Cakrawala Pendidikan
Jurnal Ilmiah Pendidikan
Vol. 43 No. 1, February 2024, pp.28-43
https://journal.uny.ac.id/index.php/cp/issue/view/2613
DOI: https://doi.org/10.21831/cp.v43i1.65213

Does school climate matter in cyberbullying behaviour among high school student? a mediation and moderation analysis

Bunyamin Maftuh, Asep Dahliyana*, Elly Malihah, Rika Sartika
Universitas Pendidikan Indonesia, Indonesia,
*Corresponding Author: asep_dahly@upi.edu

ABSTRACT

Information technology development has had positive and negative impacts on the education sector. One of the negative impacts is the emergence of new bullying behaviour by utilizing information technology online or cyberbullying behaviour. Previous studies have examined that cyberbullying is often associated with school climate, psychological capital, and social media addiction. However, until now, limited studies still discuss mediation and moderation relationships between school climate factors, psychological capital, social media addiction, and student cyberbullying behaviour. This study involved 384 high school students from six public and private high schools in Magelang, Indonesia. The study's results explain that cyberbullying behaviour is influenced by school climate and students' psychological capital. Psychological capital is positively influenced by school climate. In addition, psychological capital has successfully mediated the effects of school climate on high school students' cyberbullying behaviour. And finally, social media addiction is proven to moderate the effects of school climate and high school students' cyberbullying behaviour.

Keywords: Cyberbullying, school climate, psychological capital, social media addiction

Article history

Received:	*Revised:*	*Accepted:*	*Published:*
30 September 2022	*20 October 2022*	*13 January 2023*	*29 September 2023*

Citation (APA Style): Maftuh, B., Dahliyana, A., Malihah, E., & Sartika, R. (2024). Does school climate matter in cyberbullying behaviour among high school student? a mediation and moderation analysis. *Cakrawala Pendidikan: Jurnal Ilmiah Pendidikan*, *43*(1), 28-43. DOI: https://doi.org/10.21831/cp.v43i1.65213

INTRODUCTION

The problem of cyberbullying has emerged as a significant concern among young people and school students on a global scale. With the rapid development of technology and the use of social media by adolescents, cyberbullying is increasing (He et al., 2023; C. L. Huang et al., 2023; Shapka et al., 2018; Zhao et al., 2023). The problem of cyberbullying in schools has become a serious challenge in today's digital era (Chen et al., 2023; Martínez-Monteagudo et al., 2023; Wu et al., 2022). The issue of school bullying (traditional bullying) has long been widely recognized as a common and complex problem in the world of education. According to Wolke et al. (2000), traditional bullying is generally characterized by direct interpersonal interaction, including physical assault, verbal abuse, ridicule, social isolation, relational hostility, and other behavioural manifestations. Bullying generally refers to making an individual known as a target for persistent physical or psychological abuse by a student or a group of students (Olweus, 2013). In addition, the increasing use and abuse of information technology has facilitated the emergence of cyberbullying, commonly called cyberbullying.

Cyberbullying is intentional and repeated hostile behaviour by individuals or groups via social media platforms, text messages, or other digital platforms (Smith et al., 2008). Acts of cyberbullying include both direct forms, such as explicit threats or verbal attacks, and indirect methods, exemplified by the unauthorized internet spread of inappropriate images depicting victims. Several aspects contribute to the facilitation of cyberbullying, including anonymity and the absence of confrontation with the victim (Kircaburun et al., 2020; Nhung et al., 2020). Cases

of cyberbullying hurt the mental, emotional health and academic performance of victims, as well as creating an unsafe and damaging school environment (Eyuboglu et al., 2021; Maji & Abhiram, 2023; Nhung et al., 2020; Nixon, 2014). The wider penetration of technology and social media among adolescents brings them closer to the risk of cyberbullying. In cyberspace, a cyberbully can easily spread content that demeans or insults other people, creates a dangerous viral effect and causes embarrassment and trauma to the victim (Nhung et al., 2020). In addition, the anonymity offered by social media allows perpetrators to hide their identities, making handling cyberbullying more difficult (Nhung et al., 2020).

Cyberbullying has gained prominence in recent years, largely due to social media platforms' increasing popularity and widespread use (Craig et al., 2020; Giumetti & Kowalski, 2022; Zhu et al., 2021). Social media presence in adolescents' daily lives also makes them more vulnerable to social pressure and comparison with others. A study has shown that among college students, individuals who engage in cyberbullying show higher levels of problematic social media use (Kircaburun et al., 2020). Problematic social media use is characterized by uncontrollable urges to overuse social media platforms, damaging real-life relationships and multiple domains.

Current developments in the study of cyberbullying indicate a shift from the belief that individual characteristics alone determine behaviour in bullying situations. Instead, there is a growing emphasis on adopting a socio-ecological perspective, recognizing the importance of social contextual factors in explaining the roles and actions of students involved in cyberbullying (Smith et al., 2021). One of the social environments that teenagers often encounter is educational institutions, where they devote most of their time and are exposed to an atmosphere known as the school climate (Ferrer-Cascales et al., 2019; Li et al., 2022; X. Wang et al., 2021; Yang et al., 2020). In addition, the school atmosphere is a variable that may be deliberately modified by individuals who work in educational institutions (Ma, 2002).

The concept of school climate includes various dimensions related to the school environment, including teaching and learning quality, social relationships, structural features, beliefs, attitudes, values, and norms. In addition, school climate is generally considered a multifaceted concept. It has been classified into four dimensions: academic, community (related to interpersonal interactions), security, and institutional environment (M.-T. Wang & Degol, 2016). Previous research has shown that students involved in cyberbullying tend to view their school environment unfavourably (Bayar & Ucanok, 2012). In addition, individuals who experience cyber-victimization and those who engage in this behaviour tend to report feeling less safe in the school environment (Sourander et al., 2010).

Meanwhile, the personal dimension that plays an important role in student cyberbullying behaviour is psychological capital (Cassidy et al., 2014; Eweida et al., 2021; Kalyar et al., 2021). In previous studies, psychological capital has only ever been associated with bullying behaviour (traditional bullying) as mediation (Cassidy et al., 2014). In addition, adolescents' sense of emotional security and psychological capital profiles are negatively correlated with their exposure to cyberbullying (Eweida et al., 2021). This personal dimension includes four key elements, namely self-efficacy, optimism, hope, and resilience (F. Luthans et al., 2007). Students with low psychological capital may have difficulty coping with pressures and challenges in cyberspace, making them more vulnerable to cyberbullying behaviour.

In previous studies, many scholars almost agree that cyberbullying behaviour is influenced by two dimensions, namely personal and environmental. However, many studies have discussed the effect of school climate and psychological capital on cyberbullying behaviour. However, there is limited information showing how social media addiction influences the relationship between variables such as school climate, psychological capital, and cyberbullying behaviour. Therefore, this study highlights the importance of school climate and psychological capital in influencing students' cyberbullying behaviour while identifying social media addiction as a relevant moderator in the relationship between these variables. This study will also examine the role of psychological capital in mediating the relationship between school climate and cyberbullying behaviour. And finally, this study also examines the moderator role of social media addiction in high school students' cyberbullying behaviour.

Cyberbullying and School Climate

The term "cyberbullying" refers to a series of acts carried out via electronic or digital platforms in which a person or group engages in repeated transmission of hostile or aggressive communications to cause injury or discomfort to another person (Patchin & Hinduja, 2006; Smith et al., 2008; Tokunaga, 2010). Cyberbullying has a bigger impact than traditional bullying; one threat (for example, a video, comment or image) may remain online or on a smartphone for a long time and be watched or shared by many. These conditions caused the victim to grieve repeatedly. Rapid changes in communication and social interaction have significant positive and negative effects, including encouraging the emergence of cyberbullying (Kowalski et al., 2008).

Cyberbullying attacks victims by sending a variety of demeaning, threatening messages and images conveyed using websites, instant messages, blogs, chat rooms, cell phones, websites, emails, and personal online profiles (Blair, 2003; Shariff, 2006). In general, cyberbullying is seen as a more comfortable type of bullying because cyberbullying takes advantage of the characteristics of information and communication technology to intimidate someone. Cyberbullying perpetrators can hide their identities using anonymous identities and hidden internet protocol addresses, making victims insecure and uneasy.

Several predictors of cyberbullying have been identified in the literature (Bauman et al., 2015). These predictors are based on various theoretical frameworks, including social-ecological theory (Bronfenbrenner, 1977), social information processing theory (Dodge & Coie, 1987), general strain theory (Agnew, 1992), and social learning theory (Bandura, 1986). According to Espelage et al. (2012), the social-ecological theory argues that a complex environmental system, including family, peers, and the educational context, influences adolescent behaviour, especially concerning cyberbullying.

In the context of this study, many cases of cyberbullying are caused by a school environment or school climate that is not conducive. According to previous research conducted by Eisenberg et al. (2003), children who have experienced bullying or harassment from classmates tend to have weaker school bonds compared to their peers who have not experienced the incident. School climate refers to the unique norms, values, rules, organizational structures, and relationship patterns that collectively influence the quality and character of social interactions within the school environment (Cohen et al., 2009).

School climate, an important factor in the school context, has been found to significantly correlate with various outcomes related to students' social-emotional well-being and educational achievement (Zullig et al., 2010). In addition, it has been established that a healthy school atmosphere is directly correlated with reduced violence within educational institutions (Olweus, 1994; Wilson, 2004). Other studies also state that school climate has been recognized as a major factor influencing the likelihood of experiencing bullying and victimization, including cyberbullying (Yang et al., 2019). Thus, this study believes that school climate negatively influences cyberbullying behaviour. That is, the more positive the school climate, the lower the cyberbullying behaviour of high school students.

H1: School climate has a negative influence on high school students' cyberbullying behaviour

The role of mediator Psychological Capital

Psychological Capital (PsyCap) can be defined as a positive state of individual psychological development (B. C. Luthans et al., 2014). This situation is characterized by several factors: first, the ability to have the self-efficacy necessary to exert effort and achieve success in challenging tasks; second, the tendency to make positive attributions, or displays of optimism, regarding current and future success; third, the tendency to pursue goals diligently and, if necessary, adapt strategies to achieve them, known as hope; and finally, the ability to overcome and bounce back from problems and difficulties, even beyond the level of previous achievements, which is called resilience.

Previous studies revealed that school climate influences psychological capital (X. Huang & Wang, 2021). In different study contexts, psychological capital mediates the relationship between organizational climate and the behaviour of organizational members (Suifan, 2016). In addition, previous studies also confirmed that psychological capital is an antecedent factor that can

influence cyberbullying behaviour (Cassidy et al., 2014; Eweida et al., 2021; Kalyar et al., 2021; Singh et al., 2022). There is a negative correlation between cyberbullying exposure and adolescents' emotional safety and psychological capital profiles (Eweida et al., 2021). The findings of the same study were also expressed by Rastegar and Samari (2023), psychological capital has a negative effect on cyberbullying. In other studies, psychological capital mediates independent and dependent variables (Cassidy et al., 2014). Therefore, in this study, we believe that psychological capital, directly and indirectly, affects high school students' cyberbullying behaviour.

H2: School climate has a direct positive effect on the psychological capital of high school students

H3: Psychological capital has a direct negative effect on high school students' cyberbullying behaviour

H4: Psychological capital mediates the relationship between school climate and high school students' cyberbullying behaviour

Social Media Addiction as Moderator

The use of social networking platforms has experienced a substantial spike over the past decade, especially among the younger demographic. Social media is a digital platform that facilitates the creation of user-generated content and enables individuals to interact with various audiences in real-time or at different times (Bayer et al., 2020). Social media platforms, such as Facebook, Instagram, and Twitter, have become important components of individual life. Excessive and unregulated use of internet technology can pose security threats and cause vulnerabilities in online connections (Abaido, 2020). The main adverse consequences include aggressive behaviour, including using online and mobile communication platforms to carry out acts of intimidation, harassment and verbal abuse.

The proliferation of social media platforms among teenagers has led to the emergence of a significant issue known as cyberbullying. The widespread availability and use of social media platforms have given rise to new avenues for engaging in online aggression (Craig et al., 2020). In addition, the increasing use of social media by young people has made cyberbullying a major problem (Çimke & Cerit, 2021). Emerging research indicates that using social media platforms has been associated with cyberbullying and cyberbullying victimization (Baccarella et al., 2018; O'Reilly et al., 2018; Sadagheyani & Tatari, 2021). Although studies on cyberbullying are often associated with social media use, until now, it has not been understood how social media addiction moderates the relationship between school climate, psychological capital, and cyberbullying behaviour.

H5: Social media addiction moderates the effect of school climate on high school students' cyberbullying behaviour

Based on the literature review and previous studies, a temporary understanding was obtained that cyberbullying is influenced by school climate and psychological capital. Meanwhile, social media addiction is believed to play a role in moderating the influence of these variables. We visualize the relationship model between variables in this study in Figure 1.

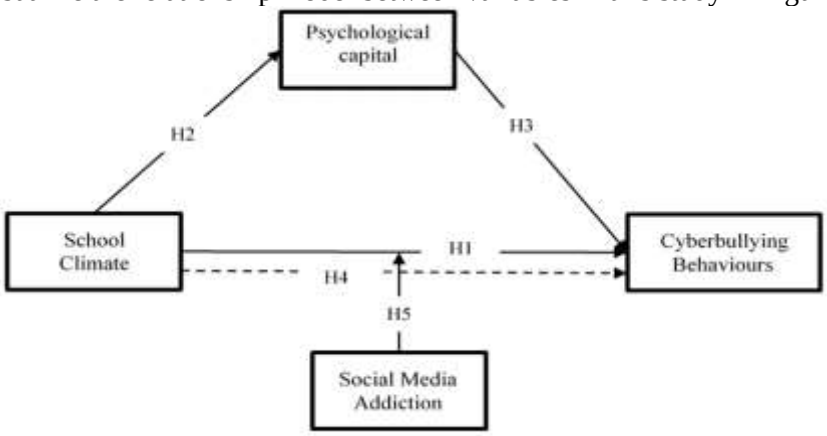


Figure 1. Study conceptual model

METHOD

Participant

The study on cyberbullying behaviour involved high school students in grades 1, 2 and 3. Six schools were involved in this study consisting of 3 public high schools and three private high schools in Magelang, Indonesia. The total number of respondents involved was 384, including 134 male students (34.9%) and 250 female students (65.1%). The students involved ranged from 15 years to 20 years old. Details of respondent data in this study are shown in Table 1. Students' perceptions of cyberbullying behaviour, school climate, psychological capital, and social media addiction were collected using a survey using a self-administered questionnaire method. Students fill in their perception assessment on the questionnaire that has been provided.

Table 1. Respondent data

Attribute	Categories	N	%
Gender	Male	134	34.9
	Female	250	65.1
School	Public School	78	20.3
	Private School	306	79.7
Degree	Class 1	44	11.5
	Class 2	148	38.5
	Class 3	192	50
Age	15 years old	18	4.7
	16 years old	169	44
	17 years old	141	36.7
	18 years old	43	11.24
	19 years old	11	2.86
	20 years old	2	0.5

Questionnaire

We used the Cyberbullying Behavior Questionnaire developed in previous studies to collect information about cyberbullying behaviour (Selkie et al., 2016). This questionnaire aims to assess the extent of student involvement in cyberbullying incidents on various online platforms such as the Internet, mobile phones, email and other digital communication channels. This questionnaire consists of 11 items. This questionnaire uses a Likert scale consisting of five alternative answers: never, rarely, sometimes, often, and very often. The rating weights used include the following values: never = 5, rarely = 4, sometimes = 3, often = 2, and very often = 1.

In addition, the school climate assessment includes two main dimensions: the student disciplinary structure scale and the student support scale. The Student disciplinary structure scale evaluates students' perspectives regarding the disciplinary measures applied by their teachers. The number of student disciplinary structure items totalled six items. Furthermore, the student support scale dimension consists of eight items designed to assess participants' perceptions of teachers' respect for students and their readiness to seek help. Item rating starts from strongly disagree (1) to strongly agree (5).

In addition, students' perceptions of school climate were measured using the school climate questionnaire by Gregory et al. (2010). The school climate assessment includes two main dimensions: the student disciplinary structure scale and the student support scale. The Student disciplinary structure scale evaluates students' perspectives regarding the disciplinary measures applied by their teachers. The number of student disciplinary structure items totalled six items. Furthermore, the student support scale dimension consists of eight items designed to assess

participants' perceptions of teachers' respect for students and their readiness to seek help. Item rating starts from the rating strongly disagree (1) to the rating strongly agree (5).

This study uses the Chinese edition of the positive psychological capital scale developed by Yu (2015) to assess students' psychological capital. The measures used in this study consisted of four primary affective domains, namely self-efficacy (composed of 6 items), optimism (contained four items), resilience (consisting of 4 items), and hope (composed of 4 items). The social media addiction assessment was carried out using the 6-item Bergen social media addiction scale (Schou Andreassen et al., 2016). The students were instructed to evaluate each item using a five-point Likert scale, with one representing "very rarely" and five representing "very often". The sum of all items was performed to obtain a social media addiction score, with a higher cumulative score indicating a greater degree of social media addiction.

Procedure

This study uses a survey methodology, using a questionnaire as the main instrument for data collection. Data collection used self-administered surveys, in which respondents independently provided answers to the questionnaire without assistance from data collectors (De Leeuw, 2008). The individuals who participated in the data collection process were students from a public high school in Yogyakarta, Indonesia. Data collection for each variable was carried out in a self-reporting manner. To clarify, the participants evaluated their subjective interpretation of school climate, social support, social media use, and cyberbullying behaviour.

Analysis

We use structural equation modelling (SEM) using AMOS 23.0 to examine the relationship between school climate, psychological capital, social media addiction, and cyberbullying behaviour. In particular, we use a moderated mediation model to examine the relationship between social media addiction, which moderates the indirect relationship between school climate and cyberbullying behaviour through the psychological capital of high school students.

In this study, path analysis is used as a method to evaluate the formulated hypotheses. Acceptance of the hypothesis occurs when the significance value is less than 0.05 (Hair et al., 2010). Before testing the hypothesis, we evaluated the suitability of the fitted model based on the following criteria: Cmin/df = ≤ 5, the goodness of Index (GFI) GFI = ≥ 0.90, Comparative Fit Index (CFI) = CFI ≥ 0.90, Root Mean Square Error of Approximation (RMSEA)= RMSEA ≤ 0.08

FINDING AND DISCUSSION

Finding

Test the validity and reliability of the questionnaire

Before testing the hypothesis of this study, we tested the validity and reliability of each questionnaire, including the school climate, psychological capital, social media addiction, and cyberbullying behaviour questionnaires. The study's results revealed that all questionnaires used showed Pearson Correlation values ranging from 0.628 to 0.911 and were declared valid (see Table 2). In addition, the reliability test of the questionnaire using Cronbach's Alpha revealed that all questionnaires had high reliability, ranging from 0.923 to 0.950.

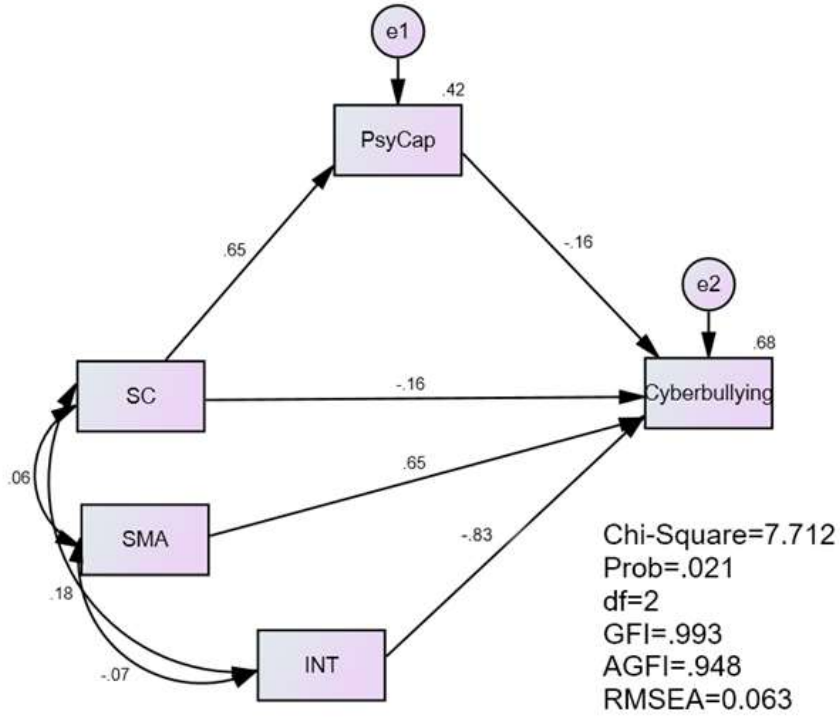
Table 2. validity and reliability test

Variables	Validity	Reliability
School Climate	0.688** ~ 0.803**	0.940
Psychological Capital	0.628** ~ 0.806**	0.950
Social Media Addiction	0.816** ~ 0.907**	0.923
Cyberbullying Behavior	0.722** ~ 0.911**	0.951

note. ** Correlation is significant at the 0.01 level (2-tailed).

Hypothesis testing

We use structural equation modelling (SEM) with Amos 18 software to test the five hypotheses of this study. The results of the model fit test showed that the fit model met the criteria [cmin/df = 3.856, RMSEA = 0.063, CFI = 0.992, GFI = 0.993, TLI = 0.962, AGFI = 0.948, RMR = 0.015]. The running model to test the suitability of the model is shown in Figure 2.



Noted: SC= school climate; PsyCap= psychological capital; SMA= social media addiction; INT= interaction (moderation)

Figure 2. Social Media Addiction Moderator Test

Hypothesis 1

In testing the first hypothesis, we tested the effect of school climate on high school students' cyberbullying behaviour. The findings in Table 2 show that school climate has a negative and statistically significant direct impact on cyberbullying behaviour (estimate = -0.162, p <0.05). Therefore, the first hypothesis is confirmed. These results indicate that a positive and good school climate will encourage a reduction in high school students' cyberbullying behaviour.

Table 2. Moderation Model Path Analysis (Standardized Regression Weights)

Path	Estimate	S.E.	C.R.	P
SC -> Cyberbullying	-0.162	0.032	-4.546	***
SC -> PsyCap	0.646	0.041	17.631	***
PsyCap -> Cyberbullying	-0.159	0.029	-4.446	***
SMA -> Cyberbullying	0.646	0.02	23.718	***
INT -> Cyberbullying	-0.365	0.025	-13.093	***

Note. *** = Correlation is significant at the 0.001 level; SC= school climate; PsyCap= psychological capital; SMA= social media addiction; INT= interaction (moderation)

Hypothesis 2

This study tests the hypothesis regarding the effect of school climate on the psychological capital of high school students. The results of the hypothesis test using standardized regression weights on Amos 18 show a value of 0.646 with a probability (significance) value of $p < 0.05$ (***) (see Table 2). Thus, this hypothesis can be accepted and means that school climate has a direct positive effect on the psychological capital of high school students. The more positive the school climate that is formed at school will encourage an increase in the formation of positive psychological capital for high school students.

Hypothesis 3

Furthermore, the third hypothesis is that psychological capital has a direct negative effect on high school students' cyberbullying behaviour. The results of the hypothesis in Table 2 show an estimated value of -0.159 with a significance value of less than 0.05 (p-value = ***). This finding means that the third hypothesis has been accepted and means that psychological capital has a direct negative effect on high school students' cyberbullying behaviour. The more positive the psychological capital of students will reduce the cyberbullying behaviour of high school students.

Hypothesis 4

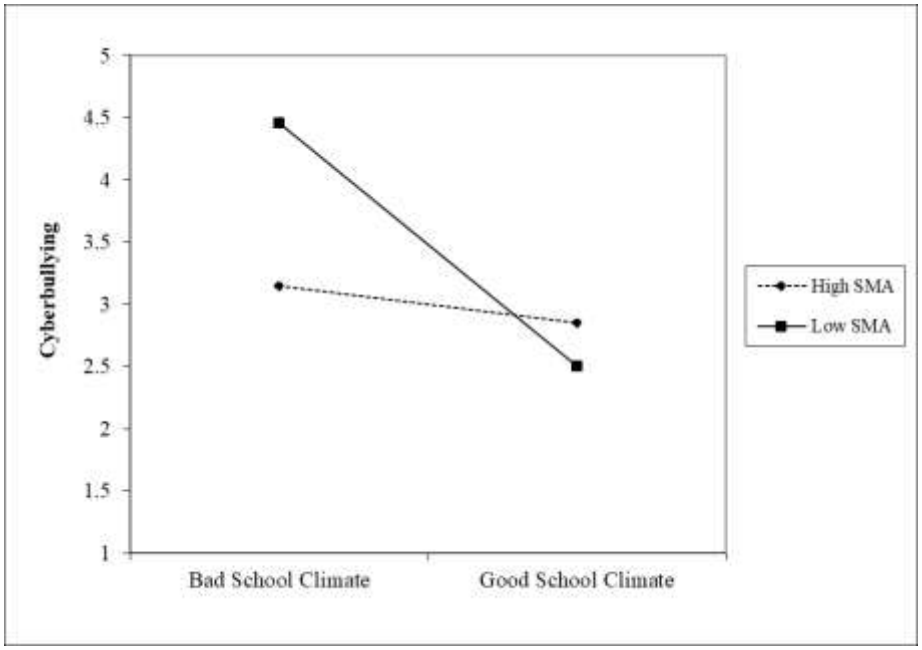
The fourth hypothesis examines the effect of psychological capital mediating the relationship between school climate and cyberbullying behaviour of high school students. The test results in Table 3 prove that the acquisition of standardized regression weights is -0.103 and a significance value of 0.004 (LB= -0.142; UP= -0.072). That is, psychological capital is proven to mediate the effects of school climate and cyberbullying behaviour of high school students negatively.

Table 3. The result of bootstrapping in testing the mediator (standardized regression weights)

Path		School Climate → Cyberbullying		
		Two Tailed Significance	Lower Bounds	Upper Bounds
Standardized direct effect	Estimate	-0.162		
	P-value	0.021	-0.215	-0.104
Standardized indirect effect	Estimate	-0.103		
	P-value	0.004	-0.142	-0.072
Standardized total effect	Estimate	-0.265		
	P-value	0.014	-0.317	-0.227

Hypothesis 5

Finally, this study tests the moderation hypothesis, namely, social media addiction moderates the effect of school climate on high school students' cyberbullying behaviour. Table 2 shows the results of the social media addiction moderation test of estimate = -0.365 (p-value = ***). This finding means that social media addiction has a negative and significant moderating effect on school climate on high school students' cyberbullying behaviour. In addition, Figure 3 also shows the role of social media addiction in moderating the impact of school climate on cyberbullying behaviour. The lower the student's social media addiction, the lower the student's cyberbullying behavior, which was previously influenced by a positive school climate.



Note: SMA= social media addiction

Figure 3. The Moderating role of social media addiction on the Effect of school climate on Cyberbullying behavior

Discussion

This study examined the influence of students' perceptions of the perceived school climate on their cyberbullying behaviour. In addition, we also discuss the mediating role of psychological capital in the relationship between school climate and cyberbullying behaviour of high school students. And finally, this study seeks to reveal the moderating role of social media addiction on the effect of school climate on high school students' cyberbullying behaviour.

Factors antecedents of cyberbullying behaviour

The first finding of this study reveals that students' cyberbullying behaviour is negatively influenced by school climate. Previous studies explained that the individual's environment has an essential influence on adolescent behaviour, especially cyberbullying behaviour (Espelage et al., 2012). Even scholars have also proven that a positive school atmosphere will encourage a reduction in cases of violence in schools (Olweus, 1994; Wilson, 2004). Cyberbullying behaviour is an increasingly worrying phenomenon in the digital world, and school environmental factors significantly influence this behaviour. An unsupportive school climate, a lack of adequate supervision, and a lack of awareness of the dangers of cyberbullying can all contribute to an increase in this behaviour. When the school climate does not encourage tolerance, empathy, and respect for others, students are more likely to face social pressure or feel alienated, which can trigger cyberbullying behaviour as a form of emotional release or revenge.

In addition, the lack of supervision in the school environment can also trigger cyberbullying behaviour. When teachers and school staff do not pay attention to students' online activities or are unaware of cyberbullying issues, these incidents can develop more freely without adequate consequences. Cyberbullying perpetrators feel they can hide behind a screen, making it easier to spread messages or content that demeans, hurts, or harms victims without being detected by the school. Thus, schools need to create an inclusive climate, provide adequate supervision, and educate students and staff about the negative impacts and preventive measures of cyberbullying so that this problem can be suppressed and prevented effectively.

Also, this study reveals that cyberbullying behaviour is negatively affected by the psychological capital of high school students. That is, if students' psychological capital is positive, it will encourage a decrease in high school students' cyberbullying behaviour. This finding

reinforces previous studies that state that psychological capital influences cyberbullying behaviour, and the effect is negative (Eweida et al., 2021; Kalyar et al., 2021; Rastegar & Samari, 2023; Singh et al., 2022). Psychological capital plays a vital role in encouraging cyberbullying behaviour among students. Students with low psychological capital tend to have difficulty understanding other people's feelings and experiences, so that they may be less sensitive to the adverse effects of cyberbullying behaviour on victims. In addition, the inability to properly manage psychological capital, including self-efficacy, optimism, hope, and resilience, can cause students to seek destructive ways to express dissatisfaction and unhappiness, and cyberbullying can be a channel to release anger and frustration anonymously.

In addition, low self-confidence can also play a role in triggering cyberbullying behaviour (Bussey, Luo, Fitzpatrick, & Allison, 2020). Students who feel insecure or experience self-confidence issues may try to increase their sense of superiority or gain attention by bullying others online. To improve social status or seek self-validation, they may find it necessary to harass, ridicule, or belittle others via social media or other online platforms. Thus, it is essential to understand the importance of healthy psychological capital and efforts to strengthen students' social and emotional skills to reduce the possibility of cyberbullying behaviour in the school environment.

The mediating role of psychological capital

Another finding of this study is that students' psychological capital is strongly influenced by the school climate they experience. A positive, inclusive and supportive school climate will positively impact students' psychological development. Previous studies stated that school climate influences psychological capital (X. Huang & Wang, 2021). In a school environment that provides emotional support, students are more likely to have high levels of self-confidence and good psychological well-being. Conversely, a toxic school climate, with social norms that allow hostile or intolerant behaviour, can lead to low psychological capital in students. Students who face harassment, discrimination, or bullying at school can experience decreased self-esteem, increased stress and anxiety levels, and other mental health problems. Therefore, schools must create a safe, positive and friendly environment for all students to strengthen their psychological capital and support healthy personal growth.

In addition, psychological capital in this study is proven to mediate the effects of school climate on high school students' cyberbullying behaviour. In different study contexts, it is also stated that psychological capital is an excellent mediator to strengthen the relationship between independent and dependent variables (Cassidy et al., 2014). Psychological capital plays a vital role as a mediator in linking school climate with cyberbullying behaviour among high school students. And this relationship is negative; the more positive the school climate and psychological capital, the lower the student's cyberbullying behaviour.

School climate includes various aspects, such as school culture, student relationships, and interactions with teachers and staff. When the school climate creates a positive, inclusive and supportive environment, students feel more secure and comfortable interacting with others. In addition, students with solid psychological capital tend to be more able to deal with stress and conflict healthily without resorting to violence or cyberbullying behaviour. They are also able to empathize with their peers and understand the negative impact that cyberbullying behaviour might cause.

The moderating role of social media addiction

This study also examines the moderating role of social media addiction in the relationship between school climate and high school students' cyberbullying behaviour. The study findings reveal that social media addiction negatively moderates the effect of school climate on cyberbullying behaviour. If the student's social media addiction is low, it will encourage a decrease in student cyberbullying behaviour if the student's psychological capital is high. Previous studies explained that the increased use of social media among adolescents led to higher cases of cyberbullying (Çimke & Cerit, 2021). Other scholars also confirmed this relationship, stating that

using social media platforms has been associated with cyberbullying (Baccarella et al., 2018; O'Reilly et al., 2018; Sadagheyani & Tatari, 2021).

The moderating effect of social media addiction on the relationship between school climate and high school students' cyberbullying behaviour can be complex. Social media addiction can affect students' social interactions and perceptions of the school environment. Students addicted to social media tend to spend more time in cyberspace than interacting directly in the school environment. This can lead to social isolation and reduce a positive school climate, as they are more interested in online interactions than building physical relationships with peers or school staff members.

In addition, social media addiction can also influence high school students' cyberbullying behaviour. Students who are addicted to social media may be more likely to engage in cyberbullying conduct because they feel they have the freedom to spread inappropriate messages or content anonymously or under a pseudonym in cyberspace. In addition, social media can provide a platform for students to express opinions aggressively without considering the consequences, increasing the risk of cyberbullying. Therefore, excessive use of social media can moderate the relationship between an unsupportive school climate and increased incidents of cyberbullying behaviour among high school students.

Overall, this study provides important implications for school education practitioners to prevent and intervene in cases of cyberbullying among high school students. By understanding that a positive, inclusive and supportive school climate can influence student behaviour in dealing with conflict healthily, schools can focus on developing a better environment to reduce cyberbullying incidents. Meanwhile, it is also essential to increase students' psychological capital so that they can deal with stress and conflict constructively. Additionally, awareness of the adverse effects of social media addiction and its role in facilitating cyberbullying can inspire efforts to limit excessive social media use and help students develop skills in interacting positively and responsibly in cyberspace. With a holistic approach that integrates these factors, schools can create a safer and more supportive environment, which can help reduce rates of cyberbullying behaviour and improve overall student well-being.

CONCLUSION

This study reveals that cyberbullying behaviour is influenced by school climate and students' psychological capital. The more positive the school climate and psychological capital of students will reduce the cyberbullying behaviour of high school students. Furthermore, psychology is also positively influenced by the school climate. In addition, psychological capital has successfully mediated the effects of school climate on high school students' cyberbullying behaviour. And finally, social media addiction is proven to moderate the impact of school climate and high school students' cyberbullying behaviour. Students who have low social media addiction will reduce cyberbullying behaviour if the school climate that is formed at school is positive. This study has limitations, such as the number of schools involved in data collection. Thus, other schools in urban areas must be involved in future research. This study is fascinating to compare how the behaviour of students in urban and rural schools. It is hoped that the findings of this study will become a reference for preventing cyberbullying by high school students by controlling the school climate, psychological capital, and social media addiction of high school students.

REFERENCES

Abaido, G. M. (2020). Cyberbullying on social media platforms among university students in the United Arab Emirates. *International Journal of Adolescence and Youth*, *25*(1), 407–420. https://doi.org/10.1080/02673843.2019.1669059

Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, *30*(1), 47–88. https://doi.org/https://doi.org/10.1111/j.1745-9125.1992.tb01093.x

Baccarella, C. V, Wagner, T. F., Kietzmann, J. H., & McCarthy, I. P. (2018). Social media? It's serious! Understanding the dark side of social media. *European Management Journal*, *36*(4), 431–438. https://doi.org/https://doi.org/10.1016/j.emj.2018.07.002

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bauman, S., Cross, D., & Walker, J. (2015). *Principles of cynerbullying research: Definitions, measures, and methodology*. Routledge.

Bayar, Y., & Ucanok, Z. (2012). School social climate and generalized peer perception in traditional and cyberbullying status. *Kuram ve Uygulamada Egitim Bilimleri*, *12*, 2352–2358.

Bayer, J. B., Triệu, P., & Ellison, N. B. (2020). Social media elements, ecologies, and effects. In *Annual Review of Psychology* (Vol. 71, pp. 471–497). Annual Reviews. https://doi.org/10.1146/annurev-psych-010419-050944

Blair, J. (2003). New breed of bullies torment their peers on the internet. *Education Week*, *22*(21), 6.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*(7), 513–531. https://doi.org/10.1037/0003-066X.32.7.513

Cassidy, T., McLaughlin, M., & McDowell, E. (2014). Bullying and health at work: The mediating roles of psychological capital and social support. *Work & Stress*, *28*(3), 255–269. https://doi.org/10.1080/02678373.2014.927020

Chen, J.-K., Lin, L., Hong, J. S., & Wang, L.-C. (2023). Temporal association of parental corporal punishment with violence in school and cyberbullying among adolescents. *Child Abuse & Neglect*, *143*, 106251. https://doi.org/https://doi.org/10.1016/j.chiabu.2023.106251

Çimke, S., & Cerit, E. (2021). Social media addiction, cyberbullying and cyber victimization of university students. *Archives of Psychiatric Nursing*, *35*(5), 499–503. https://doi.org/https://doi.org/10.1016/j.apnu.2021.07.004

Cohen, J., McCabe, E. M., Michelli, N. M., & Pickeral, T. (2009). School climate: Research, policy, teacher education and practice. *Teachers College Record*, *111*, 180–213.

Craig, W., Boniel-Nissim, M., King, N., Walsh, S. D., Boer, M., Donnelly, P. D., Harel-Fisch, Y., Malinowska-Cieślik, M., Gaspar de Matos, M., Cosma, A., Van den Eijnden, R., Vieno, A., Elgar, F. J., Molcho, M., Bjereld, Y., & Pickett, W. (2020). Social Media Use and Cyber-Bullying: A Cross-National Analysis of Young People in 42 Countries. *Journal of Adolescent Health*, *66*(6, Supplement), S100–S108. https://doi.org/https://doi.org/10.1016/j.jadohealth.2020.03.006

De Leeuw, E. D. (2008). *Choosing the method of data collection* (E. D. De Leeuw, J. J. Hox, & D. A. Dillman (eds.)). Lawrence Erlbaum Associates.

Dodge, K. A., & Coie, J. D. (1987). Social-information-processing factors in reactive and proactive aggression in children's peer groups. *Journal of Personality and Social Psychology*, *53*(6), 1146–1158. https://doi.org/10.1037//0022-3514.53.6.1146

Eisenberg, M. E., Neumark-Sztainer, D., & Perry, C. L. (2003). Peer Harassment, School Connectedness, and Academic Achievement. *Journal of School Health*, *73*(8), 311–316. https://doi.org/10.1111/j.1746-1561.2003.tb06588.x

Espelage, D., Green, H., & Polanin, J. (2012). Willingness to intervene in bullying episodes among middle school students: Individual and peer-group influences. *The Journal of Early Adolescence*, *32*(6), 776–801. https://doi.org/10.1177/0272431611423017

Eweida, R. S., Hamad, N. I., Abdo, R. A. E. H., & Rashwan, Z. I. (2021). Cyberbullying among

Adolescents in Egypt: A Call for Correlates with Sense of Emotional Security and Psychological Capital Profile. *Journal of Pediatric Nursing*, *61*, e99–e105. https://doi.org/https://doi.org/10.1016/j.pedn.2021.05.008

Eyuboglu, M., Eyuboglu, D., Pala, S. C., Oktar, D., Demirtas, Z., Arslantas, D., & Unsal, A. (2021). Traditional school bullying and cyberbullying: Prevalence, the effect on mental health problems and self-harm behavior. *Psychiatry Research*, *297*, 113730. https://doi.org/https://doi.org/10.1016/j.psychres.2021.113730

Ferrer-Cascales, R., Albaladejo-Blázquez, N., Sánchez-SanSegundo, M., Portilla-Tamarit, I., Lordan, O., & Ruiz-Robledillo, N. (2019). Effectiveness of the TEI Program for Bullying and Cyberbullying Reduction and School Climate Improvement. In *International Journal of Environmental Research and Public Health* (Vol. 16, Issue 4). https://doi.org/10.3390/ijerph16040580

Giumetti, G. W., & Kowalski, R. M. (2022). Cyberbullying via social media and well-being. *Current Opinion in Psychology*, *45*, 101314. https://doi.org/https://doi.org/10.1016/j.copsyc.2022.101314

Gregory, A., Cornell, D., Fan, X., Sheras, P., Shih, T.-H., & Huang, F. (2010). Authoritative school discipline: High school practices associated with lower bullying and victimization. *Journal of Educational Psychology*, *102*(2), 483–496. https://doi.org/10.1037/a0018562

Hair, J., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th.). Pearson Prentice Hall.

He, D., Liu, Q.-Q., & Li, X.-P. (2023). Parental conflict and cyberbullying among Chinese adolescents: A moderated mediation analysis. *Children and Youth Services Review*, *152*, 107084. https://doi.org/https://doi.org/10.1016/j.childyouth.2023.107084

Huang, C. L., Alimu, Y., Yang, S. C., & Kang, S. (2023). What you think is a joke is actually cyberbullying: The effects of ethical dissonance, event judgment and humor style on cyberbullying behavior. *Computers in Human Behavior*, 107670. https://doi.org/https://doi.org/10.1016/j.chb.2023.107670

Huang, X., & Wang, C. (2021). Factors affecting teachers' informal workplace learning: The effects of school climate and psychological capital. *Teaching and Teacher Education*, *103*, 103363. https://doi.org/https://doi.org/10.1016/j.tate.2021.103363

Kalyar, M. N., Saeed, M., Usta, A., & Shafique, I. (2021). Workplace cyberbullying and creativity: examining the roles of psychological distress and psychological capital. *Management Research Review*, *44*(4), 607–624. https://doi.org/10.1108/MRR-03-2020-0130

Kircaburun, K., Demetrovics, Z., Király, O., & Griffiths, M. D. (2020). Childhood Emotional Trauma and Cyberbullying Perpetration Among Emerging Adults: A Multiple Mediation Model of the Role of Problematic Social Media Use and Psychopathology. *International Journal of Mental Health and Addiction*, *18*(3), 548–566. https://doi.org/10.1007/s11469-018-9941-5

Kowalski, R. M., Limber, S. P., & Agatston, P. W. (2008). *Cyber bullying: Bullying in the digital age*. Blackwell Publishing.

Li, S., Wang, X., & Nie, Y. (2022). The Relationship between Parent–Child Attachment, Belief in a Just World, School Climate and Cyberbullying: A Moderated Mediation. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 10). https://doi.org/10.3390/ijerph19106207

Luthans, B. C., Luthans, K. W., & Avey, J. B. (2014). Building the leaders of tomorrow: The development of academic psychological capital. *Journal of Leadership &mOrganizational Studies*, *21*(2), 191–199.

Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press.

Ma, X. (2002). Bullying in middle school: Individual and school characteristics of victims and offenders. *School Effectiveness and School Improvement*, *13*(1), 63–89. https://doi.org/10.1076/sesi.13.1.63.3438

Maji, S., & Abhiram, A. H. (2023). ``Mental health cost of internet'': A mixed-method study of cyberbullying among Indian sexual minorities. *Telematics and Informatics Reports*, *10*, 100064. https://doi.org/https://doi.org/10.1016/j.teler.2023.100064

Martínez-Monteagudo, Á., Martínez-Monteagudo, M. C., & Delgado, B. (2023). School bullying and cyberbullying in academically gifted students: A systematic review. *Aggression and Violent Behavior*, *71*, 101842. https://doi.org/https://doi.org/10.1016/j.avb.2023.101842

Nhung, L. N. A., Basuki, A., Mahfud, T., & Saputro, I. N. (2020). Cyber-bullying among adolescent at school: A literature review. *International Journal of Psychological Rehabilitation*, *24*(7), 1475–7192.

Nixon, C. L. (2014). Current perspectives: the impact of cyberbullying on adolescent health. *Adolescent Health, Medicine and Therapeutics*, *5*, 143–158. https://doi.org/10.2147/AHMT.S36456

O'Reilly, M., Dogra, N., Whiteman, N., Hughes, J., Eruyar, S., & Reilly, P. (2018). Is social media bad for mental health and wellbeing? Exploring the perspectives of adolescents. *Clinical Child Psychology and Psychiatry*, *23*(4), 601–613. https://doi.org/10.1177/1359104518775154

Olweus, D. (1994). Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry*, *35*(7), 1171–1190. https://doi.org/10.1111/j.1469-7610.1994.tb01229.x

Olweus, D. (2013). School bullying: development and some important challenges. *Annual Review of Clinical Psychology*, *9*, 751–780. https://doi.org/10.1146/annurev-clinpsy-050212-185516

Patchin, J. W., & Hinduja, S. (2006). Bullies Move Beyond the Schoolyard: A Preliminary Look at Cyberbullying. *Youth Violence and Juvenile Justice*, *4*(2), 148–169. https://doi.org/10.1177/1541204006286288

Rastegar, A., & Samari, F. (2023). Testing the Cyberbullying Model in the Post-Corona: The Role of Academic Support and Psychological Capital (Case Study: High School Students in Shiraz). *Research in School and Virtual Learning*, *10*(4), 47–58. https://doi.org/10.30473/etl.2023.67070.3962

Sadagheyani, H. E., & Tatari, F. (2021). Investigating the role of social media on mental health. *Mental Health and Social Inclusion*, *25*(1), 41–51. https://doi.org/10.1108/MHSI-06-2020-0039

Schou Andreassen, C., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni, E., & Pallesen, S. (2016). The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors : Journal of the Society of Psychologists in Addictive Behaviors*, *30*(2), 252–262. https://doi.org/10.1037/adb0000160

Selkie, E. M., Kota, R., & Moreno, M. (2016). Cyberbullying behaviors among female college students: witnessing, perpetration, and victimization. *College Student Journal*, *50*(2), 278–287. https://pubmed.ncbi.nlm.nih.gov/28966413

Shapka, J. D., Onditi, H. Z., Collie, R. J., & Lapidot-Lefler, N. (2018). Cyberbullying and Cybervictimization Within a Cross-Cultural Context: A Study of Canadian and Tanzanian

Adolescents. *Child Development*, *89*(1), 89–99. https://doi.org/10.1111/cdev.12829

Shariff, S. (2006). Cyber-hierarchies: a new arsenal of weapons for gendered violence in schools. In C. Mitchell & F. Leech (Eds.), *Combating Gender Violence In and Around Schools*. Trentham Books.

Singh, N. K., Dash, S., Choudhary, P., Batra, D., Kaur, A., & Singh, V. (2022). Presence of Psychological Capital and Cyberbullying amongst LPU Students. *Bornova Izmir*, *20*(17). https://www.proquest.com/openview/5d26ba1c2ac2accbe164b07d42b03027/1?pq-origsite=gscholar&cbl=2035897

Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: its nature and impact in secondary school pupils. *Journal of Child Psychology and Psychiatry*, *49*(4), 376–385. https://doi.org/https://doi.org/10.1111/j.1469-7610.2007.01846.x

Smith, P. K., Robinson, S., & Slonje, R. (2021). *The school bullying research program: why and how it has developed* (pp. 42–59).

Sourander, A., Brunstein Klomek, A., Ikonen, M., Lindroos, J., Luntamo, T., Koskelainen, M., Ristkari, T., & Helenius, H. (2010). Psychosocial risk factors associated with cyberbullying among adolescents: a population-based study. *Archives of General Psychiatry*, *67*(7), 720–728. https://doi.org/10.1001/archgenpsychiatry.2010.79

Suifan, T. S. (2016). The Impact of Organizational Climate and Psychological Capital on Organizational Citizenship Behavior. *International Journal of Business and Management*, *11*(1), 224–230. https://pdfs.semanticscholar.org/65b5/26770de4d38ab727c0c8a38864c56c17db49.pdf

Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in Human Behavior*, *26*(3), 277–287. https://doi.org/https://doi.org/10.1016/j.chb.2009.11.014

Wang, M.-T., & Degol, J. L. (2016). School Climate: a Review of the Construct, Measurement, and Impact on Student Outcomes. *Educational Psychology Review*, *28*(2), 315–352. https://doi.org/10.1007/s10648-015-9319-1

Wang, X., Zhao, F., Yang, J., & Lei, L. (2021). School Climate and Adolescents' Cyberbullying Perpetration: A Moderated Mediation Model of Moral Disengagement and Friends' Moral Identity. *Journal of Interpersonal Violence*, *36*(17–18), NP9601–NP9622. https://doi.org/10.1177/0886260519860089

Wilson, D. (2004). The interface of school Climate and school connectedness and relationships with aggression and victimization. *Journal of School Health*, *74*(7), 293–299. https://doi.org/10.1111/j.1746-1561.2004.tb08286.x

Wolke, D., Woods, S., Bloomfield, L., & Karstadt, L. (2000). The association between direct and relational bullying and behaviour problems among primary school children. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *41*(8), 989–1002.

Wu, W., Guo, Z., Li, S., Tu, F., Wu, X., Ma, X., Teng, Z., Chen, Y., & Zeng, Y. (2022). The influence of parental autonomy support on cyberbullying victimization of high school students: A latent moderation analysis. *Acta Psychologica*, *230*, 103739. https://doi.org/https://doi.org/10.1016/j.actpsy.2022.103739

Yang, C., Sharkey, J. D., Chen, C., & Jimerson, S. (2019). Teacher–Home Communication and Bullying Victimization: Do Parents' Perceptions of Fairness of Rules Matter? *School Psychology Review*, *48*(3), 251–266. https://doi.org/10.17105/SPR-2018-0060.V48-3

Yang, C., Sharkey, J. D., Reed, L. A., & Dowdy, E. (2020). Cyberbullying victimization and student engagement among adolescents: Does school climate matter? *School Psychology*

(Washington, D.C.), *35*(2), 158–169. https://doi.org/10.1037/spq0000353

Yu, W. C. (2015). *Psychological capital, job stress and retention for public preschool teachers as directors in New Taipei City*. Fu Jen Catholic University.

Zhao, Y., Chu, X., & Rong, K. (2023). Cyberbullying experience and bystander behavior in cyberbullying incidents: The serial mediating roles of perceived incident severity and empathy. *Computers in Human Behavior*, *138*, 107484. https://doi.org/https://doi.org/10.1016/j.chb.2022.107484

Zhu, C., Huang, S., Evans, R., & Zhang, W. (2021). Cyberbullying Among Adolescents and Children: A Comprehensive Review of the Global Situation, Risk Factors, and Preventive Measures. *Frontiers in Public Health*, *9*. https://doi.org/10.3389/fpubh.2021.634909

Zullig, K. J., Koopman, T. M., Patton, J. M., & Ubbes, V. A. (2010). School Climate: Historical Review, Instrument Development, and School Assessment. *Journal of Psychoeducational Assessment*, *28*(2), 139–152. https://doi.org/10.1177/0734282909344205