Based on the confirmation of the chain-mediated effect, the total and indirect effects were computed and are presented in **Table 3**. The total mediating effect value of group relative deprivation and network cluster behavior intention is -0.427 (SE=0.176, 95% CI= [-0.781, -0.097]), which accounts for 50.65% of the total effect (-0.843). Specifically, the mediating effect is observed through three pathways:

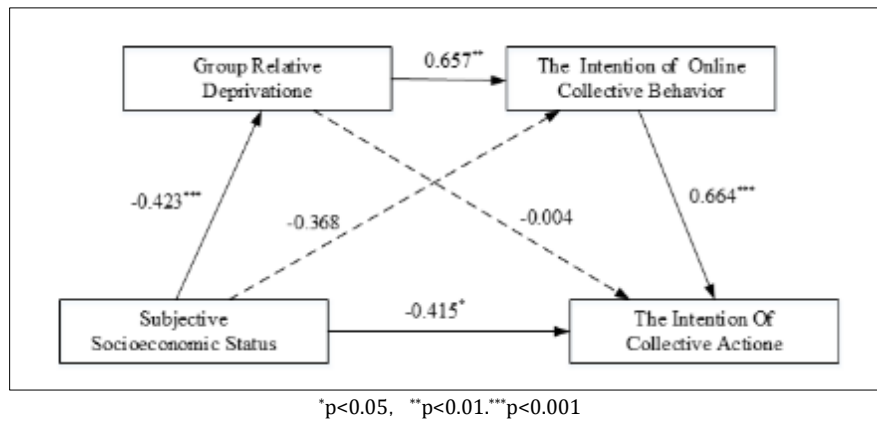
- **Indirect path 1 (Ind1):** [subjective economic status → group relative deprivation → the intention of collective action]. The mediating effect value of this path is 0.002 (SE=0.074, 95% CI=[-0.150, 0.150]). However, its confidence interval encompasses 0, indicating a nonsignificant mediating effect.
- **Indirect path 2 (Ind2):** [Subjective economic status →the intention of online collective behavior → the intention of collective action]. The mediating effect value of this path is -0.244 (SE=0.178, 95% CI=[-0.616, 0.086]). Similarly, the confidence interval includes 0, suggesting a nonsignificant mediating effect.
- **Indirect path 3 (Ind3):** [Subjective economic status → relative group deprivation → the intention of online collective behavior → the intention of collective action]. The mediating effect value of this pathway is -0.185 (SE=0.088, 95% CI=[-0.378, -0.033]).

Notably, its confidence interval does not encompass 0, indicating a significant mediating effect through this pathway.

**Table 3** Results and comparison of chain mediating effect (n = 209)

	Effect	Boot SE	Boot LLCI	Boot ULCI	Ratio of indirect to total effect (%)
Total effect	-0.843	0.235	-1.305	-0.380	
Total indirect effect	-0.427	0.176	-0.781	-0.097	50.65%
SSS-GRD-IOCA	0.002	0.074	-0.150	0.150	0.24%
SSS-IOOCB-IOCA	-0.244	0.178	-0.616	0.086	28.94%
SSS-GRD-IOOCB-IOCA	-0.185	0.088	-0.378	-0.033	21.95%

Note: SY= School type ; FMAI= Family Monthly average income; SES= subjective socioeconomic status ; GRD= group relative deprivation ; POCA= the propensity to offline collection action ; IOCB= intention of online collective behavior. \*p<0.05, \*\*p<0.01.\*\*\*p<0.001, Double tailed, the same below.



**Figure 2** The chain mediating effect of group relative deprivation and the intention of online collective behavior

## 4. Discussion

The present study corroborates previous research indicating that subjective socioeconomic status exerts a significant negative influence on the intention of collective action, aligning with findings from prior investigations (Furlong & Vignoles, 2020; Chen et al., 2020; Liu, 2018; Guo et al., 2017; Li et al., 2012). Importantly, our findings further elucidate the underlying mechanisms through which subjective socioeconomic status influences collective action. Specifically, our study reveals that subjective socioeconomic status impacts the propensity to collective action via a sequential mediating pathway involving group relative deprivation and the intention of online behavior. These findings contribute to a deeper understanding of the intricate dynamics involved in the relationship between subjective socioeconomic status and collective action.

### 4.1. The Direct Effect- Subjective Socioeconomic Status on the Propensity to Collective Action

The research findings support Hypothesis 1, indicating that subjective socioeconomic status (SES) is inversely associated with the propensity to engage in collective action. This aligns with previous studies by Park & Lee (2023), Zhang et al. (2021), and Liu (2018), which have shown that individuals with lower subjective socioeconomic status exhibit decreased willingness to participate in group activities. Moreover, empirical evidence from Pozuelo et al. (2021), Hussong et al. (2020), Pozzoli & Gini (2020), and Guo et al. (2017) suggest that students with lower social status are more inclined towards risky behaviors, such as aggression, particularly in stressful situations. Additionally, research by Xu et al. (2022), Salgado et al. (2021), and Dover et al. (2019) has demonstrated that college students with lower subjective SES perceive fairness more acutely, which directly influences their inclination towards collective action (Jing & Chao, 2021; Bauwens et al., 2019; Yang, 2018). These findings indicate that individuals with lower subjective socioeconomic status exhibit a higher tendency towards collective action, whereas those with higher subjective socioeconomic status are less prone to engage in collective action. Furthermore, these results provide support for the application of life history strategy theory (Han & Chen, 2020; Rivara & Madrigal, 2019; Giskevicius et al., 2013) to college students, expanding its utility and validating previous research indicating that individuals with lower subjective SES are inclined towards fast life history strategies.

### 4.2. The First and Second Mediating Effects- Group Relative Deprivation and Intention of Online Collective Behavior

The findings of this study revealed that the mediating effect of group relative deprivation on the relationship between subjective socioeconomic status and the propensity to engage in offline collective action was not significant, disapproving hypothesis 2 (H2). Notably, the influence of group relative deprivation on the propensity to engage in collective action was also found to be non-significant, thereby questioning the validity of the proposed indirect effect (Ind1). This lack of significance may be attributed to the moderate level of correlation observed between group relative deprivation and collective action, as suggested by prior research (Zhang et al., 2012; Walker & Smith, 2002; van Zomeren et al., 2008). Furthermore, empirical studies (Mummendey et al., 1999; Smith et al., 2008) have highlighted that group relative deprivation may indirectly impact the inclination towards collective action through other intermediary variables such as group dissatisfaction, group anger, and group efficacy. Thus, it is evident that the mere existence of group relative deprivation does not invariably precipitate widespread resistance (Zhang et al., 2010).



Moreover, individuals experiencing a sense of group relative deprivation may seek to address their circumstances through various means, such as striving to alter their social status or adjusting their reference groups (Rottweiler & Gill, 2022; Leviston et al., 2020). Resource mobilization theory (Tianhang, 2022; Xu, 2023; Knoke, 1990) posits that the decision to engage in collective behavior is intricately linked to individuals' assessments of costs and benefits, as well as their interactions while mobilizing resources. Participants in the current study consisted of college students, a demographic typically constrained by limited resources for mobilization. Furthermore, college students possess greater emotional regulation capabilities and organizational skills (Fan, 2019; Liu et al., 2019), potentially diminishing the mediating effect of group relative deprivation (Xiong et al., 2023; Smith et al., 2020).

The current study examined the mediating effect of online collective behavior intention in the association between subjective socioeconomic status and the propensity for collective action, with hypothesis 3 (H3) positing this mediation to be significant. However, our findings did not support H3, as the analysis of the indirect path 2 (Ind2) revealed a non-significant impact of subjective socioeconomic status on the intention of online collective behavior. This discrepancy may be attributed to the nuanced interaction between subjective and objective factors influencing online collective behavior (Kim et al., 2021; Li et al., 2012). While social class serves as an objective determinant, individual subjective factors, particularly emotional considerations, emerge as direct motivators for engagement in collective behavior (Li et al., 2022; Li, 2021; Rabel et al., 2019). Consequently, the non-significant mediating effect of online collective behavior intention underscores the complexity of eliciting robust emotional responses from participants during data collection, thus shedding light on the pivotal role of perceptual factors in shaping collective action dynamics.

#### **4.3. The Sequential Mediation Effect- Group Relative Deprivation and Intention of Online Collective Behavior**

The findings of this study suggest that subjective socioeconomic status significantly influences group relative deprivation, which in turn impacts individuals' intentions for online collective behavior. This mediated pathway, establishing a chain effect on the propensity for collective action, is supported by the confirmation of hypothesis 4 (H4). Previous research has shown that individuals' subjective socioeconomic status is linked to their perceived sense of group relative deprivation (Lilly et al., 2023; Smith et al., 2019; Yoo et al., 2019), which subsequently influences their intentions for online collective behavior (Zhai et al., 2020; Xiong et al., 2021), ultimately affecting real-life collective action (Bashri, 2020; Lee & Littles, 2020). These findings align with the tenets of the cognitive dissonance theory (Cooper, 2019; Festinger, 1957) and relative deprivation theory (Xiong & Ye, 2016; Smith et al., 2012), which propose that individuals with higher subjective socioeconomic status are better able to alleviate their sense of group relative deprivation, thereby reducing their intention to engage in online collective behavior and subsequently lowering their inclination towards real-life collective action. In essence, heightened relative deprivation within a group tends to increase individuals' intention towards collective behavior online, consequently leading to a corresponding rise in their inclination to engage in real-life collective action.

#### **4.4. Implications, Limitations and Future Research Prospects**

This study explores the elaborate relationship between subjective socioeconomic status and the inclination towards collective action, through examining the mediating roles of group relative deprivation and intention for online collective behavior. Theoretical underpinnings are significantly strengthened by this investigation, contributing to a deeper understanding of the nexus between subjective socioeconomic status and propensity to collective action, and adding nuance to existing theories of socioeconomic status and cluster behavior (Ishii & Eisen, 2020; Wetherall, 2019). From a practical standpoint, this research holds implications for informing the development of robust social risk warning systems, drawing upon psychological theory to enhance effectiveness. Unlike prior studies that primarily focused on proximal variables such as group anger in collective action, our study takes a comprehensive approach by simultaneously exploring the interconnectedness of subjective socioeconomic status, group relative deprivation, intention of online collective behavior, and propensity to collective action. Notably, previous research has treated online collective behavior intention merely as an extension of cluster behavior intention, overlooking the complex mechanisms driving the transition from online collective behavior intention to actual cluster behavior. However, this study integrates the intention of online collective behavior as a motivating factor into the analytical model, thereby expanding and enriching the landscape of collective action research (Agostini & van Zomeren, 2021; Thonhauser & Weichold; Vestergren et al., 2019)

Several limitations and shortcomings warrant consideration in this study. Firstly, the cross-sectional design employed in this research precludes establishing causality among variables. To address this limitation, future research could employ longitudinal and experimental designs to elucidate the intrinsic relationships between variables. Secondly, the use of a questionnaire-based measurement approach introduces subjectivity into the measurement results, potentially compromising objectivity. To mitigate this limitation, future studies could explore alternative measurement methods such as scenario experiments, or leverage big data and qualitative research for a more comprehensive analysis.

Additionally, this study did not differentiate between different types of online collective behavior intentions, which may have distinct occurrence and impact mechanisms. Future research should explore various forms of collective behavior and their implications for practice in this field (McNeish & Kelly, 2019; Li et al., 2018). Addressing these limitations will enhance the robustness and applicability of findings in understanding online collective behavior phenomena.

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## 5. Conclusion

In conclusion, our study contributes novel insights into the relationship between perceived socioeconomic status and the intention of collective action. The findings reveal a significant negative predictive relationship between individual perceptions of socioeconomic status and the propensity to engage in collective action. Moreover, our analysis elucidates the underlying mechanism through which this impact unfolds, demonstrating that subjective socioeconomic status influences collective action intention through a sequential mediation pathway involving group relative deprivation and the intention of online collective behavior. This research sheds new light on the dynamics of collective action, particularly in the context of online environments, and expands upon existing scholarship in this field. By uncovering the interaction between individual perceptions of socioeconomic status and intentions for collective action, it contributes to a deeper understanding of the psychological mechanisms driving social behavior and offers valuable insights for policymakers and practitioners aiming to foster collective action and social cohesion.

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## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors declare no conflicts of interest.

### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

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