Journal of Social and Scientific Education, Vol. 2 No. 2: 116-129 ISSN 3047-0684
Available online at: https://doi.org/10.58230/josse.v2i2.330

Social Exclusion and Learning Engagement among University Students: The Role of Depression and Self-Efficacy

[1]Xidan Xiao, [2]Kaiyuan Li
[1]Fujian Normal University, China
[2]Beibu Gulf University, China
xiaoxid8899@foxmail.com

ABSTRACT

Studies have shown that social exclusion has a negative relationship with learning engagement. However, less is known about the underlying processes that may mediate this relationship. Thus, the current investigation aimed to examine the influence of social exclusion on college students' motivation to learn and the mediational roles of depression and self-efficacy in this association. A cross-sectional research design was employed, and a total of 600 Chinese university students participated in the study. The survey materials included the Social Exclusion Questionnaire, Learning Engagement Inventory, Depression Scale, and Self-Efficacy Inventory of the Centre for Fluency Studies. The results revealed that social exclusion significantly and adversely predicted learning engagement among Chinese university students, and both depression and self-efficacy exerted significant mediating effects in the relationship between social exclusion and learning engagement. These findings illuminate the relationship between social exclusion and university students' motivation to learn, as well as the underlying mechanisms that offer not only a theoretical basis for higher education pedagogy but also potential interventions that foster self-efficacy and enhance learning engagement.

Keywords: Social Exclusion, Learning Engagement, Depression, Self-Efficacy

INTRODUCTION

The phenomenon of social exclusion is pervasive in people's lives, manifesting in various forms such as racial discrimination (Bracic, 2022), gender discrimination in the workplace against women (Doolaard et al., 2022), and class discrimination between the wealthy and impoverished (Dunn & Saunders, 2022). These forms of exclusion lead to social tensions. Peer bullying and exclusion are also prevalent in school environments. According to the Ministry of Education, Culture, Sports, Science, and Technology (MEXT), school exclusion incidents in Japan reached 612,000 in 2019 (Li, 2022). In China, the proportion of school exclusion rose to 32.4% in 2021 (Yuan, 2021), with vulnerable groups being particularly susceptible to bullying (Yuan, 2021). This issue has caused widespread concern in society, highlighting the critical relationship between school exclusion and student engagement in learning.

Drawing on a temporal model of need-threat, it is evident that social exclusion events pose a significant threat to individuals' sense of belonging, which can result in maladaptive behaviors (Mourey et al., 2017). Studies have shown that social exclusion can lead to the decline of cognitive functioning, impaired learning capacity, and uncontrolled learning behaviors (Juanchich et al., 2018). Consequently, the question arises as to whether social exclusion reduces an individual's learning engagement, and if so, what psychological mechanisms are involved in this process. This issue has significant implications for our understanding of the relationship between social exclusion and learning engagement, as well

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.
*Copyright (c) 2025 **Xidan Xiao, Kaiyuan Li**

as for the development of strategies to mitigate the negative impact of social exclusion on individuals' academic experiences. A multitude of studies have reported a positive relationship between social support and learning engagement (Bao et al., 2022), while poor interpersonal relationships can lead to negative reactions, such as avoidance and diminished interest in learning (Zhang et al., 2019). However, individuals with a growth mindset perceive rejection as an opportunity for self-improvement and consider it an avenue for understanding how to enhance personal and social aspects of the self, which results in positive psychological and behavioral outcomes, such as better academic performance (Poon & Chen, 2016). Given the inconsistency of previous findings, the current study aims to investigate the impact of social exclusion on learning engagement from the perspective of broken social bonds and the mechanisms that shape the learning engagement of university students. Social exclusion can cause negative emotions, which can interfere with learning engagement (Twenge et al., 2002). Additionally, exclusion jeopardizes individuals' self-efficacy needs, draws academic attentional resources, and consequently reduces learning engagement (Li et al., 2023). Does depression and self-efficacy serve as a mediator in the relationship between social exclusion and learning engagement? While prior research has examined academic performance and psychological activity in groups of children and adolescents, it is particularly important to comprehend the processes and mechanisms that underlie the learning engagement of university students, who are key evaluators of higher education quality. Therefore, this study will conduct a literature review and investigate the impact of social exclusion experiences on college students' learning engagement and the mediating role of depression and self-efficacy. The goal is to acquire a better understanding of the mechanisms that shape university students' learning participation and identify ways to mitigate the negative impact of social exclusion on learning participation.

Relationship between social exclusion and learning engagement

Social exclusion is a multifaceted phenomenon and process whereby individuals are intentionally or unintentionally marginalized or ostracized by significant others or groups, compromising their fundamental relational and belonging needs (Du & Xia, 2008). Prolonged experiences of social exclusion have been found to deplete individuals' coping resources and lead to avoidance behaviors, such as social avoidance and decreased classroom participation (Buhs et al., 2006). Social exclusion has also been linked to increased psychological stress and distraction from learning (Twenge et al., 2002). Recent empirical evidence suggests that social exclusion can negatively impact individuals' interest in learning, resulting in lower learning engagement (Zhang et al., 2021). Additionally, research indicates that social exclusion may lead to cognitive disintegration, decreased intellectual activity, and the development of addiction, aggression, and other externalizing behaviors, thereby adversely affecting learning engagement (Wang & Zhang, 2020). Moreover, social exclusion causes negative self-evaluation, which interferes with academic engagement and achievement levels (Zhao & Yao, 2013). Based on prior theoretical literature and empirical evidence, this study hypothesizes as follows:
Hypothesis 1 - Social exclusion negatively relates to learning engagement.

Relationship between social exclusion, depression and learning engagement

According to the Interpersonal Acceptance-Rejection Theory, individuals who experience exclusion from significant others may develop strong feelings of alienation,

frustration, and worthlessness. This can lead to the induction of negative emotions such as anxiety and depression (Rohner & Lansford, 2017). Social exclusion has been found to activate emotional processing regions in the brain, including the bilateral anterior insula and amygdala, which can result in structural changes in brain function and trigger depression through physiological changes (Martelli et al., 2018; Slavich et al., 2010). Recent research has suggested that Chinese students in higher education may repress externalized aggression following social exclusion based on social evaluation or behavioral norms requirements, which can result in the development of negative emotions and internalized self-aggression (Wang et al., 2022). Additionally, both real-life and online social exclusion have been linked to depression in university students (Lei et al., 2018; Sun et al., 2017). It is important to note that the emotional state of university students is closely tied to their learning engagement, with negative emotions resulting in lower levels of effort and engagement (Lin et al., 2020). The Self-Depletion Theory proposes that negative emotions can deplete an individual's emotional resources for learning, which can prevent them from engaging in their daily learning (Li et al., 2023). Furthermore, social exclusion has been shown to cause distressing emotions, which can lead to self-defeating behaviors, including reduced learning engagement (Twenge et al., 2002; Zhao & Yao, 2013). Therefore, this study proposes the following hypotheses:
Hypothesis 2 - Depression mediates the effects of social exclusion on learning engagement.

Relationship between social exclusion, self-efficacy and learning engagement

Self-efficacy refers to a person's self-assurance and beliefs about their ability to maintain relationships with others and deal with life events (Milgram et al., 1998). The temporal model of need-threat proposes that social exclusion may threaten an individual's self-efficacy needs, including the need for a sense of control and meaning, resulting in negative self-beliefs and perceptions (Williams, 2009). Research has found that individuals who have experienced social exclusion are more likely to engage in internal attribution bias and exhibit self-defeating behavior, leading to a pronounced impairment in their self-efficacy needs (Zeng & Zhu, 2022). This, in turn, may lead to lower engagement and difficulty coping with learning activities (Rohner & Lansford, 2017; Wu et al., 2020). According to the self-depletion theory, an individual's self-efficacy needs a sufficient amount of psychological energy to promote learning engagement. However, social exclusion may deplete psychological resources, weakening the positive impact of self-efficacy and making it challenging to maintain the initial positive relationship between self-efficacy and learning engagement (Li et al., 2023). Furthermore, the external environment's influence on an individual's behavior necessitates a psychological state (Bao et al., 2022), which suggests that the individual's perception of self-efficacy may influence their learning engagement behavior in the social exclusion scenario. Therefore, this study hypothesizes as follows:
Hypothesis 3 - Self-efficacy mediates between social exclusion and learning engagement.

Parallel mediating roles of depression and self-efficacy

Social exclusion is a complex phenomenon that has been found to result in negative emotional outcomes, such as depression and anxiety, in individuals (Slavich et al., 2010). Furthermore, social exclusion can also lead to decreased core self-evaluation due to interpersonal frustration, which ultimately results in lower self-efficacy (Zeng & Zhu, 2022).

Both negative emotions and low levels of self-efficacy can lead individuals to engage in inappropriate behaviors, including increased aggressive behavior, Internet addiction, avoidance of social interaction, and other maladaptive coping strategies, ultimately resulting in poor academic performance (Li et al., 2023; Rohner & Lansford, 2017). From a theoretical perspective, the General Strain Theory Agnew (1992) suggests that exposure to adverse social experiences like exclusion can lead to negative emotions (e.g., depression), which in turn undermine adaptive functioning such as learning engagement. Meanwhile, Bandura's Social Cognitive Theory (1997) emphasizes the critical role of self-efficacy in determining how individuals motivate themselves and persist in learning tasks. These theories support the notion that both depression and self-efficacy may serve as distinct psychological pathways linking social exclusion to learning engagement. Logically, depression and self-efficacy reflect two relatively independent dimensions of psychological functioning−emotional and motivational−which may be simultaneously activated in response to social exclusion. Although correlated, they influence learning behavior through different mechanisms: depression undermines interest and energy, while low self-efficacy reduces task persistence and confidence (Putwain & Symes, 2011). Therefore, a parallel mediation framework is appropriate for capturing these distinct yet co-occurring processes. Empirically, some studies have examined the mediating role of either depression or self-efficacy in related contexts (e.g., academic stress and performance), but few have modeled them together in a parallel mediation structure in relation to social exclusion. By incorporating both mediators, this study seeks to provide a more nuanced understanding of how social exclusion affects learning engagement through multiple psychological channels. As such, it is imperative to investigate the role of depression and self-efficacy as parallel mediators in the relationship between social exclusion and learning engagement. Therefore, we propose the following hypothesis:
Hypothesis 4 - Depression and self-efficacy act as parallel mediators between social exclusion and learning engagement.

Present study

In the Chinese context, instances of social exclusion are not uncommon, highlighting the importance of examining its potential impact on college students' learning engagement. Such an inquiry is vital as it helps to uncover the internal mechanisms that are closely linked to students' academic performance and the quality of higher education institution. Despite the extensive research conducted on social exclusion, learning engagement, depression, and self-efficacy, there has been little discourse on their interplay, particularly among college students. Understanding how these factors interact can provide a more comprehensive picture of the pathways through which social exclusion affects learning engagement, thereby informing more targeted and effective interventions. To address this gap in the literature, this study employs a parallel mediation model to examine how social exclusion impacts learning engagement, with a focus on the associated protective factors. The findings of this research not only enhance our understanding of the learning input mechanisms of college students within the Chinese context but also hold practical significance for scientific interventions aimed at improving the quality of higher education. Figure 1 presents the hypothesized model.

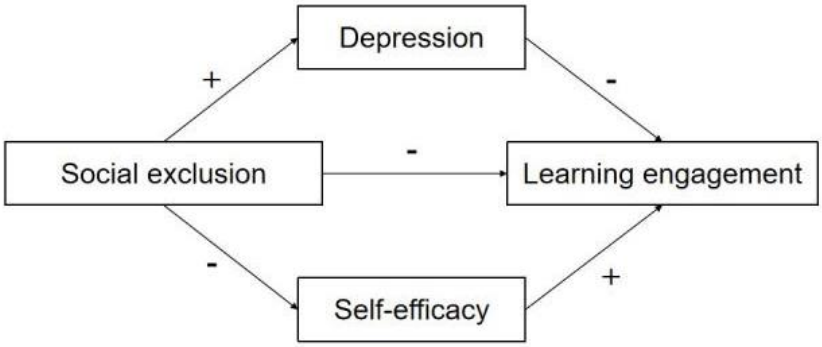


Figure 1 Hypothetical process model of social exclusion and learning engagement, with the parallel mediation role of depression and self-efficacy

METHODS OF RESEARCH

Procedures and participants

This study was approved by the local ethics committee and conducted in accordance with the Declaration of Helsinki and the American Psychological Association's ethical standards. After providing informed consent, participants responded to a questionnaire that included the social exclusion (Wu et al., 2013), learning engagement (Fang et al., 2008), depression (He et al., 2013) and self-efficacy (Wang et al., 2001) scales, with all items scrambled. Upon completion of all items, the participants were thanked and debriefed. Finally, all data was imported into SPSS 25.0 with EpiData 3.1 for further analysis.

By means of convenient sampling methods, a total of 600 university students from three universities in two provinces in China were recruited and questionnaires were distributed, excluding incomplete and missing questionnaires, 534 valid questionnaires were returned with an effective rate of 89%, including 232 men (43.45%) and 302 women students; 119 urban (22.28%) and 415 rural (77.72%) students; the mean age of the subjects was 19.10 years (SD=1.37).

Measures

Social Exclusion Questionnaire

Social exclusion was assessed using the Social Exclusion Questionnaire, which was designed by Wu et al. (2013), exhibits good reliability and validity, and has been used with Chinese college students. It contains two dimensions of direct and indirect exclusion, with a total of 19 items (e.g., “I became the victim of a cruel prank”), and responses recorded on a 5-point Likert scale (1= “strongly disagree” to 5= “strongly agree”). Higher scores indicate more frequent incidents of social exclusion among university students. The Cronbach's α coefficient for this scale in this study was 0.95.

Learning Engagement Scale

Learning engagement was assessed using the Learning Engagement Scale, which was designed by Fang et al. (2008), exhibits good reliability and validity, and has been commonly used to measure student learning engagement. It contains three dimensions: energy,

commitment and concentration, with 17 items in total(e.g., "I am enthusiastic about learning"), and responses recorded on a 5-point Likert scale (1= "strongly disagree" to 5= "strongly agree"). The higher the score, the more committed the individual is to learning. The Cronbach's α coefficient for this scale in this study was 0.91.

Depression Scale

The depression was assessed using the Depression Scale, which was developed by He et al. (2013). It has excellent reliability and validity and is designed to assess the frequency of current depressive symptoms. It contains two dimensions of negative affect and positive affect, with 20 items in total (e.g., "I thought my life was meaningless."), and responses recorded on a 4-point scale (1= "occasionally", 4= "always"), where positive affect items were reverse scored. The higher the score, the more severe the individual's depression. The Cronbach's α coefficient for this scale in this study was 0.85.

Self-Efficacy Scale

Self-efficacy was measured using the Self-Efficacy Scale designed by Wang et al. (2001), exhibits good reliability and validity. It consists of 10 items (e.g., "I am confident that I can handle whatever comes my way") and responses recorded on a 5-point Likert scale (1= "strongly disagree" to 5= "strongly agree"). The higher the total score, the greater the self-efficacy of the individual. The Cronbach's α coefficient for this scale in this study was 0.89.

Data analysis

Firstly, SPSS 25.0 was used for descriptive statistics and Pearson correlation analysis, to investigate the intercorrelations among social exclusion, learning engagement, depression, and self-efficacy. Then, Hayes's (2013) SPSS macro-PROCESS Model 6 with a 95% bias-corrected confidence interval (CI) based on 5,000 bootstrap samples was used to examine the dual intermediary variables in the complex models.

RESULTS AND DISCUSSION

Results

Preliminary Analyses

Table 1 presents descriptive statistics and correlation analysis for each variable, with gender and family origin used as dummy variables. Social exclusion and depression were significantly positively correlated($r=0.50$, $p<0.001$), self-efficacy and learning engagement were significantly positively correlated($r=0.43$, $p<0.001$), social exclusion was significantly negatively associated with learning engagement ($r=-0.13$, $p<0.01$) and self-efficacy ($r=-0.18$, $p<0.001$), depression was negatively significantly correlated with learning engagement ($r=-0.19$, $p<0.001$) and self-efficacy ($r=-0.16$, $p<0.001$). There were significant differences in social exclusion, learning engagement and self-efficacy by gender and family origin, therefore gender and family origin were used as control variables in the subsequent analysis.

Table 1 Descriptive statistics and intercorrelations among variables (N = 534)

Variables	M±SD	1	2	3	4	5	6
1. Gender	-						
2. Age	19.10±1.37	-0.08					
3. Family origin	0.22±0.42	0.05	-0.07				
4. Social exclusion	1.76±0.62	0.16***	0.02	-0.02			
5. Learning engagement	3.20±0.63	-0.06	0.02	-0.09*	-0.13**		
6. Depression	1.72±0.42	0.03	-0.02	-0.01	0.50***	-0.19***	
7. Self-efficacy	2.97±0.64	0.19***	0.04	0.09*	-0.18***	0.43***	-0.16***

Note. $^{*}p<0.05$, $^{**}p<0.01$, $^{***}p<0.001$.*

Mediational Analysis

The scores on each scale were standardized, and we selected Model 6 (SPSS macro) to assess depression and self-efficacy mediating role in the relationship between social exclusion and learning engagement. Further, in this process, we used the bias‑corrected percentile bootstrap method—with 5000 repeated samples and a 95% confidence interval (CI). Table 2 presents the mediation analysis' results: Social exclusion significantly positively affected depression (β =0.35, p < 0.001, 95% CI = [0.30 to 0.40]), which, in turn, significantly negatively affected learning engagement (β =-0.2, p <0.01, 95% CI = [-0.33 to -0.07]). Social exclusion significantly negatively affected self-efficacy (β =-0.17, p <0.001, 95% CI = [-0.27 to -0.07]), which, in turn, significantly positively affected learning engagement (β =0.45, p <0.001, 95% CI = [0.37 to 0.52]). Furthermore, The effect of social exclusion on college students' learning engagement was not significant after depression and self-efficacy were added to the model (β =0.04, p =0.35, 95% CI = [-0.05 to 0.13]), thus indicating that depression and self-efficacy fully mediate the relationship between social exclusion and university student learning engagement, with the two mediated pathways having an effect of 57.27% and 62.28% respectively.

Table 2 Regression analysis among variables (N = 534)

Variables	Depression					Self-efficacy					Learning engagement				
	β	**Boot *SE***	***t***	**Bootstrap 95%CI LLCI**	**ULCI**	***β***	**Boot *SE***	***t***	**Bootstrap95 % CI LLCI**	**ULCI**	***β***	**Boot *SE***	***t***	**Bootstrap 95% CI LLCI**	**ULCI**
Constant	1.12	0.05	22.81***	1.03	1.22	3.33	0.12	28.90***	3.11	3.56	2.27	0.17	13.55***	1.94	2.59
Gender	-0.05	0.03	-1.42	-0.11	0.02	0.27	0.05	5.03***	0.17	0.38	-0.18	0.05	-3.66***	-0.28	-0.09
Family origin	0.00	0.04	0.02	-0.07	0.08	0.11	0.06	1.78	-0.01	0.24	-0.18	0.06	-3.18**	-0.30	-0.07
Social exclusion	0.35	0.03	13.51***	0.30	0.40	-0.17	0.05	-3.43***	-0.27	-0.07	0.04	0.05	0.94	-0.05	0.13
Depression						-0.12	0.07	-1.66	-0.26	0.02	-0.20	0.07	-3.08**	-0.33	-0.07
Self-efficacy											0.45	0.04	11.38***	0.37	0.52
R2			0.26					0.09					0.24		
F			61.07***					12.86***					32.47***		

*Note. Gender and family origin are the control variable. **p < 0.05, ***p < 0.001.*

 ISSN: 3047-0684

Table 3 Mediating effects for variables (N = 534)

Path	Effect	Boot SE	Bootstrap 95% *CI*		Relative mediation effect
			BootLLCI	BootULCI	
Total	-0.12	0.04	-0.21	-0.04	\
Social exclusion → Learning engagement	0.04	0.05	-0.05	0.13	\
Social exclusion → Depression → Learning engagement	-0.07	0.03	-0.13	-0.02	57.27%
Social exclusion → Self-efficacy → Learning engagement	-0.08	0.03	-0.14	-0.02	62.28%

Note. Unstandardized regression coefficients were reported. Bootstrap sample size = 5,000. LL, low limit, CI, confidence interval, and UL, upper limit.

Discussion

This research study examines the impact of social exclusion on the level of learning engagement among college students, while also investigating the mediating mechanisms of depression and self-efficacy. The study draws upon the temporal model of need-threat, self-loss theory, and interpersonal acceptance-rejection theory to analyze these effects. The findings reveal that social exclusion has a significant direct negative effect on the learning engagement of university students ($\beta = -0.12$, $p < 0.01$), consistent with the results of prior research conducted by Wang and Zhang (2020), which established a positive correlation between campus exclusion and individual internalization problem behaviors in China. However, after incorporating the two intermediary variables of depression and self-efficacy, the direct impact of social exclusion on college students' learning engagement was found to be non-significant ($\beta = 0.04$, $p > 0.05$). This suggests that depression and self-efficacy completely mediate the relationship between social exclusion and learning engagement.

Social exclusion has been linked to reduced academic performance and learning engagement among university students. Studies suggest that individuals who experience social exclusion may shift their focus to interpersonal relationship development and repair, which can distract them from academic pursuits and contribute to a decline in their academic performance (Du & Xia, 2008; Baumeister et al., 2002). Poor learning outcomes can also result in decreased interest in learning and less engagement in academic activities among Chinese students (Zhang et al., 2019). To avoid further social pain, excluded individuals may activate defense mechanisms and seek personal solitude, withdrawing from group learning environments such as classroom learning and group work (Ren et al., 2016). This withdrawal predicts reduced learning engagement to some extent. Moreover, social exclusion can lead to a negative self-perception, ranging from a denial of social competence to a negative evaluation of self-concept, which obstructs self-regulation and further triggers abandonment or passive behavior, such as low and ineffective learning engagement (Guay et al., 1999). Consequently, university students who experience social exclusion are likely to demonstrate lower levels of learning engagement.

In this study, an investigation was conducted on the mechanisms that underlie the effects of social exclusion on learning engagement. The results revealed significant parallel mediating roles for depression and self-efficacy, thereby confirming hypotheses 2, 3, and 4. This finding supports the temporal model of need-threat, which posits that social exclusion represents a failure of interpersonal relationship establishment, resulting in negative emotions

such as social anxiety and depression in the individual. This negative experience can lead to doubts about one's own social ability and social adaptation ability, ultimately resulting in a decrease in self-efficacy (Williams, 2009). It was found that both depressive mood and self-efficacy have different influences on university students' learning performance. Specifically, individuals with higher negative emotions exhibit less learning commitment (Peng et al., 2019), while students with low self-efficacy lose motivation to learn, ultimately inhibiting their academic performance (Wu et al., 2020).

The present study revealed a mediating role of depression, which provides support for the interpersonal acceptance-rejection theory. This theory suggests that rejection by critical individuals can result in a diminished sense of belonging, leading to psychological dysfunction, such as depression (Rohner & Lansford, 2017). Additionally, the stress-coping theory posits that frequent exposure to stressful events can have significant negative consequences on an individual's physical and mental health (Lever, 2008). Those who experience interpersonal stress are more likely to have difficulty managing negative events and struggle with regulating their emotions (Zhao et al., 2016). According to Juvonen et al. (2000), a survey of high school students in California revealed that a deficiency in social support resulted in delayed expression of negative emotions, which contributed to the accumulation of depression and anxiety. This, in turn, led to the development of severe psychological issues that negatively impacted academic adjustment and hindered learning engagement. Negative emotions can lead to a decline in personal interest in academic pursuits, with depression serving as a critical mediating variable between social exclusion and learning motivation (Zhang et al., 2019).

Self-efficacy serves as a mediating variable in the association between social exclusion and engagement in learning. Social exclusion can have a negative impact on an individual's perception of self-control, as well as their evaluation of their ability to successfully navigate the social environment, thereby undermining their self-efficacy needs (Williams, 2007). Additionally, individuals who experience exclusion may attribute negative outcomes in their relationships to their own abilities, which can further erode their self-confidence and ability to positively cope with life events (Williams, 2009). Research has indicated that individuals with low self-efficacy tend to focus on themselves, and social exclusion can threaten the maintenance of positive self-beliefs (Wang & Tu, 2014). As self-efficacy is a key determinant of an individual's attitudes and behaviors when confronted with learning tasks (Ferla et al., 2009), individuals are more likely to be motivated and engaged in learning when they possess a sense of capability to complete a given learning activity (Cai & Jia, 2020). Furthermore, Chinese society is known for its collectivistic culture. According to Du (2008), Chinese students with a strong sense of self-efficacy tend to devote additional effort and time to rebuilding relationships in response to perceived rejection from others, as a means of fulfilling their self-efficacy needs. Consequently, this may divert their attention away from their academic pursuits.

It should be noted that the inclusion of depression and self-efficacy as mediating variables has been shown to reverse the negative predictive effect of social exclusion on students' learning engagement. This phenomenon may be subject to concealment, as suggested by Wen and Ye (2014). In addition to depression and self-efficacy, other factors may also influence the negative predictive role of social exclusion on college students' learning engagement. One such factor is interpersonal dependence on the Internet, which may act as a

mediating variable. College students may break real-life social connections and experience a diminished sense of belonging, leading them to shift their focus to online social networks (Xu et al., 2021). However, addictive behavior induced by interpersonal anxiety online may result in lower academic performance (Buzzai et al., 2021). Based on the need and satisfaction theory as well as the compensation hypothesis, individuals who lack a sense of interpersonal security may use the Internet to establish and maintain social connections to meet their psychological needs. This behavior can lead to "pathological compensation" and prolonged indulgence in online social networks, ultimately resulting in addiction to the Internet (Wan et al., 2021).

This research is subject to a number of limitations that merit consideration. Firstly, the data collection method utilized in this study relied on self-reports obtained from undergraduate students, which may not always provide accurate depictions of their perceptions pertaining to social exclusion, learning engagement, depression, and self-efficacy. Therefore, it is recommended that future research validate these findings through the acquisition of data from alternative sources such as parents or teachers. Secondly, the employment of a cross-sectional study design in this research precluded the revelation of causal relationships. Hence, to explore the relationship between social exclusion and learning engagement, it is suggested that randomized controlled trials be employed. Finally, given that China is a collectivist culture where negative interpersonal relationships are known to significantly impact individuals' learning and work, it remains unclear whether seeking solitude may enhance individuals' ability to maintain their focus on learning in an individualist culture (Ren et al., 2016). Therefore, it is recommended that future research investigate this relationship in different cultural contexts.

Notwithstanding the aforementioned limitations, this study provides novel insights into the mediating role of depression and self-efficacy in the association between social exclusion and university students' learning engagement. Additionally, this study highlights the potential of self-efficacy to mitigate the adverse effects of social exclusion on university students' learning engagement. Notably, this study puts forth practical recommendations for enhancing student learning engagement in higher education. Firstly, peer relationships are a vital determinant of students' academic engagement in higher education, emphasizing the need to prioritize the development of interpersonal skills among university students. This could be achieved through offering public classes on social interpersonal skills or strengthening home-school ties to boost parent-child communication, where familial support can help alleviate (Wang et al., 2022). Secondly, depression emerges as a mediating factor in the association between social exclusion and university students' learning engagement, underscoring the need for schools to improve their counseling services to aid students in managing psychological stress. Lastly, self-efficacy mediates the relationship between social exclusion and learning engagement, highlighting the importance of nurturing positive learning-related beliefs in the teaching and learning process to maximize students' potential and promote meaningful learning experiences (Bao et al., 2022).

To summarize, this study not only explores the association between social exclusion and university students' learning engagement, but also uncovers the underlying mechanisms that shape learning engagement. The findings of this study provide empirical evidence that depression and self-efficacy serve as mediators in the relationship between social exclusion and university students' learning engagement. Based on these results, this study proposes that

enhancing individual self-efficacy and mitigating depression could be effective strategies to promote university students' learning engagement, thereby mitigating the detrimental impact of social exclusion.

CONCLUSIONS

The findings indicate that social exclusion is negatively associated with learning engagement among university students. Moreover, both depression and self-efficacy serve as mediating variables in this relationship. Specifically, depression mediates the impact of social exclusion on learning engagement, as does self-efficacy. Furthermore, the results reveal a sequential mediating effect, where social exclusion influences learning engagement through a chain of depression and self-efficacy.

REFERENCES

Agnew, R. (1992). Foundation for A General Strain Theory of Crime and Delinquency. *Criminology*, *30*(1), 47–88. https://doi.org/10.1111/j.1745-9125.1992.tb01093.x

Bao, X. H., Huang, J., Li, N., Li, J. J., & Li, Y. H. (2022). The Influence of Proactive Personality on Learning Engagement: The Chain Mediating Effect of Perceived Social Support and Positive Emotions. Studies of Psychology and Behavior, 20(04), 508–514. http://doi.org/10.12139/j.1672-0628.2022.04.011

Bandura, A. (1997). Self-efficacy: The exercise of control. W.H. Freeman.

Baumeister, R. F., Twenge, J. M., & Nuss, C. K. (2002). Effects of social exclusion on cognitive processes: anticipated aloneness reduces intelligent thought. Journal of Personality and Social Psychology, 83(4), 817–827. https://doi.org/10.1037//0022-3514.83.4.817

Bracic, A. (2022). Ethnicity and Social Exclusion. Nationalities Papers, 50(6), 1045–1056. https://doi.org/10.1017/nps.2022.72

Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? Journal of Educational Psychology. https://doi.org/10.1037/0022-0663.98.1.1

Buzzai, C., Filippello, P., Costa, S., Amato, V., & Sorrenti, L. (2021). Problematic internet use and academic achievement: a focus on interpersonal behaviours and academic engagement. Social Psychology of Education, 24(1), 95–118. https://doi.org/10.1007/s11218-020-09601-y

Cai, L., & Jia, X. J. (2020).The Effect of Academic Self-Efficacy on Online Learning Engagement: The Chain Mediating Role of Learning Motivation and Flow Experience. Studies of Psychology and Behavior, 18(06), 805–811. https://psybeh.tjnu.edu.cn/EN/abstract/abstract2103.shtml

Doolaard, F. T., Lelieveld, G. J., Noordewier, M. K., van, B. I., & van, D. E. (2022). How information on sexism may increase women's perceptions of being excluded, threaten fundamental needs, and lower career motivation. European journal of social psychology, 52(3), 405–419. https://doi.org/10.1002/ejsp.2825

Du, J. Z., & Xia, B. L. (2008). The Psychological View on Social Exclusion. Advances in Psychological Science, 16(06), 981–986.

Dunn, A., & Saunders, C. (2022). 'The Rise of Mass Poverty'? Breadline Britain/Poverty and Social Exclusion (1983–2012) Evidence Revisited. Social indicators research, 164, 929–946. https://doi.org/10.1007/s11205-022-02980-z

Fang, L. T., Shi, K., & Zhang, F. H. (2008). Research on Reliability and Validity of Utrecht Work Engagement Scale-student. Chinese Journal of Clinical Psychology, 16(06), 618–620. http://doi.org/10.16128/j.cnki.1005-3611.2008.06.023

Ferla, J., Valcke, M., & Cai, Y. (2009). Academic self-efficacy and academic self-concept: Reconsidering structural relationships. Learning & Individual Differences, 19(4), 499–505. https://doi.org/10.1016/j.lindif.2009.05.004

Guay, F., Boivin, M., & Hodges, E. (1999). Predicting change in academic achievement: A model of peer experiences and self-system processes. Journal of Educational Psychology, 91(1), 105–115. https://doi.org/10.1037/0022-0663.91.1.105

Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford publications.

He, J., Chen, Z. Y., Guo, F., Zhang, J., Yang, Y. P., & Wang, Q. (2013). A short Chinese version of center for epidemiologic studies depression scale. Chinese Journal of Behavioral Medicine and Brain Science, 22(12), 1133–1136. http://doi.org/10.3760/cma.j.issn.1674-6554.2013.12.023

Juanchich, M., Walasek, L., & Sirota, M. (2018). Decision-makers are resilient in the face of social exclusion. British Journal of Psychology, 109(3), 604–630. http://doi.org/10.1111/bjop.12294

Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. Journal of Educational Psychology, 92(2), 349–359. http://doi.org/10.1037/0022-0663.92.2.349

Lei, Y. J., Zhang, C. Y., Niu, G. F., Tong, Y. T., Tian, Y., & Zhou, Z. K. (2018). The Association between Cyber - Ostracism and Depression: A Moderated Mediation Model. Journal of Psychological Science, 41(01), 98–104. http://doi.org/10.16719/j.cnki.1671-6981.20180115

Lever, J. P. (2008). Poverty, stressful life events, and coping strategies. The Spanish Journal of Psychology, 11(1),228–249. http://doi.org/10.1017/S1138741600004273

Li, Q. R., Yang, Y. Y., & Li, C. X. (2023). Interparental Conflict, Adolescents' Daily Self-efficacy and Daily Learning Engagement: The Mediating Roles of Daily Negative Emotion and Daily Rumination in the Moderating Effects of Interparental Conflict Influence. Psychological Development and Education, 39(02), 236–246. http://doi.org/10.16187/j.cnki.issn1001-4918.2023.02.10

Li, Y. (2022, October 27). Japanese school bullying is at record high. CHINANEWS. http://www.chinanews.com.cn/gj/2022/10-27/9881433.shtml

Lin, J., Liu, Y. L., & Peng, W. B. (2020). The Relationship between College Students' Academic Emotion and Learning Engagement: The Mediating Role of Academic Self-Efficacy. Chinese Journal of Special Education, (04), 89–96.

Martelli, A. M., Chester, D. S., Brown, K. W., Eisenberger, N. I., & DeWall, C. N. (2018). When less is more: Mindfulness predicts adaptive affective responding to rejection via reduced prefrontal recruitment. Social Cognitive and Affective Neuroscience,13(6), 648–655. http://doi.org/10.1093/scan/nsy037

Milgram, N. N., Mey-Tal, G., & Levison, Y. (1998). Procrastination, generalized or specific, in college students and their parents. Personality & Individual Differences, 25(2), 297–316. http://doi.org/10.1016/S0191-8869(98)00044-0

Mourey, J. A., Olson, J. G., & Yoon, C. (2017). Products as pals: Engaging with anthropomorphic products mitigates the effects of social exclusion. Journal of Consumer Research, 44(2), 414–431. http://doi.org/10.1093/jcr/ucx038

Peng, S. H., Tao, D., Leng, Y., & Deng, H. H. (2019). The psychological and behavior characteristics of social exclusion and its brain mechanisms. Advances in Psychological Science, 27(09), 1656–1666. http://doi.org/10.3724/SP.J.1042.2019.01656

Poon, K. T, & Chen, Z. (2016). Assuring a sense of growth: A cognitive strategy to weaken the effect of cyber-ostracism on aggression. Computers in Human Behavior, 57, 31–37. http://doi.org/10.1016/j.chb.2015.12.032

Putwain, D., & Symes, W. (2011). Perceived fear appeals and examination performance: The mediating role of self-efficacy and test anxiety. School Psychology International, 32(4), 398–411.

Ren, D. M., Wesselmann, E., & Williams, K. D. (2016). Evidence for another response to ostracism: Solitude seeking. Social Psychological and Personality Science, 7(3), 204–212. http://doi.org/10.1177/1948550615616169

Rohner, R. P., & Lansford, J. E. (2017). Deep Structure of the human affectional system: Introduction to interpersonal acceptance-rejection theory. Journal of Family Theory & Review, 9(4), 426–440. http://doi.org/10.1111/jftr.12219

Slavich, G. M., O'Donovan, A., Epel, E. S., & Kemeny, M. E. (2010). Black sheep get the blues: A psychobiological model of social rejection and depression. Neurosci Biobehav Reviews, 35(1), 39–45. http://doi.org/10.1016/j.neubiorev.2010.01.003

Sun, X. J., Tong, Y. T., & Fan, C. Y. (2017). Social Exclusion and Cyber - ostracism on Depression: the Mediating Role of Self-control. Studies of Psychology and Behavior, 15(02), 169–174.

Twenge, J. M., Catanese, K. R., & Baumeister, R. F. (2002). Social exclusion causes self-defeating behavior. Journal of Personality and Social Psychology, 83(3), 606–615. http://doi.org/10.1037//0022-3514.83.3.606

Wan, J. J., Zhang, Y. F., & Zhao, J. F. (2021). The Relationship Between Sense of Security and Learning Engagement of Rural Left-Behind Junior High Students: The Chain Mediating Role of Academic Self-Efficacy and Internet Addiction. Chinese Journal of Special Education, 257(11),83–89.

Wang, C. K., Hu, Z. F., & Liu, Y. (2001). Evidences for Reliability and Validity of the Chinese Version of General Self Efficacy Scale. Chinese Journal of Applied Psychology, 7(01), 37–40. http://doi.org/10.3969/j.issn.1006-6020.2001.01.007

Wang, K., & Zhang, Y. (2020). The Effect of Campus Exclusion on Internalizing and Externalizing Problems: Mediating Role of Peer Relationship and Core Self-evaluation. Psychological Development and Education, 36(05), 594–604. http://doi.org/10.16187/j.cnki.issn1001-4918.2020.05.11

Wang, Q., Qi, Y. J., Hu, W., & Chen, H. L. (2022). The Relationship between Social Rejection and College Student Depression: Moderating Role of Wechat Parent Adolescent

Communication and Mediating Role of Emotional Awareness. Journal of Psychological Science, 45(05), 1159–1165.

Wang, Z. W., & Tu, P. (2014). Interaction Effect of Social Exclusion and Gender on Self-focus. Acta Psychologica Sinica, 46(11), 1782–1792. http://doi.org/10.3724/SP.J.1041.2014.01782

Williams, K. D. (2007). Ostracism. Annual Review of Psychology, 58(1), 425–452. http://doi.org/10.1146/annurev.psych.58.110405.085641

Wen, Z. L., & Ye, B. J. (2014). Analyses of Mediating Effects: The Development of Methods and Models. Advances in Psychological Science, 22(5),731–745. http://doi.org/10.3724/SP.J.1042.2014.00731

Williams, K. D. (2009). Ostracism: A temporal need-threat model. Advances in Experimental Social Psychology, 41, 279–314. http://doi.org/10.1016/S0065-2601(08)00406-1

Wu, H. J., Zhang, S. Y., & Zeng, Y. Q. (2013). Development and Validation of the Social Exclusion Questionnaire for Undergraduate. China Journal of Health Psychology, 21(12), 1829–1831. http://doi.org/10.13342/j.cnki.cjhp.2013.12.012

Wu, H., Li, S., Zheng, J., & Guo, J. (2020). Medical students' motivation and academic performance: the mediating roles of self-efficacy and learning engagement. Medical Education Online, 25(1), 1–10. http://doi.org/10.1080/10872981.2020.1742964

Xu, L., Zhang, Q. Q., Niu, G. F., Chen, J. J., & Yun, X. Y. (2021). Social Exclusion and Mobile Phone Dependence: The Mediating Effect of Social Self-efficacy and Social Anxiety. Chinese Journal of Clinical Psychology,29(02),323–327. http://doi.org/10.16128/j.cnki.1005-3611.2021.02.021

Yuan, J. J. (2021, November 1). According to the survey, the incidence of bullying in schools is 32.4%, and vulnerable groups are more likely to be bullied. CHINANEWS. https://www.chinanews.com.cn/gn/2021/11-01/9599235.shtml

Zeng, B. Q., & Zhu, H. Y. (2022). The Effect of Attribution Inducements on Aggression in Different Types of Social Exclusion. Journal of Psychological Science, 45(04), 960–965. http://doi.org/10.16719/j.cnki.1671-6981.20220425

Zhang, D. H., Shao, L. Xiao, F. Huang, L. Q., & Zhang, J. J. (2019). Effect of Chinese Language Ability on Learning Interest for Korean Adolescents in China: The Chain Mediating Role of Ostracism and Depression. Chinese Journal of Clinical Psychology, 27(05), 1016–1020. http://doi.org/10.16128/j.cnki.1005-3611.2019.05.033

Zhang, T. Y., Xue, L., Zhang, Y. Y., & Zhang, Y. D. (2021). Research of the Contribution of Classroom Environment and Learning Interest to Student Engagement in Mathematics. Journal of Southwest University (Natural Science Edition), 43(04), 10–17. http://doi.org/10.13718/j.cnki.xdzk.2021.04.002

Zhao, L. Q., & Yao, M. L. (2013). A Review of Studies on Peer Relationship and Academic Engagement. Journal of Ningbo University (Educational Science Edition), 35(04), 13–17. http://doi.org/CNKI:SUN:LBJY.0.2013-04-006

Zhao, X., Li, Y. Y., Jin, J., & Jin, G. (2016). Boring Tendency and Learning Burnout: The Mediating Effect of Emotion Regulation Strategies. Chinese Journal of Clinical Psychology, 24(01), 64–68. http://doi.org/10.16128/j.cnki.1005-3611.2016.01.015