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Constructing the Cyberbullying Coping Scale for Adolescents and Young Adults: Psychometric Properties and Well-Being Correlates

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Abstract

Background:
This study aimed to develop and validate a multidimensional Cyberbullying Coping Scale for adolescents and young adults and to examine its associations with psychological, emotional, social, and digital well-being.

Methods:
A two-stage design with independent samples was employed. Exploratory factor analysis (EFA) was conducted with 789 participants (507 high school, 282 university students), followed by confirmatory factor analysis (CFA) on an independent sample of 1,153 participants (706 high school, 447 university students). The six-factor model demonstrated acceptable to good fit ($\chi^2/df < 5$, CFI > .90, RMSEA < .08). Internal consistency was assessed using Cronbach's alpha coefficients. Associations between coping strategies, flourishing, and digital well-being were examined using Pearson correlation analyses.

Results:
EFA and CFA supported a six-factor structure comprising seeking social support, reactive/risky behaviours, preventive digital awareness, social and moral engagement, cognitive reappraisal, and emotional regulation. The overall scale demonstrated high internal consistency ($\alpha > .85$), while subscale reliability coefficients ranged from moderate to high ($\alpha = .54$–$.82$). Adaptive coping strategies were positively associated with flourishing and digital well-being. Reactive/risky coping strategies were negatively associated with digital well-being but showed a positive association with flourishing, which should be interpreted cautiously, as this relationship may reflect short-term or role-dependent perceptions of empowerment rather than a consistently adaptive coping outcome.

Conclusions:
The findings indicate that coping with cyberbullying is a multidimensional process encompassing cognitive, emotional, interpersonal, and digital dimensions. The Cyberbullying Coping Scale provides a psychometrically supported tool for assessing coping strategies among adolescents and young adults, highlighting the complexity of associations between coping responses and well-being outcomes in digital contexts.

Keywords: Cyberbullying, coping strategies, scale development, adolescents, young adults, digital well-being, psychological well-being

INTRODUCTION

Cyberbullying has become a persistent psychosocial risk for adolescents and young adults, accompanying the rapid expansion of digital technologies and social media platforms. Exposure to cyberbullying has been consistently associated with adverse outcomes such as anxiety, depression, loneliness, academic difficulties, and impaired digital well-being. However, psychological consequences of cyberbullying are not uniform across individuals. While some adolescents and young adults experience significant emotional distress, others demonstrate relative resilience despite similar exposure. This variability highlights coping strategies as a central process associated with differences in how individuals respond to cyberbullying and how cyberbullying-related outcomes are experienced across psychological, emotional, social, and digital domains (Foody et al., 2015; Raskauskas & Huynh, 2015). In this respect, coping constitutes a key process linking cyberbullying experiences to psychological, emotional, social, and digital outcomes.

Cyberbullying differs from traditional forms of bullying in that it transcends temporal and spatial boundaries, allows anonymity, and enables harmful content to be rapidly disseminated to wide audiences. These characteristics are associated with higher levels of perceived helplessness and with prolonged exposure to harm, and are linked to greater vulnerability to anxiety, depressive symptoms, and social withdrawal (Shafik, 2025; Shukla & Chouhan, 2023; Wiederhold, 2024). Importantly, research suggests that the psychological impact of cyberbullying is not confined to direct victimization. Quantitative findings indicate that individuals who witness cyberbullying may also experience elevated emotional distress and mental health difficulties, particularly in contexts where negative bystander responses occur or where witnesses perceive limited capacity to intervene (DeSmet et al., 2019). Complementing these findings, qualitative research has shown that witnessing cyberbullying elicits complex emotional and moral reactions, including discomfort, anger, moral disengagement, and uncertainty regarding intervention, and that adolescents adopt distinct bystander roles that meaningfully shape their coping responses (Pepler et al., 2021).

Previous research has documented meaningful differences in how young people cope with cyberbullying-related stress. For instance, Vollink et al. (2013) found that victims differ from non-involved peers and bully-victims in their greater reliance on emotion-focused coping strategies, and that maladaptive coping patterns used in daily life are associated with cyberspecific coping responses linked to higher levels of depressive symptoms and health complaints. These findings suggest that coping responses to cyberbullying are closely intertwined with broader emotional regulation tendencies and everyday coping styles, rather than being confined to isolated online incidents.

Building on this line of research, recent studies increasingly conceptualize coping strategies as key processes associated with psychological adjustment in cyberbullying contexts. However, much of the existing literature continues to rely on general stress-coping frameworks and to focus on isolated outcomes such as anxiety or depression, often neglecting the growing relevance of digital well-being as a distinct dimension of functioning. As a result,

current approaches provide only a partial understanding of how adolescents and young adults manage cyberbullying-related stress across psychological, social, and digital domains. This limitation points to the need for cyberbullying-specific, developmentally sensitive, and digitally grounded assessments that can more adequately capture the complexity of coping processes in contemporary online environments.

Problem Situation

From a stress and coping perspective, coping with cyberbullying has been conceptualized as a multidimensional process involving intrapersonal, interpersonal, and digitally mediated strategies. Research has shown that adolescents and young adults employ a wide range of coping responses, including online strategies such as blocking perpetrators, adjusting privacy settings, and reporting harmful content (Andrysiak et al., 2022; Pooja et al., 2024), as well as reflective disengagement from social media to regulate stress (Khaleghipour et al., 2024). Preventive digital awareness, including knowledge of online risks and responsible digital practices, has also been associated with safer online engagement and higher levels of digital well-being (Nee et al., 2023). However, although these findings demonstrate the diversity of coping responses in digital contexts, they also reveal a conceptual challenge: coping with cyberbullying involves behaviors that are specific to online environments and therefore cannot be adequately assessed using general stress-coping frameworks alone and should instead be examined within the specific affordances and constraints of digital environments.

In addition to digitally mediated strategies, interpersonal coping responses such as seeking social support from peers, family members, teachers, or professionals have consistently been identified as factors associated with lower levels of distress. Social support provides emotional reassurance and practical guidance and has been shown to partially mediate the relationship between cyberbullying victimization and internalizing outcomes such as anxiety and depression (Li et al., 2025), while also being associated with lower levels of emotional distress among both victims and witnesses (Ngo et al., 2021). Similarly, higher levels of resilience have been associated with a lower likelihood of reporting bullying experiences and, among those exposed, with reduced disruption to school functioning (Hinduja & Patchin, 2017). Despite this strong empirical support, existing measurement tools rarely incorporate social support, resilience-related processes, and moral or ethical dimensions of coping within a single, coherent assessment structure. This underscores the need to conceptualize coping not only as an individual process but also as a socially embedded response to cyberbullying.

At the intrapersonal level, coping strategies include internal processes through which individuals regulate emotions and interpret stressful cyberbullying experiences. Cognitive reappraisal and emotional regulation have been identified as central mechanisms that buffer the negative psychological effects of cyberbullying exposure (Leung et al., 2024), whereas emotional dysregulation constitutes a key pathway linking victimization to anxiety and depressive symptoms (Li et al., 2025; Tao et al., 2023). Emotional intelligence and resilience further support effective distress regulation and psychological well-being in cyberbullying

contexts (Ittel et al., 2014; Shukla & Chouhan, 2023). Nevertheless, intrapersonal coping processes are often examined in isolation, limiting the ability to understand how emotional and cognitive regulation interact with social and digital coping strategies. Intrapersonal coping processes represent a critical but incomplete component of coping with cyberbullying when considered in isolation.

Importantly, not all coping strategies are associated with different patterns of psychological outcomes. Reactive and risky responses such as retaliation, aggressive counter-attacks, or escalation of online conflict have been consistently associated with heightened emotional distress and poorer psychological adjustment (Foody et al., 2015; Raskauskas & Huynh, 2015). Although such responses have been associated with short-term changes in emotional experience, they often fail to support longer-term well-being. In contrast, socially and morally oriented coping strategies, including ethical digital conduct and collective responsibility, have been linked to safer online climates and reduced cyberbullying behaviors (Biswas et al., 2025; Shafik, 2025). Gender-related differences further indicate that coping effectiveness varies across individuals and contexts, with males more likely to adopt disengagement-oriented strategies (Khaleghipour et al., 2024). Moreover, resilience has been shown to operate as a key protective factor by weakening the association between cyberbullying exposure and depressive symptoms and by supporting adaptive coping processes such as emotional regulation, cognitive reappraisal, and constructive social engagement (Ngo et al., 2021; Santos et al., 2021).

Consequently, the literature points to three interrelated problems. First, although coping with cyberbullying is widely acknowledged as a multidimensional process, most existing instruments rely on general stress-coping models and fail to capture coping behaviors that are specific to digital environments, such as preventive digital awareness and ethical online engagement. Second, coping strategies are frequently examined in isolation, which limits understanding of how intrapersonal, interpersonal, and digital coping processes interact within the same individuals. Third, prior research has predominantly focused on victims, despite growing evidence that witnesses also engage in coping behaviors and experience meaningful psychological consequences. As a result, current measurement approaches remain insufficient for capturing the complexity of coping with cyberbullying and its differential associations with psychological, emotional, social, and digital well-being for adolescents and young adults.

Purpose of the Study and Hypotheses

In response to the problems outlined above, the present study was designed with two primary aims. The first aim was to develop and validate a Cyberbullying Coping Scale specifically for adolescents and young adults, reflecting the developmental significance of peer relationships and digital engagement during these life stages, and integrating intrapersonal, interpersonal, and digitally mediated coping strategies within a single, theoretically grounded framework. The second aim was to examine how different cyberbullying coping strategies are associated with multiple dimensions of well-being among

adolescents and young adults, including psychological, emotional, social, and digital well-being.

Drawing on stress and coping theory and prior findings, coping strategies were expected to relate to well-being in different ways depending on their functional characteristics. Accordingly, the following hypotheses were formulated:

H1. Cyberbullying coping strategies, including cognitive reappraisal, emotional regulation, seeking social support, preventive digital awareness, and social and moral engagement, will be positively associated with psychological, social, emotional, and digital well-being.

H1 reflects the expectation that coping strategies characterized by cognitive flexibility, emotional regulation, social connectedness, and responsible digital engagement are systematically associated with more favorable well-being profiles. Cognitive reappraisal and emotional regulation are associated with lower emotional distress and better psychological adjustment (Leung et al., 2024; Li et al., 2025), while seeking social support functions as a key interpersonal resource that buffers the negative impact of cyberbullying for both victims and witnesses (Ngo et al., 2021). In addition, preventive digital awareness and social–moral engagement are associated with safer online behaviors and higher levels of digital well-being, reflecting more adaptive engagement with digital environments (Biswas et al., 2025; Nee et al., 2023; Shafik, 2025).

H2. Reactive or risk-taking coping behaviors will be negatively associated with digital well-being, whereas their associations with psychological, emotional, and social well-being may vary depending on contextual and individual factors.

This hypothesis reflects the mixed and context-dependent patterns reported in prior research regarding reactive and risk-taking coping responses. Reactive or risk-taking coping responses have been shown to display more complex and sometimes contradictory associations with well-being indicators. While a substantial body of research links retaliatory, aggressive, or confrontational responses to heightened emotional distress, poorer psychological adjustment, and increased risk of conflict escalation in cyberbullying contexts (Foody et al., 2015; Raskauskas & Huynh, 2015), emerging evidence suggests that such responses may also be accompanied by short-term emotional relief, perceived empowerment, or a sense of regained control, particularly among adolescents facing power imbalances in online interactions. Studies have noted that assertive or confrontational reactions can temporarily enhance subjective well-being or self-evaluative outcomes, even though they may undermine safer and more adaptive functioning in digital environments over time (Denny et al., 2011; Zhang & Wang, 2025). Reactive coping appears to be more consistently detrimental for outcomes reflecting safe, responsible, and sustainable digital engagement, whereas its associations with broader psychological, emotional, and social well-being may vary depending on contextual, developmental, and individual factors. This variability highlights the importance of examining reactive coping across multiple well-being domains rather than assuming a uniformly negative or positive relationship.

At the outset, several limitations of the present study should be acknowledged. The reliance on self-report measures may introduce social desirability bias, the cross-sectional design limits causal interpretations, and the focus on a single cultural context may restrict the generalizability of the findings. These limitations are discussed in greater detail in the Discussion section.

Conceptual Model

Grounded in stress and coping theory and contemporary cyberpsychology, the conceptual model of this study positions coping strategies as central processes linking cyberbullying experiences to well-being among adolescents and young adults. Given the developmental sensitivity of these periods to peer relations and digital interaction, coping responses play a critical role in shaping psychological, emotional, social, and digital outcomes.

The model assumes that cognitive, emotional, interpersonal, and digitally mediated coping strategies influence how cyberbullying-related stress is regulated, interpreted, and managed. Strategies such as cognitive reappraisal, emotional regulation, seeking social support, preventive digital awareness, and engagement with social and moral norms are expected to relate to variations in well-being by shaping emotion regulation, perceived control, social connectedness, and responsible digital participation.

Coping responses characterized by reactive or risk-oriented behaviors are expected to relate differently to well-being outcomes by intensifying emotional arousal and disrupting effective regulation and supportive engagement. The model reflects a multidimensional and developmentally sensitive framework that guides both the development of a cyberbullying-specific coping scale and the examination of its associations with well-being in adolescent and young adult populations.

METHOD

Research Design

The present study employed a quantitative research design combining scale development and correlational research approaches. In the first phase, a multidimensional Cyberbullying Coping Scale was developed, and its psychometric properties were examined. In the second phase, the relationships between cyberbullying coping strategies and different dimensions of well-being were investigated. This design allowed for both the validation of a newly developed measurement instrument and the examination of theoretically grounded associations between coping strategies and well-being indicators. Accordingly, the first phase focused on psychometric validation, whereas the second phase examined associations between coping dimensions and well-being outcomes.

Participants

The study sample consisted of two groups: adolescents attending high school and young adults attending university. .

Participants were recruited using convenience sampling, a method frequently used in behavioral and educational research due to practical and feasibility considerations. The adolescent group comprised students currently enrolled in secondary education institutions, while the young adult group consisted of undergraduate students enrolled in higher education programs. Inclusion criteria required participants to be active users of digital technologies and social media platforms and to have experienced or witnessed cyberbullying within the past six months.

Before completing the study measures, participants were presented with a brief definition of cyberbullying and screened using a single item asking whether, in the past six months, they (a) had been exposed to cyberbullying as a victim, (b) had witnessed cyberbullying directed at others, or (c) had no cyberbullying-related experience. Only participants selecting options (a) or (b) proceeded to complete the questionnaire; those reporting no cyberbullying experience were not included in the study sample. Victimization or witnessing status was used solely for participant eligibility and not examined as an analytic grouping variable.

Participation was voluntary, and no incentives were provided. Demographic information, including age, gender, educational level, and frequency of digital media use, was collected as part of the study.

To provide a clearer overview of the sample structure, Table 1 presents the distribution of participants by educational level, grade level, and gender for both the sample used in the exploratory factor analysis (EFA) and the sample used in the confirmatory factor analysis (CFA).

Table 1. *Demographic Characteristics of the Participants in the EFA and CFA Samples (n)*

Grade Level	Female n (%)	Male n (%)	Total n (%)	Female n (%)	Male n (%)	Total n (%)
	EFA Sample			CFA Sample		
High School						
9th Grade	102 (18.2)	53 (23.2)	155 (19.6)	149 (18.3)	76 (22.4)	225 (19.5)
10th Grade	88 (15.7)	35 (15.4)	123 (15.6)	116 (14.3)	47 (13.9)	163 (14.1)
11th Grade	62 (11.1)	32 (14.0)	94 (11.9)	85 (10.4)	37 (10.9)	122 (10.6)
12th Grade	93 (16.6)	42 (18.4)	135 (17.1)	123 (15.1)	73 (21.5)	196 (17.0)
High School Total	345 (61.5)	162 (71.1)	507 (64.2)	473 (58.1)	233 (68.7)	706 (61.2)
University						
1st Year	67 (11.9)	34 (14.9)	101 (12.8)	111 (13.6)	49 (14.5)	160 (13.9)
2nd Year	23 (4.1)	5 (2.2)	28 (3.5)	32 (3.9)	8 (2.4)	40 (3.5)
3rd Year	94 (16.8)	12 (5.3)	106 (13.4)	138 (17.0)	19 (5.6)	157 (13.6)
4th Year	32 (5.7)	15 (6.6)	47 (6.0)	60 (7.4)	30 (8.9)	90 (7.8)
University Total	216 (38.5)	66 (28.9)	282 (35.8)	341 (41.9)	106 (31.3)	447 (38.8)
Overall Total	561 (100)	228 (100)	789 (100)	814 (100)	339 (100)	1153 (100)

Note. Percentages are calculated within each sample (EFA and CFA) separately. EFA = Exploratory Factor Analysis; CFA = Confirmatory Factor Analysis.

Table 1 presents the distribution of participants according to educational level, grade level, and gender for both the EFA and CFA samples. The EFA sample consisted of 789 participants, including 507 high school students and 282 university students (561 females and 228 males). The CFA sample included 1153 participants, of whom 706 were high school students and 447 were university students (814 females and 339 males).

Across both samples, participation was higher among females than males, and representation was distributed across all grade levels in both educational groups. This distribution indicates that the scale was tested on a heterogeneous sample including adolescents and young adults at different stages of secondary and higher education, thereby supporting the developmental relevance and generalizability of the findings.

Data Collection Tools

***Cyberbullying Coping Scale*:** The Cyberbullying Coping Scale for Adolescents and Young Adults was developed by the researchers to assess coping strategies used in response to cyberbullying. The scale captures coping behaviors from both victim and witness perspectives. . The scale is applicable to individuals who have been directly targeted by cyberbullying as well as those who have observed cyberbullying incidents involving others in online environments.

Specifically, established stress and coping frameworks and prior cyberbullying research guided item generation and construct specification. . In the initial phase, an extensive review of the cyberbullying, stress, and coping literature was conducted. In particular, five existing scale development and adaptation studies focusing on coping with cyberbullying were carefully examined to inform item content and dimensional coverage (Jacobs et al., 2015; McLoughlin, 2021; Özbey & Başdaş, 2020; Peker et al., 2015; Sticca et al., 2015). Based on this review, an initial item pool of 36 items was generated by the researchers to reflect cognitive, emotional, behavioral, social, and digital coping strategies relevant to cyberbullying experiences.

To establish content validity, the preliminary item pool was evaluated by an expert panel consisting of two experts in cyberbullying research, one expert in psychological measurement and scale development, and one language expert. The experts reviewed the items in terms of relevance, clarity, and representativeness of the targeted coping dimensions. Based on their feedback, minor revisions were made to improve item wording and comprehensibility.

Following expert review, a pilot application was conducted with 20 high school adolescents to assess the clarity and comprehensibility of the items. Participants were asked to complete the scale and provide feedback on item wording. The pilot results indicated that the items were clear and comprehensible for the target age group , and minor linguistic adjustments were made accordingly. No items were removed at this stage.

The preliminary version of the scale was then administered to the main study samples consisting of adolescents and young adults. Exploratory factor analysis was conducted to examine the underlying factor structure of the instrument, followed by confirmatory factor analysis to validate the emerging model. Psychometric analyses supported a six-factor structure consisting of 23 items in the final version of the scale. These six coping dimensions are cognitive reappraisal, emotional regulation, seeking social support, reactive / risk-taking behaviors, preventive digital awareness, and social and moral engagement.

Items assess the frequency with which participants engage in specific coping strategies when they are exposed to cyberbullying, either personally or as witnesses. All items were rated on a five-point Likert-type scale ranging from 1 (never) to 5 (always), with higher scores indicating more frequent use of the corresponding coping strategy.

The scale was originally developed and administered in Turkish. For reporting purposes in the present manuscript, the scale items were translated into English in collaboration with a language expert to ensure linguistic accuracy and conceptual consistency.

Multidimensional Flourishing Scale (MFS): In this study, psychological, emotional, and social well-being were assessed using the Multidimensional Flourishing Scale (MFS). The scale was developed by Mesurado et al. based on Keyes's (2002, 2005) theoretical framework of well-being and was adapted into Turkish by Dadandı and Aydın. The scale consists of three subdimensions—psychological well-being, emotional well-being, and social well-being—with four items representing each subdimension. The scale includes a total of 12 items, all of which are positively worded.

Items are rated on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). Total scores range from 12 to 60, with higher scores indicating higher levels of flourishing. Subscale scores can also be calculated separately to reflect individuals' levels of well-being in each specific domain.

The Turkish adaptation study reported that the three-factor structure of the scale was confirmed through confirmatory factor analysis and provided evidence for its construct validity, convergent validity, and measurement invariance. In addition, the scale demonstrated acceptable to good internal consistency reliability at both the total scale and subscale levels. In the present study, the internal consistency of the scale was re-evaluated, and the Cronbach's alpha reliability coefficient was found to be .84, demonstrating adequate reliability in the current sample.

Digital Well-Being Scale (DWBS). In this study, individuals' subjective digital well-being related to their use of digital media and technologies was assessed using the Digital Well-Being Scale, developed by Arslankara, Demir, Öztaş, and Usta (2022). The scale conceptualizes digital well-being across three subdimensions: digital satisfaction, safe and responsible digital behavior, and digital wellness.

The scale consists of 12 items, with four items in each subdimension, and items are rated on a 5-point Likert-type scale. Higher scores indicate higher levels of digital well-being.

In the scale development study, the three-factor structure was confirmed through confirmatory factor analysis, and evidence supporting the construct validity of the scale was reported. The Cronbach's alpha reliability coefficient for the total scale was reported as .79.

In the present study, the internal consistency of the scale was re-examined, and the Cronbach's alpha coefficient was found to be .73, indicating acceptable reliability for the current sample.

Data Analysis and Procedures

Data collection was carried out following the approval of the Social and Human Sciences Ethics Committee of the İstanbul University-Cerrahpaşa (approval date: 02 December 2025; approval number: 2025/768). The study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Participants were informed about the purpose of the research, the voluntary nature of participation, confidentiality and anonymity of responses, and their right to withdraw from the study at any time without penalty. Written informed consent was obtained from all participants, and parental consent was additionally secured for those under the age of 18.

Prior to the main analyses, preliminary screening procedures were conducted to examine missing data, normality assumptions, and descriptive statistics. To evaluate the psychometric properties of the Cyberbullying Coping Scale, an Exploratory Factor Analysis (EFA) was first conducted, followed by a Confirmatory Factor Analysis (CFA) to test the obtained factor structure. In addition to construct validity, reliability analyses were performed by calculating item–total correlations and Cronbach's alpha internal consistency coefficients.

Given that all variables were collected using self-report measures within a single survey administration, the potential impact of common method variance was assessed. A CFA-based common latent factor approach was employed, in which a common latent factor was added to the confirmatory factor analysis model, and all observed items were allowed to load simultaneously on their theoretical latent constructs and the common latent factor. Model fit indices obtained from this model were compared with those of the original measurement model. The results indicated that the inclusion of the common latent factor did not result in substantial changes in model fit or standardized factor loadings, suggesting that common method variance did not meaningfully bias the observed associations.

In addition, measurement invariance across adolescents and young adults was examined using multi-group confirmatory factor analysis (MG-CFA) in AMOS. Participants were grouped as high school students and university students. Configural, metric, and residual invariance models were tested sequentially using the Maximum Likelihood (ML) estimation method.

In line with the second aim of the study, Pearson correlation analysis was employed to examine the relationships between cyberbullying coping strategies and indicators of psychological, emotional, social, and digital well-being. Pearson correlation analysis was selected because the study variables were continuous and met the assumptions of normality (Tabachnick & Fidell, 2019). These analyses were conducted to determine the direction and

magnitude of the associations between coping dimensions and well-being variables in accordance with the study hypotheses. All statistical analyses were performed using SPSS 26 software, and the level of statistical significance was set at .01.

FINDINGS

Findings Related to Scale Development

A. Construct Validity

To examine the construct validity of the scale, item–total correlations, Exploratory Factor Analysis (EFA), and Confirmatory Factor Analysis (CFA) were conducted. Before these analyses, normality tests were performed to evaluate the distributional characteristics of the dataset.

The results of the Kolmogorov–Smirnov (K–S) test (p = .001) and Shapiro–Wilk test (p = .001) were statistically significant. However, it is well documented that in large samples (n > 300), these tests are highly sensitive to even minor deviations from normality and therefore tend to reject the normality assumption (Field, 2018; Tabachnick & Fidell, 2019). Therefore, skewness and kurtosis coefficients were examined to further evaluate normality.

In the EFA sample (n_1 = 789), skewness (-.925) and kurtosis (-.245) values, as well as skewness (-.905) and kurtosis (-.510) values obtained from the CFA sample (n_2 = 1153), were all within the range of -1 to +1. The literature indicates that skewness and kurtosis coefficients falling within this range suggest that the data are approximately normally distributed (George & Mallery, 2019; Kline, 2016). Based on these results, the dataset was considered suitable for EFA and CFA analyses.

1. Item–Total Score Correlation

To determine the construct validity of the scale, item–total score correlations were first examined. Item–total correlation analysis is an important indicator of the extent to which each item is related to the overall structure of the scale and reflects item discrimination (Büyüköztürk, 2019; DeVellis, 2017). Item–total correlation coefficients were calculated for each item, and the results are presented in Table 2.

Table 2. *Item–Total Score Analysis Results*

Item	Item- Total Correlation (r)	Item	Item- Total Correlation (r)	Item	Item- Total Correlation (r)
M1	.301	M13	.454	M25	.480
M2	.304	M14	.226	M26	.444
M3	.325	M15	.401	M27	.323
M4	.222	M16	.466	M28	.233
M5	.322	M17	.449	M29	.210
M6	.462	M18	.133	M30	.377
M7	.407	M19	.042	M31	.367
M8	.265	M20	.197	M32	.448
M9	.379	M21	.235	M33	.353
M10	.465	M22	.424	M34	.355
M11	.325	M23	.460	M35	.463

M12	.474	M24	.162	M36	.479

According to Table 2, the item–total correlation coefficients rangedfrom .042 to .480. In the literature, item–total correlation coefficients of .30 and above are considered to indicate that the item has a meaningful relationship with the overall scale and possesses an adequate level of discrimination (Büyüköztürk, 2019; DeVellis, 2017; Nunnally & Bernstein, 1994).Based on this criterion, items M4, M8, M14, M18, M19, M20, M21, M24, M28, and M29 fell below this threshold value. These items were removed from further analyses. This decision was based on their limited contribution to the overall scale structure, and the remaining 26 items were included in the Exploratory Factor Analysis process. The removed items mainly represented emotional regulation, social support seeking, avoidance/withdrawal, preventive digital behaviors, and self-blaming responses (e.g., attempts to suppress emotions, passive disengagement, generalized avoidance strategies, or attributing responsibility to oneself). These items showed substantial conceptual overlap with other items in the pool and demonstrated limited discriminative power within their respective dimensions.

2. Exploratory Factor Analysis (EFA)

To determine the suitability of the data for factor analysis, the Kaiser–Meyer–Olkin (KMO) test was conducted, and the obtained value was .872. This value indicates that the sample size is "excellent" for factor analysis (Field, 2018). In addition, the Bartlett's Test of Sphericity was found to be significant ($\chi^2 = 6092.419$, $df = 325$, $p < .001$), demonstrating that the correlations among the variables were sufficient to conduct factor analysis (Pett et al., 2003). Exploratory factor analysis was conducted using Principal Components Analysis (PCA) as the extraction method.

During the factor analysis process, a rotation procedure was applied to enhance the interpretability of the obtained components. Considering that underlying components in the social sciences are likely to be correlated, the Direct Oblimin method, one of the oblique rotation techniques, was preferred. This method is recommended when correlations among factors are theoretically and statistically expected, as it provides more consistent and meaningful results (Costello & Osborne, 2005; Tabachnick & Fidell, 2019).

Three items with factor loadings below .40 and items whose loading differences across factors were less than .10 were gradually removed from the scale. This approach is consistent with the literature, which recommends removing items whose relationship with their respective factors is insufficient (DeVellis, 2017; Worthington & Whittaker, 2006).

Exploratory factor analysis yielded a six-factor structure with eigenvalues greater than 1. The eigenvalues of these factors and their explained variance ratios are presented in Table 3.

Table 3. *Eigenvalues and Percentage of Variance Explained by Factors*

Factors	Eigenvalue	Percentage of Variance (%)
Factor 1	5.334	23.191
Factor 2	2.565	11.154
Factor 3	1.619	7.039
Factor 4	1.485	6.456

Factor 5	1.344	5.842
Factor 6	1.074	4.669
Total		58.351

As shown in Table 3, the six factors explained 58.35% of the total variance. The second factor has an eigenvalue of 2.565 and explains 11.154% of the variance. The third factor has an eigenvalue of 1.619 with a variance explanation ratio of 7.039%. The fourth factor has an eigenvalue of 1.485 and explains 6.456% of the total variance. The fifth factor has an eigenvalue of 1.344 and accounts for 5.842% of the variance. The sixth factor has an eigenvalue of 1.074 and explains 4.669% of the variance. Together, these six factors account for 58.351% of the total variance.

In the social sciences, it is generally accepted that explaining 40–60% of the total variance is sufficient for multidimensional scales, and variance ratios above 50% are considered strong indicators of construct validity (Büyüköztürk, 2019; Hair et al., 2013). In this context, the obtained findings indicate that the factor structure of the scale is statistically robust.

The scree plot of this six-factor structure is additionally presented in Figure 1.

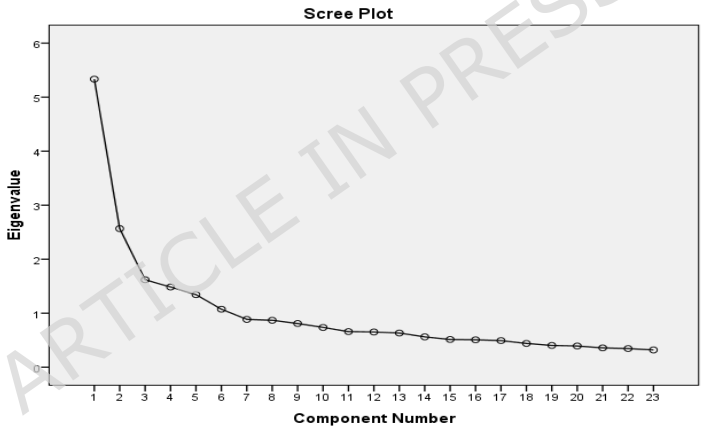

Figure 1. Scree Plot

As seen in Figure 1, the curve shows a steep decline from the first factor to the third factor, continues to decrease at a slower rate up to the sixth factor, and becomes stable with a relatively horizontal pattern after the sixth factor.

The factor loadings and communalities of the items included in the six-factor structure obtained as a result of the factor analysis are presented in Table 4.

Table 4. *Factor Analysis Results of the Cyberbullying Coping Scale for Adolescents and Young Adults*

Item No	**Communality (h^2)**	**Rotated Factor Loadings**					
		Factor 1	**Factor 2**	**Factor 3**	**Factor 4**	**Factor 5**	**Factor 6**
M15	.675	.848					
M17	.627	.765					
M16	.659	.748					
M13	.479	.624					

M22	.697	.833				
M23	.696	.816				
M26	.658	.803				
M25	.630	.752				
M27	.479	.673				
M31	.630		.792			
M30	.556		.683			
M32	.617		.631			
M35	.704			.792		
M34	.603			.763		
M33	.581			.739		
M36	.644			.730		
M3	.614				.781	
M2	.588				.771	
M1	.326				.510	
M5	.483					.682
M7	.515					.671
M6	.519					.590
M9	.441					.525

As shown in Table 4, the factor loadings of the items range between .510 and .848. The fact that all items have factor loadings above .40 indicates that they have meaningful and strong relationships with the components they represent (Hair et al., 2013; Stevens, 2002). In addition, the communalities (h^2) were found to range between .33 and .70. In the literature, communality values are generally expected to be at least .30 (Costello & Osborne, 2005; Tabachnick & Fidell, 2019), while Field (2018) emphasizes that values of .40 and above are ideal. Although Item M1 showed a relatively lower communality value compared to the other items, its factor loading exceeded the recommended threshold and it did not exhibit cross-loadings. Moreover, this item was retained due to its strong theoretical relevance to the cognitive reappraisal construct and its contribution to the conceptual integrity of the component.

Given that an oblique rotation method was employed, inter-component correlations were also examined and are presented in Table 5.

Table 5. *Component Correlations for the Six-Component Solution (EFA, Direct Oblimin Rotation)*

Component	**1**	**2**	**3**	**4**	**5**	**6**
1	1.000	.210	.177	−.362	.109	−.281
2	.210	1.000	.085	−.132	.245	−.222
3	.177	.085	1.000	−.159	.118	−.163
4	−.362	−.132	−.159	1.000	−.196	.192
5	.109	.245	.118	−.196	1.000	−.197
6	−.281	−.222	−.163	.192	−.197	1.000

The correlations indicate that the components are moderately related yet empirically distinct (|r| = .09–.36), supporting the use of an oblique rotation method.

The final step of the factor analysis involved naming the factors in a meaningful and theoretically consistent manner. During the naming process, the content similarities of the items grouped under each factor and whether they represented a common theme were taken into consideration. In this regard, the items belonging to the first factor, their factor loadings, and the assigned factor name are presented in Table 6.

Table 6. *Items, Factor Loadings, and Conceptual Label of the First Factor*

Item No	Items	Factor Loadings
Factor 1: Seeking Social Support		
M13	I search for possible legal or institutional procedures if necessary (e.g., PDPL, school/administration).	.624
M15	I seek help from my family (e.g., mother, father).	.848
M16	I talk to a professional, such as a counselor or school guidance service.	.748
M17	I reach out to trusted people from whom I can receive support.	.765

Note. The items presented in this table are provided in English for publication purposes; however, the scale items were originally administered to participants in Turkish during the data collection process.

Items associated with this factor represent they reflect behaviors related to seeking assistance when encountering cyberbullying. The items cover actions such as requesting help from family members, consulting a professional (e.g., school counselor), reaching out to trusted individuals for support, and, when necessary, exploring legal or institutional procedures. Therefore, this factor was conceptualized as **"Seeking Social Support"** representing individuals' tendency to obtain help from their social environment and relevant institutions in response to cyberbullying.

The items belonging to the second factor, their factor loadings, and the conceptual label assigned to this factor are presented in Table 7.

Table 7. *Items, Factor Loadings, and Conceptual Label of the Second Factor*

Item No	Items	Factor Loadings
Factor 2: Reactive / Risky Behaviors		
M22	I respond with an insulting message as well.	.833
M23	I make plans to take revenge.	.816
M25	I also spread negative content about the other person.	.752
M26	I post an angry public response.	.803
M27	I react instantly to disturbing content without thinking.	.673

An examination of the five items included in this factor indicates that they reflect impulsive, emotionally charged, and potentially harmful reactions to cyberbullying. The items capture behaviors such as responding with insults, planning revenge, spreading negative content about the perpetrator, posting publicly in anger, and reacting instantly without considering the consequences. Therefore, this factor was conceptualized as **"Reactive / Risky Behaviors"** representing aggressive and impulsive coping responses that may escalate conflict and increase psychological risk in cyberbullying situations.

The items belonging to the third factor, their factor loadings, and the conceptual label assigned to this factor are presented in Table 8.

Table 8. *Items, Factor Loadings, and Conceptual Label of the Third Factor*

Item No	Items	Factor Loadings
Factor 3: Preventive Digital Awareness		
M30	I use additional security measures such as strong passwords and two-step verification on my accounts.	.683
M31	Before sharing something online, I think about who can see it and the possible consequences.	.792
M32	I inform myself about the risks on the internet.	.631

Items associated with this factor represent that they relate to individuals' awareness and preventive actions aimed at ensuring safer and more responsible digital engagement. The items reflect proactive behaviors such as using technological security measures, carefully evaluating potential risks before sharing online content, and increasing personal knowledge about online threats. Therefore, this factor was conceptualized as **"Preventive Digital Awareness"** representing preventive, safety-oriented coping strategies in digital environments.

The items belonging to the fourth factor, their factor loadings, and the conceptual label assigned to this factor are presented in Table 9.

Table 9. *Items, Factor Loadings, and Conceptual Label of the Fourth Factor*

Item No	Items	Factor Loadings
Factor 4: Social and Moral Engagement		
M33	When I see someone else being cyberbullied, I send them a supportive message.	.739
M34	I support online campaigns or groups that stand against cyberbullying.	.763
M35	I try to inform people around me about the harmful effects of cyberbullying.	.792
M36	I encourage positive digital behaviors to prevent others from experiencing cyberbullying.	.730

This factor captures behaviors related toindividuals' socially responsible and morally engaged responses to cyberbullying. The items emphasize supportive actions toward victims, participation in anti-cyberbullying initiatives, raising awareness within one's social environment, and promoting positive digital behavior to prevent harm to others. Therefore, this factor was conceptualized as **"Social and Moral Engagement"** representing value-based, prosocial coping strategies aimed at contributing to safer and more ethical online environments.

The items belonging to the fifth factor, their factor loadings, and the conceptual label assigned to this factor are presented in Table 10.

Table 10. *Items, Factor Loadings, and Conceptual Label of the Fifth Factor*

Item No	Items	Factor Loadings
Factor 5: Cognitive Reappraisal		
M1	I think that the behavior may be related to the other person's own problems.	.510
M2	I make a conscious effort not to personalize what is said.	.771
M3	I remind myself that this situation is temporary.	.781

An examination of the three items included in this factor indicates that they are related to cognitively reframing and redefining the cyberbullying experience in a more adaptive manner. The items reflect efforts to reinterpret the incident, avoid personalizing the negative content, and remind oneself that the situation is temporary. Therefore, this factor was conceptualized as **"Cognitive Reappraisal"** representing adaptive cognitive strategies used to regulate emotional responses to cyberbullying.

The items belonging to the sixth factor, their factor loadings, and the conceptual label assigned to this factor are presented in Table 11.

Table 11. *Items, Factor Loadings, and Conceptual Label of the Sixth Factor*

Item No	Items	Factor Loadings
Factor 6: Emotional Regulation		
M5	I take a break from the online environment for a while to calm myself down.	.682
M6	I take deep breaths to control my anger.	.590
M7	I do something I enjoy (e.g., listening to music, going for a walk) to soothe my emotions.	.671
M9	I block or unfollow the person/account that disturbs me.	.525

The items loading on this factor reflectto strategies aimed at managing and regulating emotional reactions to cyberbullying. The items reflect behaviors such as taking a break from the online environment, using calming techniques to control anger, engaging in pleasant activities to reduce emotional distress, and blocking disturbing accounts to create emotional distance. Therefore, this factor was conceptualized as **"Emotional Regulation"** representing adaptive strategies used to manage emotional responses in cyberbullying situations.

3. Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was conducted using the Maximum Likelihood (ML) estimation method to evaluate the construct validity of the developed scale. This analysis was conducted to confirm the six-factor structure obtained from the EFA.. The ML method was preferred as it is recommended when multivariate normality assumptions are reasonably met and sample size is sufficient (Byrne, 2001; Kline, 2016). The fit indices of the model obtained as a result of the CFA are presented in Table 12.

Table 12. *Model Fit Indices*

Indices	Fit values obtained in this study	Excellent fit criteria	Acceptable fit criteria
χ^2/df	3.449	$0 \leq \chi^2/df \leq 2$	$2 \leq \chi^2/df \leq 5$
RMSEA	.046	$0.00 \leq RMSEA \leq 0.05$	$0.05 < RMSEA \leq 0.08$
RMSEA 90% CI	.043 – .050	–	–
PCLOSE	.960	$\geq .05$	–
GFI	.944	$0.95 \leq GFI \leq 1.00$	$0.90 \leq GFI < 0.95$
AGFI	.928	$0.90 \leq AGFI \leq 1.00$	$0.85 \leq AGFI < 0.90$
CFI	.933	$0.95 \leq CFI \leq 1.00$	$0.90 \leq CFI < 0.95$
IFI	.933	$0.95 \leq IFI \leq 1.00$	$0.90 \leq IFI < 0.95$
TLI	.921	$0.95 \leq TLI \leq 1.00$	$0.90 \leq TLI < 0.95$

NFI	.909	0.95 ≤ NFI ≤ 1.00	0.90 ≤ NFI < 0.95

As shown in Table 12, the chi-square value (χ^2 = 741.6, df = 215) was found to be significant; however, given the well-documented sensitivity of the chi-square statistic to large sample sizes, the χ^2/df ratio was considered in the evaluation of model fit. In the literature, a χ^2/df ratio between 2 and 5 is regarded as indicative of acceptable model fit (Brown, 2015; Hooper et al., 2008; Tabachnick & Fidell, 2019).The χ^2/df value obtained in the present study reflects an acceptable level of fit.

In addition, the RMSEA value was .046, indicating excellent model fit, as values below .05 are considered to reflect close fit (Hu & Bentler, 1999; Lei et al., 2017). The 90% confidence interval for RMSEA ranged from .043 to .050, further supporting the precision and stability of the model fit (Kline, 2016; MacCallum et al., 1996). Moreover, the PCLOSE value was .960, exceeding the recommended threshold of .05 and indicating that the hypothesis of close model fit cannot be rejected (Browne & Cudeck, 1993; Kline, 2016).

Examination of the incremental fit indices showed that GFI = .944 and AGFI = .928 indicated excellent model fit, whereas CFI = .933, IFI = .933, NFI = .909, and TLI = .921 indicated acceptable levels of fit (Hu & Bentler, 1999; Tabachnick & Fidell, 2019).

No post-hoc model modifications or correlated error terms were specified.

The path diagram of the model and the factor loadings obtained from the analysis are presented in Figure 2.

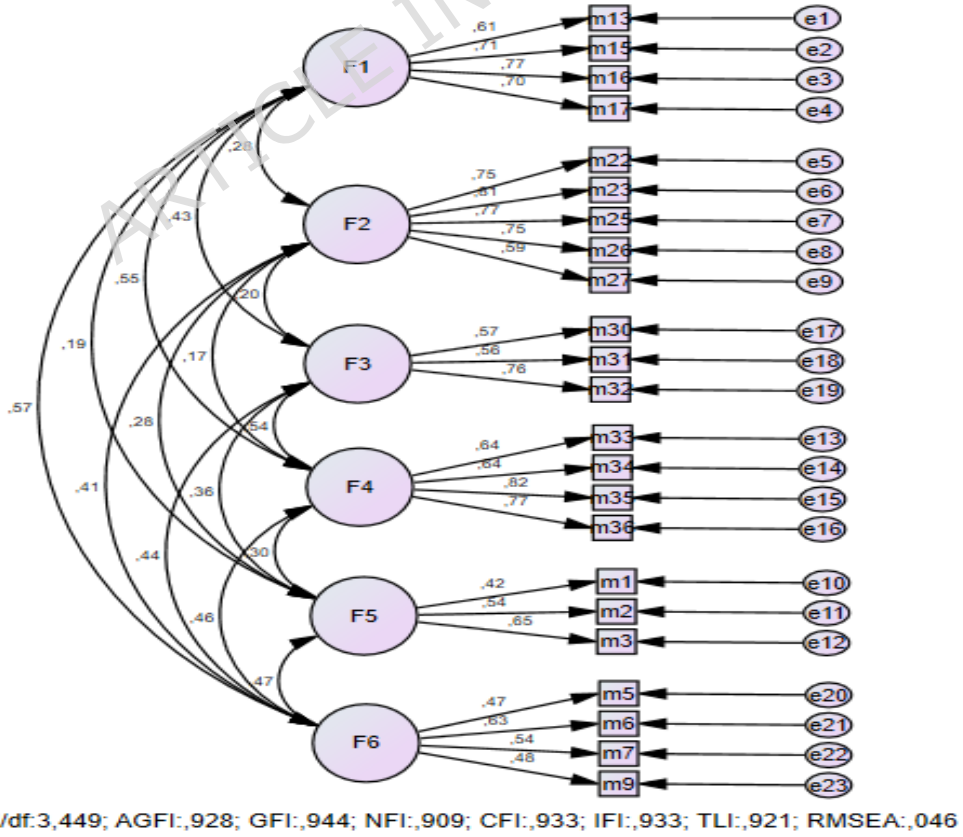

Figure 2. CFA Path Diagram

An examination of Figure 2 shows that the factor loadings range between .61 and .77 for the first dimension, between .59 and .81 for the second dimension, between .56 and .76 for the third dimension, between .64 and .82 for the fourth dimension, between .42 and .65 for the fifth dimension, and between .47 and .63 for the sixth dimension. The fact that all standardized factor loadings in the model are above .40 indicates that the items adequately represent their respective factors and that construct validity is achieved (Hair et al., 2013; Kline, 2016).

4. Second-Order Confirmatory Factor Analysis (CFA)

A second-order confirmatory factor analysis was also conducted to examine whether the six dimensions of the scale were unified under a common higher-order construct. In this model, the six first-order latent factors (F1–F6) were specified as indicators of a higher-order latent construct labeled "Cyberbullying Coping." The second-order CFA was conducted using the Maximum Likelihood (ML) estimation method.

According to the results of the second-order CFA, the overall fit indices of the model (χ^2/df = 3.761, RMSEA = .049, AGFI = .922, GFI = .937, CFI = .922, IFI = .922 and TLI = .911) indicated acceptable to excellent levels of model fit. The 90% confidence interval for RMSEA ranged from .045 to .052, and the PCLOSE value (.682) exceeded the recommended threshold, indicating that the hypothesis of close model fit could not be rejected. In addition, all first-order latent factors loaded significantly on the higher-order construct, with standardized factor loadings ranging from approximately .38 to .76.

The literature emphasizes that second-order confirmatory factor analysis is frequently used to test whether lower-order factors are explained by a single higher-order factor and is an effective method for evaluating the holistic validity of multidimensional constructs (Byrne, 2001; Kline, 2016; Lomax, 2004). The findings of the present study demonstrate that although coping with cyberbullying comprises multiple dimensions, these dimensions converge under a single overarching conceptual structure. This result supports the theoretical coherence and structural validity of the scale. The path diagram of the second-order CFA is presented in Figure 3.

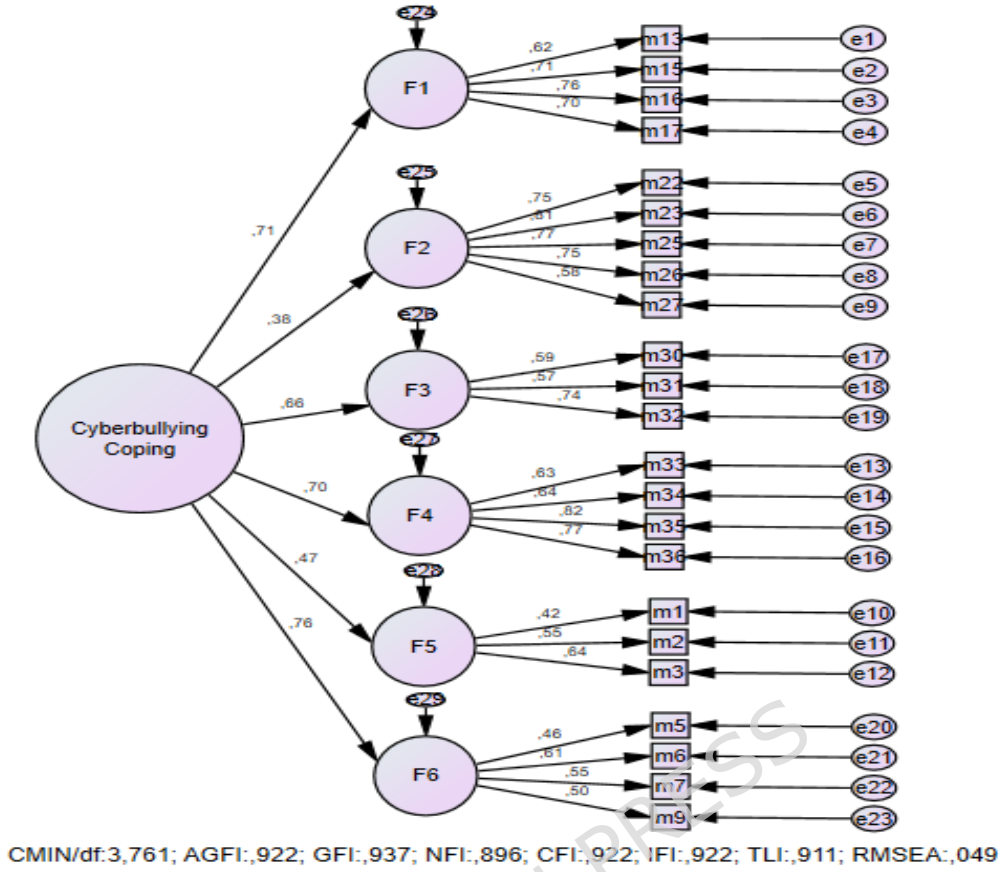

Figure 3. Second-Order CFA Path Diagram

5. Measurement Invariance Across High School and University Students (MG-CFA)

Measurement invariance across high school and university students was examined using multi-group confirmatory factor analysis (MG-CFA) in AMOS. A sequence of increasingly restrictive models was tested, including configural (unconstrained), metric (measurement weights), structural covariances, and residual (measurement residuals) invariance models. Model fit was evaluated using χ^2/df, CFI and RMSEA indices. Invariance was primarily judged using changes in approximate fit indices (ΔCFI $\leq$ .01; ΔRMSEA $\leq$ .015) across nested models.

Table 13. *Measurement Invariance Results Across High School and University Students (MG-CFA)*

Model	χ^2	df	χ^2/df	CFI	RMSEA	ΔCFI	ΔRMSEA
Configural (Unconstrained)	1483.17	430	3.45	.933	.033	–	–
Metric (Measurement weights)	1483.17	447	3.32	.934	.032	.001	−.001
Residual (Measurement residuals)	1483.17	491	3.02	.937	.030	.003	−.002

Measurement invariance was evaluated sequentially by testing configural, metric, and residual invariance models, following established recommendations in the literature (Byrne &

Van de Vijver 2010; Vandenberg & Lance, 2000). The configural invariance model demonstrated acceptable model fit ($\chi^2/df = 3.45$, CFI = .933, RMSEA = .033), indicating that the six-factor structure was consistent across both groups. This finding suggests that the basic factorial configuration of the scale is equivalent for adolescents and young adults. Metric invariance was tested by constraining factor loadings to be equal across groups. The change in the comparative fit index (ΔCFI = .001) and the root mean square error of approximation (ΔRMSEA = −.001) did not exceed the recommended cut-off values (ΔCFI ≤ .01; ΔRMSEA ≤ .015), supporting metric invariance (Chen, 2007; Cheung & Rensvold, 2002). This result indicates that items contribute to their respective latent constructs in a comparable manner across groups. Further constraining the measurement residuals resulted in minimal changes in model fit (ΔCFI = .003; ΔRMSEA = −.002), providing evidence for residual invariance, in line with commonly accepted criteria for strict invariance testing (Chen, 2007; Putnick & Bornstein, 2016). Overall, these findings indicate that the Cyberbullying Coping Scale exhibits strong measurement invariance across high school and university students, supporting meaningful comparisons of latent constructs between adolescents and young adults.

B. Reliability

To determine the reliability of the "Cyberbullying Coping Scale for Adolescents and Young Adults," internal consistency analyses were conducted. Within this scope, Cronbach's alpha coefficients were calculated for the overall scale and for each subdimension. In addition, composite reliability (CR) coefficients derived from the confirmatory factor analysis were examined to provide a model-based estimate of internal consistency. The findings are presented in Table 14.

Table 14. *Reliability Coefficients (Cronbach's Alpha and Composite Reliability) for the Overall Scale and Its Subdimensions*

Factors	Items	Cronbach's Alpha	Composite Reliability (CR)
Factor 1: Seeking Social Support	M13, M15, M16, M17	.788	.81
Factor 2: Reactive / Risky Behaviors	M22, M23, M25, M26, M27	.852	.86
Factor 3: Preventive Digital Awareness	M30, M31, M32	.671	.70
Factor 4: Social and Moral Engagement	M33, M34, M35, M36	.806	.83
Factor 5: Cognitive Reappraisal	M1, M2, M3	.536	.63
Factor 6: Emotional Regulation	M5, M6, M7, M9	.601	.67
Overall Scale	—	.844	—

As shown in Table 14, the overall scale demonstrated high internal consistency (α = .844). At the subscale level, Seeking Social Support (.788), Reactive / Risky Behaviors (.852), and Social and Moral Engagement (.806) demonstrated good internal consistency, while Preventive Digital Awareness (.671) yielded an acceptable level of reliability.

However, the internal consistency coefficients for Cognitive Reappraisal (.536) and Emotional Regulation (.601) were relatively lower. These values may be influenced by the

small number of items included in these subscales and the broad conceptual scope of the constructs they represent. In the literature, it has been noted that Cronbach's alpha is sensitive to the number of items and may underestimate reliability for short scales (DeVellis, 2017; Nunnally & Bernstein, 1994). Therefore, these subdimensions should be interpreted with caution, and their relatively lower internal consistency is acknowledged as an important limitation of the present study.

The correlation coefficients between the total scale score and the subdimensions are presented in Table 15.

Table 15. *Correlation Analysis Results Between the Overall Scale and Its Subdimensions*

Factors	1	2	3	4	5	6	7
1. Seeking Social Support	1						
2. Reactive / Risky Behaviors	.23**	1					
3. Preventive Digital Awareness	.30**	.15**	1				
4. Social and Moral Engagement	.44**	.12**	.35**	1			
5. Cognitive Reappraisal	.14**	.21**	.22**	.21**	1		
6. Emotional Regulation	.40**	.29**	.29**	.33**	.29**	1	
7. Overall Scale	.69**	.65**	.53**	.64**	.48**	.68**	1

$p < .01$

Table 15 shows that the correlations between the subdimensions of the scale and the overall scale score are positive and statistically significant ($p < .01$). The correlation coefficients between the total score and the subdimensions range from .48 to .69. The highest correlations were observed between the total scale and Seeking Social Support (r = .69), Emotional Regulation (r = .68), and Reactive / Risky Behaviors (r = .65), indicating that these dimensions make strong contributions to the overall construct of coping with cyberbullying.

The correlations among the subdimensions range between .12 and .44, suggesting low to moderate positive relationships. For example, the correlations between Social and Moral Engagement and Seeking Social Support (r = .44) and between Seeking Social Support and Emotional Regulation (r = .40) indicate that these dimensions are related but do not overlap completely. Similarly, the relatively low to moderate correlations of Preventive Digital Awareness with other subdimensions (e.g., r = .30; r = .35) suggest that this construct plays a somewhat independent yet integrative role within the overall scale structure.

Overall, the fact that the correlations among the subdimensions are not excessively high indicates that the dimensions are related yet conceptually distinct. At the same time, the significant and positive correlations between all subdimensions and the total scale score demonstrate that the scale reflects a multidimensional yet unified construct of coping with cyberbullying.

Findings on the Relationships Between Cyberbullying Coping Dimensions and Psychological, Social, Emotional, and Digital Well-Being

In this section, the relationships between the subdimensions of the "Cyberbullying Coping Scale for Adolescents and Young Adults" and indicators of psychological, emotional,

social, and digital well-being were examined. For this purpose, Pearson correlation analyses were conducted to determine the relationships between the subdimensions of the scale and the scores obtained from the Multidimensional Flourishing Scale and the Digital Well-Being Scale. These analyses were carried out in line with the study hypotheses to reveal the direction and magnitude of the associations between cyberbullying coping strategies and well-being indicators.

The results of the Pearson correlation analysis conducted to examine the relationships between cyberbullying coping strategies and well-being indicators are presented in Table 16.

Table 16. *Results of the Correlation Analysis Between Cyberbullying Coping Dimensions and the Multidimensional Flourishing Scale and Digital Well-Being Scale Scores*

Variables	1	2	3	4	5	6	7	8
1. Seeking Social Support	1							
2. Reactive / Risky Behaviors	.225**	1						
3. Preventive Digital Awareness	.300**	.150**	1					
4. Social and Moral Engagement	.436**	.119**	.345**	1				
5. Cognitive Reappraisal	.144**	.205**	.221**	.209**	1			
6. Emotional Regulation	.399**	.293**	.287**	.331**	.285**	1		
7. Digital Well-Being Scale	.106**	−.112**	.252**	.253**	.144**	.100**	1	
8. Multidimensional Flourishing Scale	.348**	.148**	.191**	.240**	.193**	.222**	.188**	1

Note. 1 = Seeking Social Support; 2 = Reactive / Risky Behaviors; 3 = Preventive Digital Awareness; 4 = Social and Moral Engagement; 5 = Cognitive Reappraisal; 6 = Emotional Regulation; 7 = Digital Well-Being Scale; 8 = Multidimensional Flourishing Scale.
$p < .01$

H1. *Cyberbullying coping strategies would be positively associated with psychological, social, emotional, and digital well-being.*

Correlation analyses revealed that adaptive coping dimensions were positively associated with flourishing scores. Specifically, Seeking Social Support (r = .348, $p < .01$), Preventive Digital Awareness (r = .191, $p < .01$), Social and Moral Engagement (r = .240, $p < .01$), Cognitive Reappraisal (r = .193, $p < .01$), and Emotional Regulation (r = .222, $p < .01$) showed significant positive correlations with scores on the Multidimensional Flourishing Scale. Therefore, H1 was supported with respect to flourishing.

Adaptive coping dimensions were also positively related to digital well-being. Preventive Digital Awareness (r = .252, $p < .01$), Social and Moral Engagement (r = .253, $p < .01$), Cognitive Reappraisal (r = .144, $p < .01$), Emotional Regulation (r = .100, $p < .01$), and Seeking Social Support (r = .106, $p < .01$) demonstrated significant positive correlations with Digital Well-Being Scale scores. Therefore, H1 was supported for digital well-being.

H2. *Reactive or risk-taking coping behaviors will be negatively associated with digital well-being, whereas their associations with psychological, emotional, and social well-being may vary depending on contextual and individual factors.*

Reactive / Risky Behaviors demonstrated a significant negative association with digital well-being ($r = -.112$, $p < .01$), supporting the hypothesized detrimental relationship between reactive coping and safe digital functioning. In contrast, Reactive / Risky Behaviors showed a significant positive association with flourishing ($r = .148$, $p < .01$), indicating that the psychological correlates of reactive coping may differ across well-being domains. Taken together, these findings are consistent with H2, which proposed a negative association with digital well-being and context-dependent associations with broader indicators of psychological, emotional, and social well-being.

DISCUSSION AND CONCLUSION

The present study aimed to develop a multidimensional measure of cyberbullying coping strategies for adolescents and young adults and to examine how these strategies are associated with psychological, emotional, social, and digital well-being. The findings provide support for the proposed six-factor structure and offer evidence that coping with cyberbullying is a multifaceted process encompassing intrapersonal, interpersonal, and digitally mediated responses. Consistent with the study's second aim, the correlational analyses revealed distinct patterns of association between different coping strategies and well-being indicators, highlighting both protective and potentially risk-related coping processes.

In line with the first aim, the exploratory and confirmatory factor analyses supported a six-factor structure consisting of Seeking Social Support, Reactive/Risky Behaviors, Preventive Digital Awareness, Social and Moral Engagement, Cognitive Reappraisal, and Emotional Regulation. This structure aligns with prior research conceptualizing cyberbullying coping as a multidimensional construct involving cognitive, emotional, interpersonal, and digital components (Foody et al., 2015; Raskauskas & Huynh, 2015). This multidimensional structure is consistent with earlier measurement studies demonstrating that cyberbullying coping cannot be reduced to a single problem-focused or emotion-focused dimension. For example, Jacobs et al. (2015) identified four broad coping domains (mental, passive, social, and confrontational coping), while Sticca et al. (2015) reported a seven-factor structure encompassing technical coping, social support, assertiveness, avoidance, and retaliation across multiple cultural contexts. Similarly, McLoughlin (2021) showed that general coping inventories such as the Brief COPE yield multiple distinct coping patterns when adapted to cyberbullying contexts. These findings support the conceptualization of cyberbullying coping as a heterogeneous construct involving cognitive, emotional, social, and behavioral elements, which is reflected in the present scale.

Although the overall scale demonstrated strong internal consistency, the Cognitive Reappraisal and Emotional Regulation subscales showed relatively lower reliability coefficients. This pattern can be partly explained by the small number of items included in these factors (three and four items, respectively), which is known to constrain Cronbach's alpha values. Comparable reliability patterns have been reported in previous cyberbullying

coping measures, particularly for intrapersonal coping dimensions, which tend to display greater variability than behavioral or social strategies (Jacobs et al., 2015; McLoughlin, 2021). In addition, intrapersonal coping processes such as emotional regulation and cognitive reappraisal tend to be more context-sensitive and variable, particularly in cyberbullying situations where emotional reactions may fluctuate rapidly. From a measurement perspective, these findings suggest that intrapersonal coping strategies may reflect more heterogeneous processes, rather than deficiencies in scale coherence. Future studies may consider expanding item pools or using longitudinal designs to further capture the stability of these processes.

Consistent with existing literature, Cognitive Reappraisal, Emotional Regulation, Seeking Social Support, Preventive Digital Awareness, and Social and Moral Engagement were positively associated with psychological, emotional, social, and digital well-being. These findings converge with previous evidence indicating that adaptive cognitive–emotional regulation strategies and supportive interpersonal resources are linked to more favorable psychological adjustment in cyberbullying contexts (Leung et al., 2024; Li et al., 2025; Tao et al., 2023; Shukla & Chouhan, 2023). Similarly, intervention-based studies demonstrate that enhancing help-seeking behaviors, digital safety awareness, and privacy management skills is associated with reductions in cyberbullying tendencies and improvements in coping-related competencies (Yurdakul & Bütün Ayhan, 2023). The observed relationships between preventive digital awareness, ethical engagement, and well-being are also consistent with research emphasizing responsible online practices as correlates of safer digital environments (Biswas et al., 2025; Nee et al., 2023; Shafik, 2025).

These findings are further supported by social–cognitive research highlighting the role of coping-related self-efficacy in shaping psychological adjustment to cyberbullying. Sheanoda and Bussey (2021) demonstrated that coping self-efficacy partially mediated the association between cyberbullying victimization and depressive symptoms, with avoidance of self-blame and proactive help-seeking emerging as particularly strong mediators. This evidence provides a possible explanatory mechanism for the present findings, suggesting that coping strategies involving emotional regulation and social engagement may function as psychological resources that weaken the association between cyberbullying exposure and internalizing outcomes.

Importantly, these associations suggest that flourishing and digital well-being may reflect partially distinct adaptation processes. While flourishing captures broader psychological and social functioning, digital well-being appears more closely linked to how individuals manage online environments and risks. This distinction is particularly relevant in interpreting the divergent patterns observed for different coping strategies.

One of the most noteworthy findings was that Reactive/Risky Behaviors were negatively associated with digital well-being but positively associated with flourishing. This pattern warrants cautious interpretation. Although reactive coping strategies are often conceptualized as maladaptive, their positive association with flourishing may reflect short-term subjective experiences such as perceived empowerment, assertiveness, or restoration of personal agency in response to online threats. This interpretation is consistent with prior

findings indicating that retaliatory strategies are frequently reported but are not uniformly perceived as constructive over time (Chen et al., 2024; Sticca et al., 2015). Prior research suggests that confronting or retaliatory responses can temporarily enhance feelings of control, even if they carry longer-term interpersonal or digital risks (Denny et al., 2011; Zhang & Wang, 2025).

At the same time, this finding may also be influenced by role-related differences. For example, witnesses of cyberbullying who engage in reactive responses might experience moral satisfaction or social approval, whereas victims may experience different emotional consequences. Qualitative research indicates that witnesses of cyberbullying may experience moral satisfaction or social validation when engaging in confrontational or intervention-oriented behaviors, whereas victims may experience different emotional consequences (Pepler et al., 2021). Social desirability effects may further contribute to the observed association, particularly if assertive responses are culturally valued. Importantly, the negative association with digital well-being suggests that while reactive coping may coincide with higher flourishing scores, it does not necessarily support healthier digital functioning and may increase exposure to online conflict. Taken together, these findings highlight the importance of distinguishing between short-term psychological correlates and longer-term digital adaptation processes.

This interpretation is consistent with intervention-focused literature demonstrating that coping strategies must be understood within broader social and contextual systems. A systematic review by Hutson et al. (2018) showed that cyberbullying intervention programs incorporating coping skills training, digital citizenship, communication skills, empathy development, and parental involvement were more effective in reducing both cyberbullying and cybervictimization. Importantly, interventions that addressed coping within relational and family contexts produced more consistent outcomes, underscoring that coping strategies may yield different psychological and behavioral consequences depending on the surrounding social environment.

Overall, the findings suggest that coping with cyberbullying is not a uniform process but rather a multifaceted and context-sensitive construct encompassing cognitive, emotional, interpersonal, and digital components. The observed associations indicate that different coping patterns are related to varying levels of well-being among adolescents and young adults, underscoring the importance of considering the qualitative diversity of coping responses rather than treating them as a single dimension. In this regard, the developed scale provides a comprehensive measurement framework that may support future research examining cyberbullying coping processes and their associations with well-being in digital contexts.

The findings of this study may have practical implications for educational settings and mental health services. Previous research suggests that psychoeducational programs, school-based initiatives, and counseling practices that focus on strengthening coping-related skills such as cognitive reappraisal, emotional regulation, and seeking social support may be relevant for addressing the psychosocial challenges associated with cyberbullying experiences

(Durlak et al., 2011; Taylor et al., 2017). Consistent with awareness-based intervention studies, promoting preventive digital awareness and social–moral engagement may also support safer and more responsible online interactions (Yurdakul & Bütün Ayhan, 2023; Livingstone et al., 2017). In addition, promoting preventive digital awareness and social–moral engagement has been highlighted as an important component of fostering more responsible and supportive online interactions (Jones & Mitchell, 2016; Livingstone et al., 2017). In this context, the developed scale may provide a useful framework for assessing diverse coping patterns and for informing preventive or supportive efforts in educational and digital environments, while recognizing that causal intervention effects cannot be inferred from the present cross-sectional findings.

The placement of item M9 ("I block or unfollow the person/account that disturbs me") within the Emotional Regulation factor can be theoretically justified. Although blocking or unfollowing may resemble preventive digital actions at a behavioral level, its primary function is to create immediate emotional distance and alleviate distress. Within emotion regulation frameworks, such behaviors correspond to *situation modification*, a core regulatory strategy aimed at managing negative affect rather than engaging in reflective or future-oriented prevention (Gross, 2015). Consistent with this interpretation, cyberbullying research has conceptualized blocking behaviors as affect-oriented coping responses used to regulate emotional arousal and restore psychological balance (Stieca et al., 2015; McLoughlin et al., 2021). Accordingly, the inclusion of this item within the Emotional Regulation subscale is conceptually appropriate, as it reflects an affect-focused coping response rather than a preventive or cognitively driven digital strategy.

Limitations

Several limitations of the present study should be acknowledged. First, the use of self-report measures may have introduced social desirability and common method biases, which could have influenced the observed associations. Although statistical procedures were applied to examine potential common method variance, such approaches cannot fully eliminate this concern. Second, the cross-sectional design precludes conclusions regarding causality or the temporal ordering of cyberbullying coping strategies and well-being indicators. Third, the sample was drawn from a specific cultural context and consisted predominantly of female participants, which may limit the generalizability of the findings across genders and cultural settings. In addition, some subdimensions of the scale demonstrated relatively lower internal consistency, which may be partly attributable to the limited number of items and the context-dependent nature of certain cognitive and emotional coping processes. Finally, the study did not directly assess the psychological mechanisms or temporal dynamics underlying reactive or risky coping strategies, limiting the ability to distinguish between short-term compensatory responses and longer-term adaptive or maladaptive outcomes. These limitations highlight the need for cautious interpretation of the findings and point to important directions for future research.

Implications for Future Research and Practice

The findings of the present study have several important implications for educational practice, mental health services, and future cyberbullying prevention efforts targeting adolescents and young adults. First, the results underscore the value of moving beyond purely risk-focused approaches and incorporating coping-oriented perspectives into intervention programs. Rather than concentrating solely on reducing exposure to cyberbullying, preventive and supportive initiatives may benefit from strengthening individuals' coping-related resources across emotional, cognitive, interpersonal, and digital domains.

In educational and school-based settings, programs that support the development of emotional regulation and cognitive reappraisal skills may be particularly relevant, as these strategies were associated with more favorable psychological and emotional well-being outcomes. Similarly, encouraging help-seeking behaviors and strengthening social support networks may contribute to more adaptive responses to cyberbullying-related stress, not only for direct victims but also for witnesses who experience emotional distress. From a digital citizenship perspective, promoting preventive digital awareness, such as understanding online risks and using platform-based safety tools, may support healthier patterns of online engagement and higher levels of digital well-being.

The findings also highlight the relevance of social and moral engagement in cyberbullying contexts. Interventions that emphasize ethical digital conduct, collective responsibility, and prosocial online behavior may be associated with safer digital climates and more supportive peer norms. In this respect, cyberbullying prevention efforts may benefit from integrating individual-level coping skills with broader social and moral frameworks that address online interaction norms.

Finally, the developed Cyberbullying Coping Scale may serve as a practical assessment tool for researchers, school psychologists, counselors, and practitioners working with adolescents and young adults. The scale can be used to identify diverse coping profiles, inform needs-based interventions, and support the evaluation of psychoeducational or counseling programs. However, given the cross-sectional nature of the present study, these implications should be interpreted cautiously, as causal relationships between coping strategies and well-being cannot be inferred.

Conclusion

In conclusion, the present study contributes to the cyberbullying literature by conceptualizing coping as a multidimensional process and by developing a psychometrically supported instrument to assess cyberbullying coping strategies among adolescents and young adults. The findings demonstrate that different coping strategies are differentially associated with psychological, emotional, social, and digital well-being, underscoring the complexity and context-sensitive nature of coping in digital environments. By shifting the focus from harm alone to coping processes and well-being-related outcomes, this study provides a more

nuanced framework for understanding cyberbullying experiences and offers a foundation for future research and practice aimed at supporting adaptive adjustment in the digital age.

Ethics Approval and Consent to Participate

Ethics approval for this study was obtained from the İstanbul University-Cerrahpaşa Social and Human Sciences Research and Publication Ethics Committee (approval date: 02 December 2025; approval number: 2025/768). All procedures were performed in accordance with the ethical standards of the Declaration of Helsinki. Written informed consent was obtained from all participants and, where required, from their parents or legal guardians prior to participation.

Consent for Publication

Not applicable.

Availability of Data and Materials

The datasets generated and analysed during the current study are available from the corresponding author on reasonable request.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Author Contributions

All authors contributed equally to the conception and design of the study, data collection, data analysis, and manuscript preparation. All authors read and approved the final version of the manuscript.

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