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The underlying roles of coping strategies in the relationship between negative peer experiences and mental health problems in Vietnamese adolescents: A SEM approach

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ABSTRACT

Negative peer experiences - such as peer rejection, bullying, and cyberbullying -are common stressors that are closely linked to adolescents' mental health difficulties. This study investigated the potential mediating roles of coping strategies in the associations between negative peer experiences and mental health problems among Vietnamese adolescents. Using a sample of 1505 adolescents (Mage = 14.4, SD = 1.6; 47.9% female), Structural Equation Modeling (SEM) was employed to examine the interrelations among these variables.

Results indicated that negative peer experiences were associated with higher levels of mental health problems, including both internalizing and externalizing symptoms. Adaptive coping strategies statistically mediated the associations between peer rejection, cyberbullying, and mental health outcomes, reflecting a buffering function against peer-related stressors. In contrast, maladaptive coping mechanisms mediated the links between peer rejection, cyberbullying, and mental health problems, corresponding to an amplification of distress.

Contrary to findings from several Western studies, traditional (face-to-face) bullying did not show a mediation pathway through coping strategies in the Vietnamese sample. This culturally specific pattern is discussed in light of collectivist coping and cultural appraisal frameworks, suggesting that interdependent self-construals may shape adolescents' stress responses. Overall, these findings highlight the value of promoting adaptive coping skills and culturally attuned interventions to support adolescent mental health in the context of peer adversity.

1. Introduction

Adolescence, typically defined as the period between ages 10 and 19 (World Health Organization, 2021), represents a critical developmental phase marked by profound physical, cognitive, and psychosocial changes (Blakemore, 2019). This transition from childhood to adulthood shapes adolescents' emerging sense of identity, emotional regulation, and social relationships. Without adequate support, guidance, and education, adolescents may experience difficulties in managing emotions, thereby increasing their vulnerability to mental health problems such as anxiety, depression, and stress (Steinberg, 2014).

Globally, the prevalence of adolescent mental health problems has been rising. According to the World Health Organization (2013), approximately 10–20% of adolescents experience at least one mental health condition, with anxiety and depression being the most common. In Vietnam, recent studies have reported prevalence rates ranging from 15% to 59% (La et al., 2020; Ngo et al., 2024; Nguyen et al., 2013; UNICEF, 2022). However, due to stigma and limited access to mental health services, many cases remain undetected and untreated (UNICEF, 2022).

Research consistently identifies both protective and risk factors for adolescent mental health, among which peer relationships play a particularly influential role (Roach, 2018). While positive friendships contribute to long-term psychosocial development, negative peer experiences—such as rejection, bullying, and cyberbullying—can threaten adolescents' sense of belonging and social acceptance,

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potentially leading to psychological distress (Paquette & Underwood, 1999). Numerous studies have demonstrated associations between these adverse peer experiences and various mental health difficulties, including depression, anxiety, hyperactivity, loneliness, and sleep disturbances (Ford et al., 2017; Savahl, Montserrat, et al., 2019; Turcotte et al., 2015). Moreover, the detrimental effects of peer victimization may persist into adulthood (Boden et al., 2016; Takizawa et al., 2014). These findings underscore the importance of early interventions to address negative peer experiences and promote adolescents' psychosocial well-being.

Effective coping strategies are crucial for helping children and adolescents manage the challenges associated with negative peer experiences. The effectiveness of a particular coping strategy can either alleviate or exacerbate the psychological impact of bullying, depending on an individual's cognitive and emotional regulation capacities (Endler & Parker, 1994; Undheim et al., 2016). Therefore, understanding coping processes is essential when examining the associations between negative peer experiences and adolescent mental health (Lai et al., 2023).

A comprehensive examination of coping mechanisms underlying these relationships can provide valuable insights for developing interventions that help adolescents respond adaptively to peer-related stressors and enhance their mental well-being. Prior studies have investigated the moderating role of coping strategies in the links between relational or cyberbullying and mental health outcomes (Chamizo-Nieto & Rey, 2023; Do et al., 2019; Garnefski & Kraaij, 2014; Lai et al., 2023; Yang, 2021; Xie et al., 2022). These studies generally found that the negative effects of peer victimization on mental health are stronger among adolescents who rely on maladaptive coping styles.

Despite this progress, limited research has examined how coping strategies mediate the relationship between different forms of peer victimization and mental health. Existing studies that have tested mediation models (Dardas et al., 2022; Hyatt, 2014; Luo et al., 2022; Wang et al., 2024) have primarily focused on traditional bullying, leaving other peer stressors such as cyberbullying and peer rejection largely unexplored. Addressing this gap is essential to inform more comprehensive and culturally sensitive prevention and intervention efforts that integrate coping and well-being as core components of anti-bullying initiatives in school settings.

A growing body of literature has documented the interrelations among negative peer experiences, coping strategies, and mental health problems, supporting the mediating role of coping in these associations during adolescence.

2. Literature review

2.1. Negative peer experiences and mental health problems among adolescents

A growing body of literature has shown that adolescents exposed to negative peer experiences are at greater risk of developing mental health problems. Peer victimization, defined as repeated physical, verbal, or relational attacks by peers (Huang et al., 2021), has been consistently linked to low self-esteem and heightened vulnerability to psychological distress (Long et al., 2021; Nepon et al., 2021). Peer rejection, characterized by feelings of social exclusion, is another salient interpersonal stressor that contributes to mental health difficulties (Masten et al., 2011). Perceived rejection can be particularly damaging in early adolescence, increasing the risk of depressive symptoms and suicidal ideation (Giovazolias, 2023).

Bullying, a more overt and intentional form of peer aggression, is defined as repetitive attacks that reflect a power imbalance between perpetrators and victims (Olweus, 1993). Empirical evidence indicates that victims of bullying suffer enduring consequences, including poor physical health and depressive symptoms (Bogart et al., 2014). Adolescents who experience severe bullying often report negative emotional states such as fear, shame, anger, alienation, and sadness (Harris, 2009), along with lower self-awareness, greater hopelessness, and impaired psychosocial functioning (Källmén & Hallgren, 2021; Wilkins-Surmer et al., 2003). Bullying has also been identified as a significant risk factor for suicide; studies have shown that bully-victims are approximately four times more likely to engage in self-harm or suicidal behaviors than their non-victimized peers (Ford et al., 2017; Luo et al., 2022).

Cyberbullying has emerged as a distinct form of peer victimization that involves the deliberate use of digital communication technologies to humiliate, threaten, or socially exclude others (Vaillancourt et al., 2017). Several characteristics distinguish cyberbullying from traditional bullying, including perpetrator anonymity, unrestricted accessibility, and the rapid dissemination of harmful content to a potentially unlimited audience, all of which may intensify psychological distress among victims (Vaillancourt et al., 2017). Empirical evidence further indicates that cyberbullying predicts adolescents' mental health problems beyond the effects of traditional bullying (Ansary, 2019). Large-scale studies have also demonstrated that involvement in either traditional or cyberbullying is associated with poorer mental health outcomes among adolescents (Hase et al., 2015), while psychological cyberbullying has been specifically linked to elevated symptoms of depression and anxiety in both male and female youths (Baier et al., 2019). Nevertheless, evidence remains inconsistent regarding which forms of bullying are most detrimental. Turner et al. (2013) identified verbal victimization as the strongest predictor of depressive symptoms, whereas Baier and Kunkel (2016) found that relational bullying showed the closest association with adolescents' mental health outcomes. Taken together, these findings highlight the importance of distinguishing between different forms of negative peer experiences when examining their associations with adolescent mental health.

2.2. Negative peer experiences and coping strategies

In response to negative peer experiences, adolescents develop various coping strategies, defined as cognitive and behavioural efforts to manage stressful situations where demands are perceived as exceeding personal resources (Herman-Stabl et al., 1995). Coping strategies can be categorized into adaptive coping (cognitive appraisal, problem-solving, and acceptance) and maladaptive coping (avoidance, suppression, and rumination).

Previous research indicates that adolescents employ a range of coping strategies, both adaptive and maladaptive, to manage negative peer experiences. Hunter et al. (2004) noted that adolescents mainly used avoidance strategies, such as ignoring bullying, and often did not seek help from teachers, friends, or family. Skrzypiec et al. (2012) reported that severely bullied students frequently stated they "never use" productive strategies, such as consulting school counsellors or utilizing peer support programs. In the context of middle school bullying, Donoghue et al. (2014) revealed that while students generally anticipated using adaptive strategies, those victimized recently were more likely to predict reliance on maladaptive avoidance strategies. Mallmann et al. (2018) found that self-control, social support, and avoidance coping strategies were significantly higher among victims than their non-involved peers. Finally, Sittichai and Smith (2018) showed that victims often recommended passive or retaliatory strategies. Landau et al. (2019) identified that adolescents dealing with online interpersonal rejection utilized both online and offline help-seeking, withdrawal, coercive actions, and self-destructive behaviors. Gavcar et al. (2024) found that adolescents facing cyberbullying preferred seeking help and online security, with social support being the least favored option. These findings suggest that adolescents apply a mix of coping strategies in response to negative peer encounters, which may reduce the effectiveness of adaptive strategies, particularly for victims who often resort to maladaptive methods.

2.3. Coping strategies and mental health problems

Adaptive coping strategies have been consistently associated with better mental health outcomes, whereas maladaptive coping has been linked to elevated psychological distress and symptom severity (Compas et al., 2014; Thomassin et al., 2017; Thompson et al., 2010). The use of maladaptive emotion-focused coping, such as rumination and avoidance, has been correlated with greater depressive and anxiety symptoms among adolescents (Foster et al., 2023).

Longitudinal evidence further supports these associations. Seiffge-Krenke and Klessinger (2000) found that disengagement coping (i.e., avoidance) at one time point predicted higher depressive symptoms two years later. Conversely, the use of cognitive restructuring to manage stress was related to lower levels of depression and anxiety (Foster et al., 2023). In a large sample of Chinese adolescents, Liu et al. (2004) demonstrated through logistic regression analyses that avoidant coping was significantly associated with increased risks of both internalizing and externalizing problems, whereas active coping corresponded to reduced risk levels.

Overall, evidence across diverse contexts indicates that coping patterns play a crucial role in adolescents' psychological adjustment. Adaptive coping appears to co-occur with greater emotional well-being and perceived efficacy, whereas reliance on maladaptive coping tends to accompany poorer mental health functioning (Jurek et al., 2024).

2.4. Coping strategies as mediators in the link between negative peer experiences and adolescent mental health

Although limited research has directly examined coping as a mediator between bullying and mental health, several studies have provided important preliminary evidence. For example, Hyatt (2014), in a study of 624 American adolescents, found that maladaptive coping strategies, such as venting, behavioral disengagement, substance use, self-distraction, and self-blame, were associated with stronger links between prior bullying victimization and symptoms of depression, anxiety, and stress.

Similarly, Dardas et al. (2022) examined 1083 German adolescents (M_age = 15.0, SD = 1.4) and observed that the association between bullying involvement and depressive symptoms was partially explained by family environment and emotion-focused coping, whereas problem-focused coping did not show a significant mediating effect.

In a two-wave longitudinal study with 920 primary school students in Hong Kong (57.6% male; M_age = 10.88, SD = 1.25), Luo et al. (2022) found that approach-oriented coping strategies statistically accounted for the association between bullying perpetration and well-being, while avoidance-oriented strategies were unrelated to this link.

More recently, Wang et al. (2024), using a large sample of nearly 12,000 Chinese adolescents, demonstrated that coping styles and self-efficacy statistically mediated the relationships between bullying behaviors and mental health outcomes. Adolescents who more frequently reported bullying involvement also tended to rely on negative coping mechanisms, which co-occurred with higher levels of depression, anxiety, sleep difficulties, and suicidal ideation. Collectively, these findings suggest that coping strategies are important explanatory processes in understanding how bullying experiences relate to adolescents' psychological adjustment.

Although most empirical research on peer victimization and coping has been conducted in high-income, individualistic countries, evidence from low- and middle-income countries (LMICs), including countries in Sub-Saharan Africa and Southeast Asia, suggests broadly comparable associations between peer victimization and adolescents' mental health. For example, studies conducted in South Africa have consistently shown that bullying victimization is associated with poorer psychological well-being and mental health among adolescents (Savahl, Montserrat, et al., 2019). Likewise, a review of bullying research across Southeast Asian countries reported that bullying is consistently linked to adverse psychosocial outcomes despite cultural and contextual differences, while also highlighting that research on coping strategies in the region remains limited and largely descriptive (Sittichai & Smith, 2015). These findings suggest that although the psychological consequences of peer victimization appear broadly consistent across diverse sociocultural contexts, adolescents' coping responses are likely to be shaped by cultural norms, social relationships, and available support resources.

In summary, existing evidence consistently suggests that negative peer experiences are associated with poorer mental health among adolescents across diverse cultural contexts, and coping strategies represent an important process through which adolescents respond to these experiences. However, empirical evidence regarding the mediating role of specific coping strategies remains limited, particularly across different forms of negative peer experiences (i.e., peer rejection, bullying, and cyberbullying) and in collectivist, low- and middle-income settings. Further research is therefore needed to clarify these mechanisms and inform culturally responsive interventions that promote adolescent mental health.

2.5. The present study

The Vietnamese educational and cultural context is characterized by collectivist values, hierarchical school structures, and strong expectations for social conformity. Such features shape how adolescents interpret and respond to peer conflicts, potentially differentiating bullying experiences and coping processes from those typically documented in Western settings. Although several studies in other collectivist and low- and middle-income contexts (e.g., China, South Africa) have begun to explore the links between negative peer experiences, coping, and adolescent well-being, empirical evidence from Vietnam remains scarce. This gap is noteworthy given that most existing research has been conducted in individualistic, high-income societies, offering limited insight into how these dynamics operate in Vietnam's collectivist, middle-income context. Similar to other contexts, research in Vietnam has primarily focused on bullying, while other forms of negative peer experiences (i.e., peer rejection, cyberbullying) have received limited attention. Furthermore, the link between negative peer experiences and mental health among Vietnamese adolescents remains underexplored, particularly regarding how adolescents cope with such experiences and the extent to which coping strategies mediate these associations.

Cultural context plays a pivotal role in shaping both stress appraisal and coping processes. Grounded in the transactional model of stress and coping (Lazarus & Folkman, 1984), this study assumes that individuals' appraisal and coping behaviors mediate the psychological effects of stressors. To account for cultural variation, we integrate cross-cultural perspectives on self and social orientation (Markus & Kitayama, 1991; Triandis, 1995) and collectivist coping models (Heppner et al., 2006; Wang et al., 2012), which emphasize that the adaptive meaning of coping strategies depends on cultural norms of interdependence and relational harmony. In collectivist societies, individuals tend to define the self through relationships with others and prioritize social cohesion and emotional regulation over personal assertiveness. Consequently, coping behaviors often labeled as "avoidant" in Western frameworks, such as withdrawal or suppression, may serve adaptive social functions by preserving interpersonal harmony. Such culturally grounded coping orientations may alter the mediation pathways typically observed in Western samples.

Guided by these perspectives, the present study examines whether coping strategies mediate the associations between negative peer experiences and mental health outcomes among Vietnamese adolescents. By integrating cultural frameworks into the analysis of peer adversity and coping, this research aims to provide a more nuanced understanding of adolescent mental health in a collectivist, non-Western context.

Specifically, this study aims to clarify the links between negative peer experiences and mental health problems among Vietnamese adolescents by examining the role of coping mechanisms (see Fig. 1). A

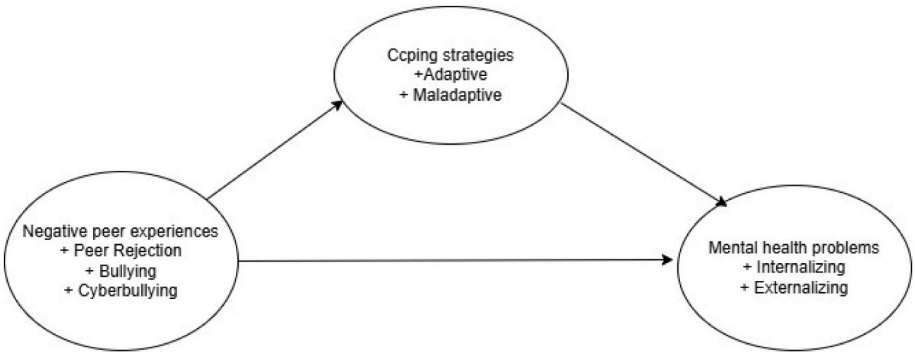

Fig. 1. Hypothesized mediation model.

mediation model is tested to gain insights into how adolescents handle peer-related adversities and to inform culturally sensitive interventions promoting psychological well-being. In the present study, three core constructs were examined, guided by the transactional model of stress and coping (Lazarus & Folkman, 1984). Negative peer experiences refer to adolescents' exposure to harmful or exclusionary peer behaviors, including peer rejection, face-to-face bullying, and cyberbullying (Olweus, 2013; Smith et al., 2008). Coping strategies are defined as cognitive and behavioral efforts used to manage stress and regulate emotions. Consistent with prior research, coping is conceptualized as comprising two broad domains: adaptive coping (e.g., problem-solving, seeking help, emotional regulation) and maladaptive coping (e.g., avoidance, withdrawal, denial). Mental health problems encompass both internalizing symptoms (e.g., anxiety, depression, withdrawal) and externalizing symptoms (e.g., aggression, conduct difficulties) (Goodman, 1997). These operational definitions provided the conceptual foundation for the measurement model and subsequent SEM analyses described in the Methods section.

Guided by stress–coping theory and cross-cultural perspectives, this study has two objectives.

1. To examine the associations among negative peer experiences (peer rejection, direct face-to-face bullying, cyberbullying), coping strategies (adaptive, maladaptive), and adolescent mental health (internalizing and externalizing symptoms) in a Vietnamese adolescent sample.
2. To test whether coping strategies mediate the relationship between specific negative peer experiences and mental health outcomes.

We take an exploratory stance regarding potential cultural differences in mediation patterns (i.e., we do not specify directional hypotheses for all paths).

These objectives guide the exploration of the complex interplay among negative peer experiences, coping, and mental health, contributing to a culturally informed understanding of adolescent psychological well-being in Vietnam.

3. Methods

3.1. Participants and procedure

This study employed a cross-sectional, multistage, school-based sampling design to examine the associations and mediation pathways among peer experiences, coping strategies, and mental health problems among Vietnamese adolescents. Data collection was conducted in four provinces across Vietnam: Ninh Binh and Hanoi in the North, and Lam Dong and Ben Tre in the South. Each city's Department of Education and Training provided a list of general education schools. At the school level, one middle school and one high school were randomly selected in each province, resulting in a total of eight schools. Within each school, one to two classes per grade (Grades 7–12; ages 12–18) were randomly selected based on student numbers, yielding a total of 36 classes. A total of 1505 students participated, corresponding to an average cluster size of approximately 41.8 students per class. This procedure ensured representation across regions, school types, and grade levels.

Grade 6 was excluded because it represents a transitional period from childhood to adolescence; at this stage, students may not yet have formed stable peer relationships at the start of the school year, potentially limiting their peer-interaction experiences.

Prior to data collection, each city's Department of Education briefed school administrators on the study's objectives, survey content, and ethical principles, including anonymity and voluntary participation. Written permissions were obtained from school boards, teachers, parents, and students to ensure informed consent. After approvals, schools allocated one class period (approximately 15–20 min) for survey administration. During the survey, teachers were asked to remain outside the classroom while the trained investigator provided instructions and supervised completion to maintain confidentiality and minimize response bias. The final sample comprised 1505 adolescents ($M_{age} = 14.4$, SD = 1.6; 52.1% male, $n = 784$; 47.9% female, $n = 721$). Descriptive statistics for demographic variables are presented in Table 1.

Ethical statement

Ethical oversight for this study was provided by the Research Proposal Review Council at the Vietnam Institute of Psychology, and the project was authorized by the Ministry of Science and Technology (Decision No. 14 QĐ-HĐQL-NAFOSTED). In Vietnam, institutional RECs are not uniformly available in all institutions; therefore, we followed national procedures and obtained the named institutional and ministerial approvals. All procedures adhered to the principles of voluntary participation, anonymity, and confidentiality; parental consent and student assent were obtained. Participants received information about local counseling resources.

3.2. Measures

3.2.1. Negative peer experiences

The Negative Peer Experiences Questionnaire for Adolescents (NPEQA) used in this study was psychometrically validated in a previous

Table 1
Characteristics of participants.

		Frequency	Percentage
Gender	Male	784	52.1
	Female	721	47.9
School	Middle (7 to 9 grade)	752	50.0
	High (10 to 12 grade)	753	50.0
Total		**1505**	**100.0**

study (Nguyen et al). The validation study was conducted using the same adolescent sample as the present study and focused exclusively on the development and psychometric evaluation of the instrument. The questionnaire comprises 22 items assessing adolescents' experiences of peer rejection, direct bullying, and cyberbullying during the previous month. Items are rated on a 4-point Likert scale (1 = never, 2 = once, 3 = two or three times, 4 = many times). Mean scores are calculated for each subscale, with higher scores indicating more frequent negative peer experiences. The validation included exploratory and confirmatory factor analyses, internal consistency, test–retest reliability, and measurement invariance across gender and school level. The findings supported a three-factor structure explaining 52.2% of the total variance, comprising peer rejection (7 items; e.g., Not talking to me or turning their back on me), direct bullying (11 items; e.g., Pushing, knocking me down, throwing objects at me, or locking me up), and cyberbullying (4 items; e.g., Sending me messages or emails that made me feel uncomfortable or scared). Confirmatory factor analysis demonstrated acceptable model fit (normed χ^2 = 3.66, CFI = .922, RMSEA = .042, SRMR = .044). The scale demonstrated good internal consistency (α = .75–.91), satisfactory three-month test–retest reliability (r = .71–.83), and configural, metric, and scalar measurement invariance across gender and school level. Comprehensive evidence for convergent and discriminant validity is reported in Nguyen et al. (2026).

3.2.2. Coping strategies

The Vietnamese Coping Strategies Scale comprised 16 items developed by the authors to assess both adaptive and maladaptive coping behaviors. Several items were adapted from the coping measures of Reijntjes et al. (2006) and Finset et al. (2002) aimed at addressing stressors (e.g., I try to understand why I am being excluded or bullied; I seek advice when feeling overwhelmed). The maladaptive coping subscale included eight items capturing avoidance-oriented responses (e.g., I try to forget distressing experiences; I withdraw from social interactions).

Participants rated each item on a 4-point Likert scale (1 = never, 2 = sometimes, 3 = quite often, 4 = many times). Confirmatory factor analysis supported the original two-factor structure with an acceptable model fit (normed χ^2 = 1.90, CFI = .95, RMSEA = .05, SRMR = .04). Subscale scores were calculated by averaging the corresponding items, with higher scores indicating greater use of adaptive or maladaptive coping strategies. In the present study, the adaptive and maladaptive coping subscales demonstrated good internal consistency (Cronbach's α = .754 and .770, respectively).

3.2.3. Mental health problems

Mental health problems generally refer to disturbances in emotion, thinking, and behavior that significantly interfere with an individual's personal, social, or occupational functioning (World Health Organization, 2013). In adolescent research, these problems are commonly conceptualized as internalizing difficulties (e.g., anxiety, emotional distress) and externalizing difficulties (e.g., aggressive and rule-breaking behavior). In the present study, these mental health problems were assessed using the self-report version of the Strengths and Difficulties Questionnaire (SDQ) developed by Goodman (1997), which measures emotional and behavioral difficulties in adolescents. The SDQ has demonstrated predictive validity for psychiatric diagnoses across a range of developed and developing countries, including Vietnam (Tran, 2006). This instrument comprises 25 items, of which 20 were utilized in this study, encompassing four distinct areas of adolescent difficulties: (1) Emotional Symptoms (5 items; e.g., *Often unhappy, depressed, or tearful*); (2) Conduct Problems (5 items; e.g., *Often fights with other children*); (3) Hyperactivity/Inattention (5 items; e.g., *Thinks things through before acting*); (4) Peer Problems (5 items; e.g., *Gets along better with adults*). Respondents rated each item using a 3-point Likert scale, with values assigned as follows: 0 = not true, 1 = somewhat true, and 2 = certainly true. In accordance with the manual, externalizing difficulties were calculated as the sum of the scores from the Conduct and Hyperactivity scales, while internalizing difficulties were defined as the total score from the Emotional and Peer Problems scales (Goodman & Goodman, 2012). To enhance model fit, as determined by confirmatory factor analysis (CFA), two items from the Peer Problems scale were removed (normed χ^2 = 1.9; CFI = .91; RMSEA = .04; SRMR = .05). The resulting Cronbach's alpha coefficients for the externalizing and internalizing scales were found to be .62 and .60, respectively.

3.3. Data analyses

Data were tested for missing completely at random (MCAR) and normality assumptions. The Little's MCAR test showed that the data were missing completely at random [$\chi^2(607) = 587.831$; $p = .704$]. Missing data were handled using the Full-Information Maximum Likelihood (FIML) estimation procedure in Mplus, which allows all available information to be used without listwise deletion. To ensure the robustness of the results, key analyses were cross-checked using multiple imputation (20 imputations) in SPSS, yielding consistent parameter estimates and significance levels. This dual approach provides confidence that missing data did not bias the findings (Enders, 2010; Newman, 2014). The Shapiro–Wilk test indicated that the data deviated from normality.

Preliminary analyses were conducted using SPSS 26.0 (Field, 2013), including the computation of descriptive statistics (means and standard deviations), Pearson's bivariate correlations, Cronbach's α coefficients, and independent-samples t tests. The *t*-test results were used to examine gender and school-level differences in key study variables and to justify the inclusion of these demographic variables as covariates in the subsequent SEM analyses.

The hypothesized mediation model was tested using structural equation modeling (SEM) in Mplus version 8.8. The analysis followed a four-step procedure. First, the measurement model was evaluated to ensure adequate goodness of fit prior to testing the hypothesized structural paths. Discriminant validity among the latent constructs was further assessed using the Fornell–Larcker criterion (Fornell & Larcker, 1981) and the Heterotrait–Monotrait ratio of correlations (HTMT; Henseler et al., 2015). According to these criteria, the square root of each construct's Average Variance Extracted (AVE) should exceed its correlations with other constructs, and HTMT values below .85 indicate adequate discriminant validity. These indices were computed using the latent correlations obtained from the confirmatory factor analysis in Mplus.

Second, the structural mediation model was specified by estimating the direct and indirect pathways among negative peer experiences, coping strategies, and mental health outcomes while controlling for gender and school level. Third, indirect effects were evaluated using bias-corrected bootstrap confidence intervals. Finally, overall model fit was assessed using the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), the normed chi-square (χ^2/df), and the Standardized Root Mean Square Residual (SRMR). To account for non-normality, the robust maximum likelihood estimator (MLR) was employed. A good model fit was indicated by $\chi^2/df \leq 3$ (acceptable for large samples), RMSEA ≤ .08, CFI ≥ .90, and SRMR ≤ .06 (Hu & Bentler, 1999; Kline, 2016).

To verify that the current sample size provided adequate statistical power for the specified SEM model, a Monte Carlo power analysis was conducted in Mplus 8.8 using 1000 replications based on the final model parameters (Muthén & Muthén, 2002). Results indicated that with N = 1,505, the statistical power for detecting the primary structural paths ranged from .93 to .99, exceeding the recommended .80 threshold (Cohen, 1988; Wang & Rhemtulla, 2021). These findings confirm that the sample size was sufficient to detect the hypothesized effects with high precision.

4. Results

4.1. Preliminary analyses

Table 2 presents the means, standard deviations, and Pearson's bivariate correlations for peer rejection, bullying, cyberbullying, coping strategies, and internalizing and externalizing symptoms. As shown in Table 2, peer rejection, bullying, and cyberbullying were positively correlated with both maladaptive and adaptive coping strategies.

In addition, negative peer experiences were positively correlated with both internalizing and externalizing problems. Adaptive coping strategies showed negative correlations with these two outcomes, whereas maladaptive coping strategies were positively correlated with them.

Moreover, independent-samples t tests indicated significant gender differences, with female adolescents reporting higher levels of internalizing problems ($t(1503) = -9.52$, $p < .001$, $d = .49$), externalizing problems ($t(1503) = -5.64$, $p < .001$, $d = .29$), adaptive coping ($t(1503) = -8.19$, $p < .001$, $d = .42$), and maladaptive coping ($t(1503) = -3.52$, $p < .001$; $d = .18$) compared to their male counterparts.

Regarding school level, no significant differences were observed for internalizing or externalizing problems ($p > .05$). However, high school students reported significantly higher levels of maladaptive coping than middle school students ($t(1503) = -3.77$, $p < .001$; $d = .21$), whereas adaptive coping did not differ significantly by school level ($t(1503) = -1.64$, $p = .101$, $d = .09$). Based on these findings, gender and school level were included as control variables in all subsequent SEM analyses to account for potential confounding effects.

4.2. Mediation analyses

4.2.1. Measurement model

The measurement model demonstrated a good fit with $\chi^2/df = 2.06$, CFI = .92, RMSEA = .04, and SRMR = .05. All factor loadings were significant and exceeded .60, supporting convergent validity. Both Fornell–Larcker and HTMT analyses supported the discriminant validity of the constructs. Specifically, the square roots of AVEs (ranging from .67 to .81) exceeded the inter-construct correlations, satisfying the Fornell–Larcker criterion. All HTMT values were below the conservative threshold of .85 (ranging from .78 to .82), indicating acceptable discriminant validity among the latent constructs (Henseler et al., 2015; Hair et al., 2021).

4.2.2. Structural model

The structural equation model (SEM) examining the associations among peer rejection, bullying, and cyberbullying with internalizing and externalizing problems via adaptive and maladaptive coping demonstrated an acceptable fit after removing non-significant paths and controlling for relevant socio-demographic variables ($\chi^2/df = 2.19$; CFI = .91; RMSEA = .04; SRMR = .05). These results indicate that the data were consistent with the hypothesized mediation structure. The model accounted for a meaningful proportion of variance across the endogenous constructs. The predictors explained 27% of the variance in Adaptive Coping and 24% in Maladaptive Coping. Furthermore, the overall structural model explained 32% of the variance in internalizing problems and 30% in externalizing problems. As illustrated in Fig. 2, peer rejection and cyberbullying predicted more adaptive coping strategies. Adaptive coping strategies, in turn, predicted lower levels of internalizing and externalizing symptoms. In terms of magnitude, the standardized coefficients observed in the structural model generally reflected small-to-moderate effects according to conventional guidelines (Cohen, 1988; Kline, 2016). For example, paths from negative peer experiences to coping strategies showed coefficients in the range of .20–.30, indicating modest but meaningful associations.

Peer rejection was positively associated with maladaptive coping strategies, which, in turn, were linked to higher levels of internalizing and externalizing problems. Significant indirect associations were observed for peer rejection and cyberbullying with internalizing and externalizing problems via adaptive coping strategies, and for peer rejection with internalizing and externalizing problems via maladaptive coping strategies (Table 3). Specifically, adolescents reporting higher levels of peer rejection and cyberbullying tended to engage more in adaptive coping strategies, which were associated with lower internalizing and externalizing difficulties. Conversely, adolescents experiencing peer rejection also reported greater use of maladaptive coping strategies, which were associated with higher internalizing and externalizing difficulties.

No significant indirect associations were found for bullying with either adaptive or maladaptive coping strategies, nor for cyberbullying with maladaptive coping strategies.

5. Discussion

This study examined the associations between negative peer experiences and mental health among Vietnamese adolescents, with a focus on the mediating role of coping strategies. The findings indicated that all forms of negative peer experiences, including peer rejection, bullying, and cyberbullying, were associated with higher levels of both internalizing symptoms (e.g., emotional distress, withdrawal) and externalizing symptoms (e.g., conduct problems, aggression, and delinquency). Furthermore, adaptive coping was related to fewer mental health problems (MHP), whereas maladaptive coping was linked to greater MHP. Although both coping strategies were associated with negative peer experiences, their potential protective functions appeared to vary

Table 2
Descriptive statistics and correlation Matrix.

	1.1.	1.2.	1.3	2.1	2.2	3.1	3.2
1. Negative peer experiences							
1.1. Peer rejection	1	.60**	.69**	.31**	.21**	.46**	.35**
1.2. Bullying		1	.63**	.20**	.17**	.40**	.33**
1.3. Cyberbullying			1	.24**	.19**	.42**	.34**
2. Coping strategies							
2.1. Adaptive				1	.43**	−.35**	−.27**
2.2. Maladaptive					1	.27**	.22**
3. Mental health problems							
3.1. Internalizing						1	.66**
3.2. Externalizing							1
Mean	10.03	16.03	5.89	12.68	16.58	5.16	3.75
Standard deviation	4.52	6.71	4.31	4.10	4.57	3.14	2.25

Note. *p < .05; **p < .01; ***p < .001.
Score ranges: peer rejection 7–28; bullying 11–44; cyberbullying 4–16; adaptive coping 8–32; maladaptive coping 8–32; internalizing 0–20; externalizing 0–20.

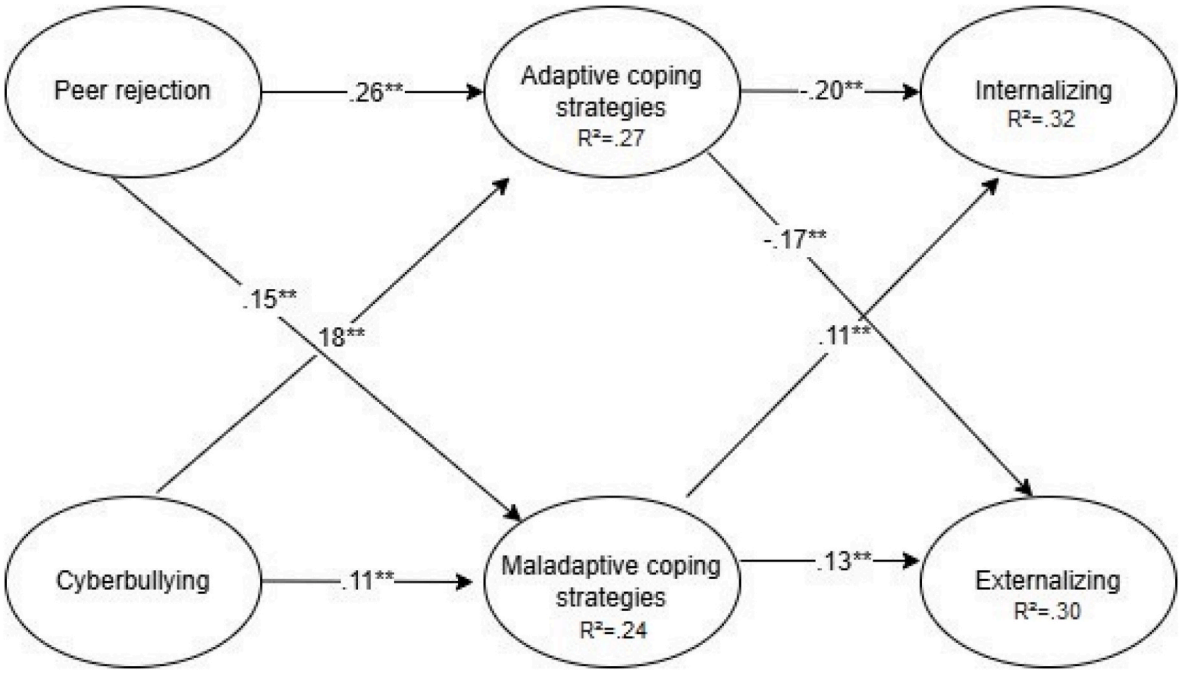

Fig. 2. Final mediation model with standardized path coefficients.

Table 3
Standardized indirect effects of negative peer experiences on mental health through coping strategies.

Predictor	Mediator	Outcome	Effect	99% CI [Lower, Upper]
Peer Rejection	Adaptive coping	Internalizing	−.18***	[-.31, −.08]
Cyberbullying	Adaptive coping	Internalizing	−.12**	[-.21, −.02]
Peer Rejection	Adaptive coping	Externalizing	−.07*	[-.19, −.05]
Cyberbullying	Adaptive coping	Externalizing	−.17***	[-.26, −.15]
Peer Rejection	Maladaptive coping	Internalizing	.06*	[.02,.14]
Peer Rejection	Maladaptive coping	Externalizing	.17**	[.01, .32]
Cyberbullying	Maladaptive coping	Internalizing	.024	[-.08, .10]
Cyberbullying	Maladaptive coping	Externalizing	−.018	[-.09, .06]
Bullying	Adaptive coping	Internalizing	−.031	[-.11, .05]
Bullying	Adaptive coping	Externalizing	.040	[-.03, .12]
Bullying	Maladaptive coping	Internalizing	.015	[-.07, .08]
Bullying	Maladaptive coping	Externalizing	−.025	[-.10, .06]

*p < .05, **p < .01, ***p < .001.

depending on the type of peer adversity.

These results address the first research question, showing that peer rejection, bullying, and cyberbullying were all correlated with elevated internalizing and externalizing symptoms, consistent with prior research (Ford et al., 2017; Nepon et al., 2021; Savahl, Montserrat, et al., 2019; Turcotte et al., 2015). Adolescents who experience peer rejection may encounter heightened negative emotions, increasing their vulnerability to mental health difficulties (Lau et al., 2012). Nepon et al. (2021) further noted that bullying incidents can be experienced as traumatic events that shape negative self-schemas and reduce self-worth, thereby increasing psychological distress. Overall, these findings underscore the detrimental associations between peer rejection, bullying, and cyberbullying and adolescents' mental health outcomes.

Moreover, the results showed that peer rejection, bullying, and cyberbullying were significantly correlated with both adaptive and maladaptive coping strategies, suggesting that adolescents use a range of coping responses when facing such adversities. Specifically, negative peer experiences were positively associated with maladaptive coping strategies, such as avoidance or denial, consistent with previous research indicating that exposure to peer victimization may undermine adolescents' coping competence (Donoghue et al., 2014; Skrzypiec et al., 2012; Troop-Gordon et al., 2015). Conversely, the positive correlations between negative peer experiences and adaptive coping suggest that some adolescents may engage in constructive coping efforts despite adversity. This pattern differs from Ma and Chan (2021), who reported a negative association between adaptive coping and peer victimization, possibly due to stronger support networks. These mixed findings imply that adaptive coping may emerge as a response to peer victimization while also serving as a buffer against its psychological effects.

These results also suggest that even moderate experiences of peer adversity may meaningfully shape coping responses among Vietnamese adolescents. This finding aligns with cultural frameworks emphasizing relational harmony and emotional regulation, where coping strategies often serve to preserve social cohesion rather than express confrontation (Kim et al., 2008; Li & Chen, 2023). Consequently, even small-to-moderate effects have important practical implications for culturally grounded interventions.

In this study, adolescents' mental health was significantly and negatively correlated with adaptive coping strategies. Adolescents who more frequently engaged in adaptive coping reported fewer internalizing and externalizing symptoms, consistent with prior findings (Foster et al., 2023; Jurek et al., 2024; Li & Chen, 2023). Previous research has suggested that adaptive coping may foster self-efficacy and resilience, which in turn are associated with better mental health outcomes (Raskauskas & Huynh, 2015). The effect size observed in this study was larger than that reported in a previous meta-analysis, which found only a small negative correlation between adaptive coping and externalizing symptoms (Compas et al., 2017), suggesting that coping may play a more salient role in Vietnamese adolescents' mental health.

Conversely, maladaptive coping strategies were positively correlated with both internalizing and externalizing symptoms, indicating that adolescents who tend to rely on maladaptive coping are more likely to experience mental health difficulties. This aligns with previous evidence showing that maladaptive coping partially mediates the associations

between bullying and mental health among youth, thereby amplifying the negative correlates of victimization (Dardas et al., 2022; Hyatt, 2014; Luo et al., 2022).

Importantly, the associations between coping strategies and adolescents' mental health appeared to vary by type of negative peer experience. Adaptive coping was found to significantly mediate the relationships between cyberbullying and peer rejection, but not traditional bullying, and mental health problems. This finding aligns with earlier research suggesting that adaptive coping strategies, such as problem-solving and help-seeking, are associated with more effective management of distressing peer events (Lai et al., 2023). Evidence from clinical adolescent samples further indicates that adaptive coping mediates the link between emotional dysregulation and non-suicidal self-injury (Thomassin et al., 2017). Taken together, these results reinforce the view that adaptive coping reflects resilience and constructive stress responses, which are linked to fewer symptoms of psychological distress among adolescents exposed to peer victimization.

Furthermore, maladaptive coping was found to mediate the association between peer rejection, but not bullying or cyberbullying, and mental health outcomes. This pattern is consistent with prior findings that peer rejection is associated with heightened negative emotions (Platt et al., 2013), which may be intensified through maladaptive coping processes such as rumination. Lai et al. (2023) similarly observed that the emotional strain accompanying peer rejection can interfere with adolescents' ability to employ effective coping strategies, thereby reinforcing maladaptive responses and psychological distress. Supporting this, Yoo (2019) found that maladaptive coping was correlated with greater suicidal ideation in response to social stress.

In contrast, the current findings indicate that neither adaptive nor maladaptive coping mediated the association between traditional bullying and mental health problems (MHP) among Vietnamese adolescents. This pattern diverges from prior studies that identified coping as a mediator in similar relationships (Dardas et al., 2022; Hyatt, 2014). One possible explanation lies in the cultural context of coping. In collectivist settings, adolescents may use coping behaviors such as suppression or avoidance that align with social harmony and relational obligations rather than psychological withdrawal (Li & Chen, 2023). Such behaviors may alleviate interpersonal tension without necessarily influencing mental health outcomes. Additionally, Xie et al. (2023) suggest that the effectiveness of coping strategies may diminish as the severity of bullying intensifies, indicating that situational factors interact with cultural norms to shape coping efficacy. Taken together, these findings suggest that individual coping may not be the primary mechanism linking traditional bullying to mental health outcomes in this context. Instead, broader contextual mechanisms may play a more central role in shaping adolescents' psychological responses. Vietnamese school environments are characterized by strong peer norms, hierarchical classroom dynamics, and teacher authority, which may regulate emotional and behavioral reactions and thereby overshadow the contribution of individual coping. Moreover, Western conceptualizations of "maladaptive coping" may not fully capture culturally normative responses that function adaptively to maintain group harmony. Future research should therefore examine alternative explanatory models incorporating school climate, peer relationships, and teacher responses, alongside culturally grounded understandings of coping.

Regarding cyberbullying, the findings showed that adaptive coping mediated its association with MHP, whereas maladaptive coping did not. This contrasts with prior evidence suggesting that maladaptive coping amplifies the negative effects of cyberbullying on psychological outcomes (Dardas et al., 2022; Hyatt, 2014). One plausible explanation is that the indirect and digitally mediated nature of cyberbullying provides adolescents with greater psychological and physical distance from perpetrators, which may reduce their reliance on maladaptive coping. For instance, Jacobs et al. (2015) found that adolescents often perceive cyberbullying as less distressing than face-to-face bullying and tend to respond with emotional disengagement or indifference. Alternatively, adaptive coping might buffer the adverse effects of maladaptive tendencies, as shown by Thompson et al. (2010), who found that problem-solving and reappraisal mitigated the emotional consequences of rumination.

Overall, the significant indirect effects (Table 3) underscore the theoretical relevance of coping as a partial pathway linking peer rejection and cyberbullying to mental health outcomes. Although modest in magnitude, these associations are consistent with the stress–coping framework (Lazarus & Folkman, 1984), which highlights that appraisal and regulation processes condition the psychological consequences of stressors.

From an applied perspective, the findings emphasize the importance of prevention programs that enhance adaptive coping. In collectivist contexts such as Vietnam, interventions should promote relationally oriented coping strategies, such as seeking support within trusted networks, regulating emotions to maintain group harmony, and collaborative problem-solving, rather than direct confrontation (Kim et al., 2008; Li & Chen, 2023). School-based initiatives could further benefit from incorporating group reflection, peer-support systems, and empathy training, which align with collectivist values and encourage shared responsibility (Heppner et al., 2006).

Conversely, the non-significant mediation of coping in the relationship between traditional bullying and MHP suggests that individual-level coping may have limited buffering effects against direct bullying in collectivist educational settings. In Vietnamese schools, where social hierarchy and conformity are emphasized, adolescents may have fewer opportunities to employ autonomous coping when targeted by peers or authority figures. This underscores the need for system-level interventions, such as reinforcing anti-bullying norms, strengthening teacher responsiveness, and empowering bystanders, which have been shown to be effective in collectivist school environments (Yang et al., 2018).

Beyond practical implications, the present findings also inform theory. The partial and context-dependent mediation patterns observed here suggest that coping is not a universal mechanism but one shaped by sociocultural norms governing stress, emotion, and relationships. While generally consistent with the stress-coping framework (Lazarus & Folkman, 1984), these results also align with culturally grounded models (Heppner et al., 2006; Wang et al., 2012) emphasizing that coping functions adaptively when it supports relational and communal harmony in interdependent contexts. Future cross-cultural studies should further examine these culturally contingent pathways to refine coping theory and assess the universality of Western-derived models.

6. Conclusions

This study provides evidence that coping strategies partially explain the associations between negative peer experiences and mental health problems among Vietnamese adolescents. While adaptive coping buffered the associations between peer rejection, cyberbullying, and both internalizing and externalizing problems, maladaptive coping amplified the adverse effects of peer rejection. In contrast, coping strategies did not mediate the relationship between traditional bullying and mental health outcomes, suggesting that different forms of peer adversity may operate through distinct psychological mechanisms in a collectivist context. These findings extend the stress–coping framework by highlighting the culturally contingent role of coping processes and underscore the importance of promoting adaptive coping skills and culturally responsive school-based interventions to support adolescent mental health.

This study has several limitations that should be acknowledged. First, the cross-sectional design limits the ability to draw causal conclusions, as the directionality of relationships between negative peer experiences, coping strategies, and mental health problems cannot be fully determined. It is also possible that adolescents' mental health difficulties influence their coping behaviors, reducing the use of adaptive

strategies and increasing reliance on maladaptive ones (Richardson et al., 2021). Longitudinal or experimental designs are needed to clarify these reciprocal pathways. Second, adaptive and maladaptive coping were examined as separate constructs; however, prior evidence suggests these coping domains may interact dynamically to shape adolescents' adjustment outcomes (Van den Heuvel et al., 2020). Future research should therefore investigate coping profiles or patterns to capture the complexity of adolescents' coping repertoires in response to peer-related stressors. Finally, although gender and school level were statistically controlled in the SEM models, the present study did not examine subgroup-specific mediation pathways. As a result, potential differences in mediation effects across demographic subgroups could not be directly assessed. Future research should apply multi-group SEM to investigate whether these mechanisms vary by gender and school level.

Despite these limitations, the study contributes meaningfully to understanding the psychological correlates of negative peer experiences in a collectivist context. Its large, diverse sample and the use of structural equation modeling (SEM) strengthen the reliability and generalizability of findings. Moreover, by incorporating multiple types of peer adversity (peer rejection, bullying, and cyberbullying), the study advances theoretical understanding of coping as a culturally situated process. These insights provide a foundation for developing tailored, culturally responsive interventions, for instance, enhancing adaptive coping to support cyberbullying victims and targeting both adaptive skill-building and maladaptive reduction strategies for adolescents experiencing peer rejection.

CRediT authorship contribution statement

Le-Hang Thi Do: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Cat-Tuong Phuoc Nguyen:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization. **Quynh-Anh Ngoc Nguyen:** Writing – review & editing, Writing – original draft, Investigation, Data curation. **Tu-Anh Thi Tran:** Writing – review & editing, Methodology, Investigation. **Mai-Huong Thi Phan:** Writing – review & editing, Conceptualization, Data curation, Funding acquisition, Project administration. **Phuong-Hoa Thi Nguyen:** Writing – review & editing, Conceptualization, Data curation, Project administration.

Ethics declaration

Written informed consent to take part in the study and to publish the article has been obtained from all participants or their legal representatives. The privacy rights of participants have been observed.

This study was performed in compliance with relevant laws, regulatory frameworks and guidelines where the research took place. This study was approved by the National Foundation for Science and Technology Development (NAFOSTED. (Approval No. 14/QĐ-HĐQL-NAFOSTED)

Data availability statement

The datasets generated and/or analysed during the current study are not publicly available because they contain potentially identifiable and sensitive information from adolescent participants. However, the datasets are available from the corresponding author upon reasonable request.

Declaration of AI-assisted writing

During the preparation of this work, the authors used GRAMMARLY FREE in order to make it more accurate and efficient. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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