ความอคติในกลุ่มเป็นปัจจัยพยากรณ์ในการกลั่นแกล้งทางไซเบอร์ : การศึกษาเยาวชนและบทบาทของปัจจัยด้านประชากร

In-group Bias as a Predictor of Cyberbullying: A Study on Youth and the Role of Demographic Factors

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บทคัดย่อ

การศึกษานี้สำรวจความสัมพันธ์ระหว่างความอคติในกลุ่มและการกลั่นแกล้งทางไซเบอร์ในกลุ่มเยาวชนที่มีอายุระหว่าง 14 ถึง 35 ปี ขณะเดียวกันยังศึกษาผลกระทบของเพศ อายุ และภูมิลำเนา โดยใช้กลุ่มตัวอย่างจำนวน 360 คน ซึ่งใช้การวิเคราะห์ความแตกต่างและการวิเคราะห์การถดถอยเพื่อระบุปัจจัยที่คาดการณ์ในการกลั่นแกล้งทางไซเบอร์ ผลการวิจัยพบว่าความอคติในกลุ่มเป็นตัวคาดการณ์ที่สำคัญของการกลั่นแกล้งทางไซเบอร์ โดยสามารถอธิบายความแปรปรวนของพฤติกรรมการกลั่นแกล้งทางไซเบอร์ได้มากกว่า 50% นอกจากนี้ ผู้ชายยังมีระดับการกลั่นแกล้งทางไซเบอร์ที่สูงกว่าผู้หญิง อย่างไรก็ตาม อายุและภูมิลำเนาไม่ได้ส่งผลกระทบอย่างมีนัยสำคัญต่อแนวโน้มการกลั่นแกล้งทางไซเบอร์ ผลลัพธ์เหล่านี้เน้นย้ำถึงความสำคัญของการจัดการพลวัตของกลุ่มในการแทรกแซงที่มุ่งเป้าไปที่การลดการกลั่นแกล้งทางไซเบอร์ โดยเฉพาะอย่างยิ่งผ่านโปรแกรมที่ออกแบบมาเพื่อลดการเลือกปฏิบัติในกลุ่มและส่งเสริมการรวมกลุ่ม งานวิจัยนี้มีข้อเสนอแนะว่านักการศึกษาและผู้กำหนดนโยบายควรพัฒนาการแทรกแซงที่ตรงเป้าหมายเพื่อลดอคติในกลุ่มทั้งในโรงเรียนและในสถานที่ออนไลน์

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Abstract

This study explored the relationship between In-group Bias and Cyberbullying among youth aged 14 to 35, while also examining the effects of Gender, Age, and Birthplace. Using a sample of 360 participants, a combination of difference analysis and regression analysis was employed to identify the key predictors of cyberbullying. The findings revealed that In-group Bias was a significant predictor of cyberbullying, explaining over 50% of the variance in cyberbullying behavior. Moreover, males exhibited higher levels of cyberbullying than females. However, Age and Birthplace did not significantly affect cyberbullying tendencies. These results underscored the importance of addressing group dynamics in interventions aimed at reducing cyberbullying, particularly through programs designed to diminish in-group favoritism and promote inclusivity. This research recommended that educators and policymakers develop targeted interventions to reduce in-group bias in both school and online settings.

Keywords: In-group Bias, Cyberbullying, Youth

1. Introduction

In-group bias, the preferential treatment and positive attitudes toward members of one's own social group, has been widely studied in the context of social identity and intergroup relations (Hamley, 2020). This bias can lead to both positive and negative outcomes depending on the dynamics between the in-group and out-group members. While in-group favoritism fosters group solidarity, it can also result in hostile behaviors toward out-groups, particularly when the out-group is perceived as a threat (Golec de Zavala et al., 2020). In the digital age, these dynamics extend to online environments, where group identities can be amplified and negative behaviors such as cyberbullying become more prominent. This study focuses on Shaanxi, a province in China where cyberbullying has become increasingly prevalent among youth. Cyberbullying, defined as the repeated use of digital platforms to harass or harm others, has devastating effects on victims. Research shows that cyberbullying can lead to long-term psychological consequences, including depression, anxiety, social isolation, and in extreme cases, suicidal thoughts or behaviors (Tokunaga, 2010). Unlike traditional bullying, cyberbullying allows for continuous harassment, giving victims no escape from the abuse, and its effects can be far-reaching due to the public and often viral nature of digital platforms (Slonje et al., 2013). These profound impacts on youth mental health make addressing cyberbullying an urgent issue for educators, parents, and policymakers. Understanding the factors that contribute to this behavior is crucial for developing effective intervention strategies.

According to the definition of youth in " China unveils 10-year plan for youth development. " of the State Council of the People's Republic of China (Xinhua, 2017), youth are defined as those aged 14-35. Among Chinese youth, the rapid increase in internet usage and social media engagement has created

new opportunities for cyberbullying to occur (Qian et al., 2019). This age group is especially susceptible to the social pressures and group dynamics that foster in-group bias, making them more vulnerable to engaging in or being affected by cyberbullying. Research indicates that in-group bias can exacerbate online aggression, as individuals are more likely to defend their in-group and attack perceived out-groups (Pouwels et al., 2018). In the context of China's collectivist culture, where group membership and social harmony are highly valued, the intersection between in-group bias and cyberbullying presents a unique area for investigation (Hofstede, 2011).

The purpose of this study is to examine the relationship between in-group bias and cyberbullying among Chinese youth in Shaanxi province, aiming to explore how group identification influences online aggression. By focusing on the 14 to 35 age range, this research seeks to provide insights into the social dynamics that contribute to cyberbullying and offer recommendations for educators and policymakers to address this growing issue. This paper will also discuss the implications of these findings for designing prevention strategies that mitigate the negative effects of in-group bias on online behavior.

2. Research Objective

1. To analyse the impact of different demographic characteristics on in-group bias and cyberbullying.
2. To evaluate the direct impact of in-group bias on cyberbullying.

3. Research Methodology

3.1 Population and Sample

According to the definition of youth in " China unveils 10-year plan for youth development. " of the State Council of the People's Republic of China (Xinhua, 2017), the population of this study comprises Chinese youth aged 14 to 35, in Shaanxi province, a region with a population of approximately 38 million people, of which a significant proportion falls within the target age group. This demographic represents a substantial portion of the province's internet users and social media participants, making them highly relevant for studying the effects of in-group bias and cyberbullying, as they are actively engaged in digital communication platforms where such behaviors often occur.

A stratified random sampling technique was used to ensure that the sample adequately represented various subgroups within the population, such as gender, age, and birthplace. This method allowed for a proportional selection of participants from each subgroup, ensuring diversity and reducing sampling bias. However, due to economic and time constraints, the final sample size was limited to 360 participants, which was collected through a third-party online survey platform, www.wjx.com. This platform allowed for efficient and broad-reaching distribution across the target population. Stratification was applied based on demographic variables such as gender, age group (14-18, 19-25, 26-30, 31-35), and birthplace (rural vs. urban). After applying stratified random sampling, a sample of 360 participants was selected, ensuring representation from each demographic group.

The gender distribution is fairly balanced, with 48.33% male and 51.67% female participants. Age-wise, the largest group falls within the 19-25 age range (40%), followed by the 26-30 group (25%), the 14-18 group (20%), and the 31-35 group (15%). The participants' birthplaces were also recorded, with 63.89% coming from urban areas and 36.11% from rural areas. This sampling process was carried out systematically, using both offline and online survey distribution methods to reach a diverse pool of participants, particularly those who are active on social media platforms where cyberbullying commonly occurs. This sample provides a diverse representation of Chinese youth in Shanxi, ensuring that the findings will be relevant to a broad spectrum of young people in both urban and rural settings.

Table 2 Research Samples

Variables		Main Study	
		n	prop. (%)
Gender	Male	192	53.33
	Female	168	46.67
Age	14-18	136	37.78
	19-25	83	23.06
	26-30	80	22.22
	31-35	61	16.94
Birthplace	Rural	230	63.89
	City	130	36.11

3.3 Research Instrument

The demographic variable scale for this study consists of three parts: gender, age, and birthplace. Gender includes two categories: male and female. The target population for this research is youth, defined as individuals aged 14 to 35 years, based on the "Middle- and Long-term Youth Development Plan (2016-2025)" issued by the State Council of the People's Republic of China (Xinhua, 2017). Therefore, the age categories in this study include 14-18 years old, 19-25 years old, 26-30 years old, and 31-35 years old. Birthplace is divided into two categories: rural and urban, reflecting the participants' living environments. These demographic variables aim to capture the essential characteristics of the respondents and facilitate the analysis of the relationship between in-group bias and cyberbullying among Chinese youth.

The questionnaire on in-group bias compiled by Jacoby-Senghor et al. (2015) was used. The questionnaire contains two dimensions: self-involvement and self-definition. Self-involvement includes three parts: sense of solidarity, satisfaction, and centripetal feeling; self-definition includes two parts: individual self-stereotype and in-group homogeneity. The questionnaire uses a 1–5-point Likert scale, with a total of 14 questions and a total score of 14-70 points. The subjects were asked to evaluate their bias group.

Cyberbullying was measured using the Positive Attitudes toward Cyberbullying Questionnaire (Barlett, 2016). PACQ items include cyberbullying

behaviors (e.g., "I feel comfortable sending messages that make fun of others") and attitudes toward cyberbullying behaviors (e.g., "I think it is commendable to cyberbully someone who has brought it upon himself"). The PACQ used in this study consists a 13-item scale on a 4-point scale, ranging from 0 (not true at all) to 4 (very true).

3.4 Research Framework

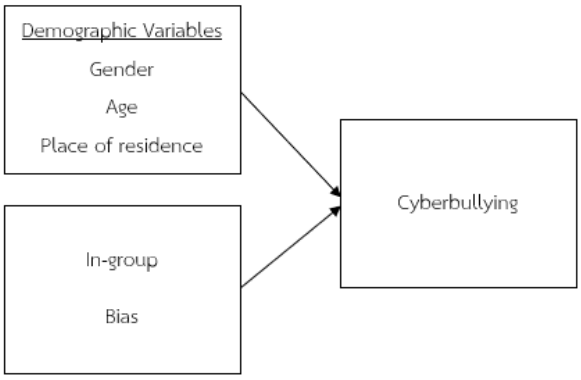

Figure 1 Research Framework

4. Literature Review

In-group bias refers to the tendency of individuals to favor members of their own group over those in out-groups, often manifesting in preferential treatment and positive attitudes towards in-group members (Petrova, 2020). This psychological phenomenon is grounded in social identity theory, which posits that people derive part of their self-concept from the groups to which they belong, leading them to protect and promote their group (Hornsey, 2008). Studies have shown that in-group bias can influence various social behaviors, including cooperation, conflict resolution, and group cohesion (Balliet et al., 2014). However, it can also contribute to negative intergroup dynamics, such as prejudice and discrimination, when individuals perceive threats from out-groups (Schäfer, 2022).

Cyberbullying, defined as the use of digital technologies to deliberately and repeatedly harm others, is a growing social issue, particularly among adolescents (Smith et al., 2008). It involves a wide range of aggressive behaviors, such as harassment, humiliation, and exclusion, facilitated by the anonymity and accessibility of online platforms (Kowalski et al., 2014). Research highlights the severe psychological and emotional impacts of cyberbullying, including anxiety, depression, and decreased self-esteem (Tokunaga, 2010). Unlike traditional bullying, cyberbullying can occur at any time, making it harder for victims to find respite, and its consequences are often exacerbated by the broader, sometimes global, audience it reaches (Slonje et al., 2013).

The relationship between in-group bias and cyberbullying is complex, as in-group favoritism can lead to the exclusion or targeting of out-group members in online environments. Research indicates that individuals who strongly identify with an in-group may be more likely to engage in or condone cyberbullying

behaviors against perceived out-group members, especially when these actions reinforce group solidarity (Matos et al., 2018). In-group bias can also create an "us versus them" mentality, increasing the likelihood of aggressive behaviors toward outsiders who threaten group norms or status (Wölfer et al., 2014). Studies suggest that cyberbullying is often motivated by the desire to protect or enhance the group's image, with out-group members becoming easy targets for online aggression (Hawdon et al., 2017).

In-group bias often fuels the social dynamics behind cyberbullying, particularly in online environments where group membership is emphasized. Individuals who exhibit strong in-group identification are more likely to engage in exclusionary or aggressive behaviors, viewing these as necessary to maintain group solidarity (Ojala & Nesdale, 2004). According to Wölfer et al. (2014), in-group favoritism can lead to the dehumanization of out-group members, making it easier for individuals to justify harmful actions, such as cyberbullying. Moreover, the anonymous nature of online interactions can exacerbate this tendency, as individuals feel less accountable for their actions. Research indicates that group norms heavily influence behaviors in online communities, where collective support for bullying can reinforce the notion that targeting out-group members is acceptable (Wölfer et al., 2014; Brewer & Caporael, 2006).

The relationship between in-group bias and cyberbullying is further intensified by the phenomenon of group polarization, where group discussions and interactions lead members to adopt more extreme positions (Shan, 2022). In online contexts, group polarization can magnify aggressive attitudes toward out-groups, increasing the likelihood of cyberbullying. Studies have shown that individuals participating in cyberbullying often do so to gain approval or maintain status within their in-group (Pouwels et al., 2018). This is particularly evident in cases where group members rally around a common enemy, fostering a collective sense of superiority and justifying harmful behaviors (Hawdon et al., 2017). Thus, the combination of in-group bias and group polarization creates an environment ripe for cyberbullying, as individuals feel bolstered by group consensus and emboldened by the relative anonymity provided by digital platforms.

5. Results

The exploratory factor analysis (EFA) conducted for both the In-group Bias and Cyberbullying scales demonstrates strong validity and reliability (Table 4). For the In-group Bias scale, the KMO value was 0.84, indicating that the sample was suitable for factor analysis, and Bartlett's test of sphericity was significant ($\chi^2 = 436.78$, $p < .001$), supporting the appropriateness of the correlation matrix. The factor structure explained 62.4% of the variance, with factor loadings ranging from 0.65 to 0.80 and communalities between 0.46 and 0.67. Cronbach's alpha for the scale was 0.84, reflecting good internal consistency and confirming the reliability of the scale for measuring in-group bias.

Similarly, the Cyberbullying scale showed a KMO value of 0.82, with Bartlett's test of sphericity yielding significant results ($\chi^2 = 348.45$, $p < .001$). The factors explained 64.3% of the total variance, with factor loadings between 0.60

and 0.82, and communalities ranging from 0.37 to 0.69. Cronbach's alpha for this scale was 0.89, indicating excellent reliability. These findings confirm that both scales exhibit strong psychometric properties, making them reliable and valid tools for assessing in-group bias and attitudes toward cyberbullying.

Table 4 Results of Exploratory Factor Analysis

Component		Communities	Component		Communities	
In-group Bias						
SI1	0.78	0.62	SI8	0.67	0.47	
SI2	0.70	0.51	SD1	0.68	0.48	KMO=0.84
SI3	0.65	0.46	SD2	0.75	0.59	x^2=436.78
SI4	0.80	0.67	SD3	0.70	0.52	p<0.001
SI5	0.76	0.59	SD4	0.72	0.57	Variance=62.4%
SI6	0.68	0.49	SD5	0.76	0.62	Cronbach α=0.84
SI7	0.75	0.59	SD6	0.71	0.52	
Cyberbullying						
CB1	0.78	0.62	AC1	0.60	0.37	
CB2	0.65	0.45	AC2	0.75	0.58	KMO=0.82
CB3	0.82	0.69	AC3	0.72	0.55	x^2=348.45
CB4	0.70	0.52	AC4	0.68	0.50	p<0.001
CB5	0.75	0.59	AC5	0.70	0.51	Variance=64.3%
CB6	0.68	0.50	AC6	0.78	0.63	Cronbach α=0.89
CB7	0.73	0.58				

Based on the scales analysed, Table 7 presents the difference analysis results, which explores the variations in entrepreneurial education and entrepreneurship across different demographic groups.

Table 7 Difference Analysis Results

Variables		In-group Bias		Cyberbullying	
		M±SD	*t*/F	M±SD	*t*/F
Gender	Male	3.07±0.48	0.25	2.63±0.61	2.41*
	Female	3.06±0.52		2.48±0.59	
Age	14-18	3.08±0.52	0.62	2.50±0.55	0.58
	19-25	3.11±0.50		2.58±0.64	
	26-30	3.07±0.52		2.51±0.68	
	31-35	3.00±0.45		2.61±0.59	
Birthplace	Rural	3.08±0.50	0.86	2.50±0.62	-1.83*
	City	3.04±0.50		2.62±0.56	
Note: *<0.10, **<0.01, ***<0.001					

From Table 7, The analysis of gender differences in In-group Bias and Cyberbullying revealed that while there was no significant difference (p>0.10) in in-group bias between males (Mean = 3.07, SD = 0.48) and females (Mean = 3.06, SD = 0.52), there was a significant difference (p<0.10) in cyberbullying

behavior. Males (Mean = 2.63, SD = 0.61) reported higher levels of cyberbullying than females (Mean = 2.48, SD = 0.59), with a statistically significant difference. In terms of birthplace, there was no significant difference ($p>0.10$) in in-group bias between rural (Mean = 3.08, SD = 0.50) and urban participants (Mean = 3.04, SD = 0.50). However, for cyberbullying, rural participants (Mean = 2.50, SD = 0.62) had slightly lower scores compared to urban participants (Mean = 2.62, SD = 0.56), though this difference was marginally significant ($p<0.10$).

The ANOVA results for age differences showed no significant effect of age on In-group Bias or Cyberbullying. For in-group bias, the mean scores ranged from 3.00 (SD = 0.45) for participants aged 31-35 to 3.11 (SD = 0.50) for those aged 19-25, with no statistically significant differences, $F(3, 356) = 0.62$, $p = 0.60$. Similarly, for cyberbullying, the mean scores ranged from 2.50 (SD = 0.55) for participants aged 14-18 to 2.61 (SD = 0.59) for those aged 31-35, with no significant differences, $F(3, 356) = 0.66$, $p = 0.58$. These results indicate that neither age nor birthplace significantly impacted in-group bias, but gender did have a notable effect on cyberbullying.

The correlation analysis between In-group Bias and Cyberbullying shows a strong positive correlation, with a Pearson correlation coefficient of 0.711. This indicates a significant relationship, suggesting that higher levels of in-group bias are associated with higher levels of cyberbullying. The p-value is extremely small ($p < 0.001$), indicating that this correlation is statistically significant.

Gender, age, and birthplace were used as control variables to conduct a regression analysis on the relationship between In-group Bias and Cyberbullying (Table 8). Before conducting the regression analysis, each variable was coded appropriately to ensure accurate analysis. Gender was coded as a binary variable (1 = Male, 0 = Female), and age was divided into four ordinal categories (14-18, 19-25, 26-30, 31-35), which were converted into dummy variables for inclusion in the regression model. Birthplace was also recoded as a binary variable (1 = Urban, 0 = Rural). Additionally, in-group bias was treated as a continuous variable based on participants' scores from the in-group bias scale, while cyberbullying was measured using the scale from the Positive Attitudes toward Cyberbullying Questionnaire (PACQ). These variables were checked for multicollinearity, and none exhibited significant correlations that would affect the regression results. The variables were then standardized to remove potential scaling issues and facilitate interpretation of the regression coefficients. This standardization ensured that the regression analysis could accurately assess the strength of the relationship between in-group bias and cyberbullying while controlling for the effects of gender, age, and birthplace.

Table 8 Regression Analysis Results

Variable	Cyberbullying		
	β	t	P
Gender	0.355	1.725	0.085*
Age	0.003	0.214	0.831
Birthplace	-0.293	-1.414	0.158

Table 8 Regression Analysis Results (Continued)

Variable	Cyberbullying		
	β	t	P
In-group Bias	0.642	10.946	0.000***
R^2		0.511	
F		62.884	

The regression analysis, including interaction terms, revealed that In-group Bias remains a significant predictor of Cyberbullying ($\beta = 0.642$, $t = 10.946$, $p < 0.001$), explaining 51.1% of the variance in cyberbullying ($R^2 = 0.511$).

6. Discussion

The findings of this study underscore the significant role that In-group Bias plays in shaping Cyberbullying behaviors among youth. Consistent with theory (Zhu, 2023), individuals who exhibit strong in-group favoritism are more likely to engage in behaviors that harm out-group members, including cyberbullying. This is particularly relevant in online contexts where group identities are easily reinforced and amplified (Williams & Guerra, 2007). The results demonstrate that In-group Bias not only contributes significantly to cyberbullying but also explains a substantial portion of the variance in this behavior, highlighting its predictive power. These findings align with previous research showing that group dynamics can exacerbate aggressive online behavior (Pouwels et al., 2018).

Previous studies have noted gender differences in cyberbullying, with males often engaging in more aggressive online behaviors (Barlett & Coyne, 2014), the current findings offer a more nuanced view. It suggests that while gender alone might not be a strong predictor of cyberbullying when controlling for other factors, it may influence the extent to which in-group bias leads to such behavior. This is consistent with research by Kowalski et al. (2014), who found that gender may interact with other psychological and social variables to influence cyberbullying tendencies.

On the other hand, Age and Birthplace did not significantly predict cyberbullying in this study. This may be due to the nature of online environments, where geographic and age-related differences become less pronounced, and group identities, such as those based on common interests or social affiliations, take precedence (Li, 2007). In online spaces, behaviors may be driven more by group dynamics and social pressure than by traditional demographic factors (Wang et al., 2019). This suggests that interventions aimed at reducing cyberbullying should focus more on addressing group-related behaviors rather than targeting specific demographic groups.

Despite the strengths of this study, there are several limitations that must be acknowledged. First, the cross-sectional nature of the data limits the ability to infer causality. While in-group bias is strongly associated with cyberbullying, it remains unclear whether bias leads to bullying or whether engaging in bullying behaviors strengthens in-group bias. Longitudinal studies are needed to better

understand the temporal dynamics of these relationships (Ditchthelabel, 2018). Furthermore, the marginal significance of the gender interaction effect raises questions about the stability of this finding across different populations and contexts. Future research should explore this interaction more deeply, particularly in cross-cultural settings, to determine whether the moderating effect of gender is consistent or varies by cultural context (Wright, 2017).

7. Conclusion

This study explored the relationship between In-group Bias and Cyberbullying, with particular attention to demographic variables such as Gender, Age, and Birthplace. The initial analyses revealed significant differences in cyberbullying behavior based on Gender, with males exhibiting higher tendencies toward cyberbullying than females. However, age and birthplace showed no significant effects. In-group Bias consistently emerged as a significant predictor of cyberbullying, indicating that individuals who exhibit stronger bias toward their in-group are more likely to engage in cyberbullying behavior. Further regression analysis confirmed the strong influence of In-group Bias on cyberbullying, explaining over 50% of the variance. The study highlights the importance of in-group bias in understanding cyberbullying among youth.

8.Recommendations

8.1 Suggestions for Research Utilization

The findings of this study, particularly the significant role of In-group Bias in predicting Cyberbullying behavior, provide valuable insights for educators, policymakers, and digital platform administrators. Given the strong positive relationship between in-group bias and cyberbullying, interventions targeting group dynamics and social identity reinforcement should be prioritized in educational and online community settings. Programs promoting inclusivity, reducing in-group favoritism, and encouraging open dialogue on social identity may help decrease cyberbullying incidents. Educators and youth mentors can implement workshops or role-playing activities where students practice empathy and collaborative problem-solving to dismantle harmful group norms. Peer mentoring initiatives, were older students' mentor younger peers about inclusive online behavior, could be particularly effective. Anti-cyberbullying campaigns led by students and supported by educators should focus on teaching conflict resolution skills and fostering an inclusive online community. Interactive activities such as creating "safe zones" for open discussions about bullying experiences or practicing bystander intervention strategies can reduce instances of group-targeted aggression. Additionally, educators can conduct surveys to track changes in student attitudes toward in-group favoritism and its relation to online bullying behavior. Educators should also offer digital literacy programs that equip youth with strategies to handle online peer pressure and recognize manipulation tactics used by in-groups to exclude or harm others. Gender-specific interventions that consider the marginal moderating effect of Gender on the relationship between in-group bias and cyberbullying should be developed. For example, educators and youth mentors could focus on empowering both

males and females to recognize and challenge harmful group norms, thereby reducing cyberbullying tendencies. This study's findings could also inform the design of digital literacy programs aimed at equipping young people with skills to navigate group pressures online and resist engaging in harmful behaviors toward others outside their group. Schools could also partner with tech companies to create moderated, anonymous reporting tools for students to alert educators to cyberbullying incidents.

8.2 Suggestions for Future Research

While this study highlights the importance of in-group bias, longitudinal research is needed to better understand the causal relationships between in-group bias and cyberbullying. Future studies should explore whether cyberbullying behaviors reinforce in-group bias over time, creating a feedback loop. Additionally, cross-cultural studies should be conducted to investigate whether the moderating effect of gender on this relationship holds across different cultural contexts, as this could provide deeper insights into gender dynamics in various cultural environments. Further, investigating other potential moderators or mediators—such as peer pressure, self-esteem, or moral disengagement—could help explain the complexity of the relationship between in-group bias and cyberbullying. Finally, researchers could examine the effectiveness of interventions designed to reduce in-group bias and cyberbullying, assessing which strategies are most effective in diverse youth populations.

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