Resilience and Affective Well-Being in Digital Environments

This study examines the relationship between resilience as a multidimensional resource for adaptive coping and emotional regulation and affective well-being in online work and learning environments. The sample included 375 participants engaged in online work and online learning activities (age range 18–48 years; M = 21.42, SD = 3.93). Resilience was assessed using the Connor–Davidson Resilience Scale (Connor & Davidson, 2003), while affective well-being was measured through a linguistically adapted Bulgarian version of the IWP Multi-Affect Indicator (Warr, 2016). Factor analysis supported the multidimensional structure of both instruments. In the Bulgarian adaptation, anxiety and depressive affect converged into a broader Emotional Distress dimension alongside Enthusiastic Affect and Calm Emotional States. Regression analyses demonstrated that resilience dimensions were differentially associated with emotional functioning. Adaptive coping capacity emerged as the strongest predictor across emotional outcomes, highlighting the role of emotional flexibility and self-regulation in online adaptation. Goal-directedness was positively associated with enthusiastic affect, whereas social support demonstrated protective associations with emotional distress. External reliance was positively related to emotional distress and negatively associated with calm emotional states. The findings support multidimensional approaches to affective well-being and underline the practical relevance of resilience-focused interventions in online educational and occupational settings.

Keywords: *resilience; affective well-being; digitally mediated environments; online work and learning; emotional distress.*

Introduction

The transition toward online work and online learning has transformed not only the organization of everyday activities, but also the emotional conditions under which psychological functioning unfolds. Online environments frequently require sustained concentration, continuous cognitive engagement, and increased self-regulation, while simultaneously limiting many forms of direct interpersonal interaction and emotional feedback. As occupational and academic responsibilities increasingly overlap with personal space and everyday routines, individuals are often expected to maintain emotional involvement and productivity under conditions of prolonged mental activation. These developments have intensified scholarly interest in the psychological consequences of online environments and in the factors that may support adaptive emotional functioning within them (Akese, 2024; Nuñez et al., 2022).

Recent empirical evidence suggests that online environments may contribute to emotional fatigue, motivational decline, and difficulties maintaining psychological balance over time. Akese (2024) observed that remote learning settings were associated with heightened anxiety, emotional stress, and reduced social connectedness, particularly among younger individuals who experienced challenges separating academic demands from personal life. Similarly, Nuñez et al. (2022)

reported that students engaged in prolonged remote learning demonstrated fluctuations in emotional well-being, attentional difficulties, and lower levels of academic engagement. Together, these findings indicate that emotional experiences in online contexts may gradually become more cumulative, internally sustained, and psychologically difficult to separate, increasing the importance of adaptive personal resources in maintaining emotional stability.

Within this framework, resilience has increasingly been conceptualized as a dynamic process of psychological adaptation rather than as a fixed personality characteristic. Connor and Davidson (2003) describe resilience as a multidimensional capacity that enables individuals to preserve or restore effective functioning under conditions of adversity, uncertainty, or prolonged stress exposure. Their conceptualization emphasizes several interconnected psychological resources, including adaptive coping, emotional regulation, goal orientation, perceived control, and social connectedness. Importantly, resilience is viewed as modifiable and context-sensitive, suggesting that adaptive functioning depends not only on stable individual characteristics but also on the interaction between personal resources and environmental demands. This perspective appears particularly relevant in online settings, where emotional adaptation often occurs under conditions of sustained cognitive and emotional activation.

Several contemporary studies provide empirical support for the protective role of resilience in online educational and occupational environments. Ge (2025) demonstrated that resilience among university students engaged in online learning was positively associated with emotional engagement, persistence, and self-regulated learning strategies, while simultaneously reducing emotional exhaustion during prolonged digital participation. Similarly, Shi et al. (2025) found that psychological resilience among online teachers was strongly related to self-efficacy, digital competence, and adaptive professional functioning under conditions of continuous technological demands. These findings suggest that resilience in online settings appears to involve considerably more than resistance to stress alone and includes the capacity to sustain emotional balance, motivation, and psychological engagement despite ongoing cognitive strain.

The emotional dynamics of online environments have also contributed to increasing interest in multidimensional models of affective well-being. Warr's circumplex model proposes that emotions differ simultaneously in valence and activation level, resulting in qualitatively distinct emotional experiences such as anxiety, enthusiasm, calmness, and depressive affect (Warr, 2016). This framework challenges traditional approaches that conceptualize well-being primarily through broad positive versus negative affect distinctions. In online settings, individuals may experience emotional exhaustion together with cognitive activation, or psychological tension alongside productivity and engagement. Such emotional patterns are difficult to capture through generalized indicators of stress or well-being alone and require more differentiated conceptual approaches capable of reflecting the complexity of emotional adaptation in online environments.

Recent evidence increasingly supports the importance of distinguishing between different forms of emotional experience when examining occupational and educational functioning. Madrid et al. (2014), for example, demonstrated that

activated positive affect was specifically associated with proactive work behavior and psychological engagement, whereas other affective states showed substantially weaker or qualitatively different relationships with occupational outcomes. Likewise, Zhang (2025) emphasized that emotional well-being in online educational contexts is strongly associated with emotional self-confidence and the ability to sustain psychological involvement during prolonged digital interaction. These findings suggest that activated positive emotions, calm emotional states, and emotional distress may reflect distinct adaptive mechanisms rather than opposite poles of a single emotional continuum.

Another important direction in recent literature concerns the role of interpersonal connectedness and emotional support in maintaining psychological well-being within online environments. Abbasi (2025) found that emotional resilience and online social connectedness significantly contributed to digital well-being by reducing emotional disengagement and feelings of isolation. Similarly, Bagdžiūnienė et al. (2023) reported that emotional resilience resources were associated with greater psychological well-being, emotional flexibility, and adaptive functioning among professionals exposed to sustained occupational demands. Their findings highlight the importance of perceived support and emotional connectedness as mechanisms that may buffer the effects of chronic psychological strain in online settings. These observations support broader theoretical perspectives suggesting that resilience-related processes are deeply embedded within interpersonal and contextual experiences rather than functioning solely as isolated individual characteristics.

Recent studies have also begun to examine whether resilience-related capacities can be strengthened through targeted online interventions and supportive digital practices. Research focusing on online resilience-building programs has reported improvements in adaptive coping, emotional regulation, and reductions in anxiety and depressive symptoms following structured interventions. Such findings are important because they position resilience as a modifiable psychological process rather than a static personal disposition. In parallel, Medina-Garrido et al. (2023) demonstrated that emotional well-being in flexible digital work arrangements was closely associated with the ability to maintain balance between occupational and personal demands. Together, these findings suggest that emotional adaptation in online contexts may depend not only on individual coping capacities, but also on the broader organizational and interpersonal conditions under which online functioning takes place.

Despite substantial recent advances, several conceptual and methodological gaps remain insufficiently explored. Much of the existing literature continues to rely on generalized indicators of stress, burnout, or global well-being, often overlooking both the multidimensional structure of resilience and the differentiated nature of emotional experience. In addition, relatively limited attention has been devoted to culturally sensitive adaptations of resilience and affective well-being measures within online contexts. The present research addresses these limitations by integrating multidimensional models of resilience and emotional functioning within a Bulgarian sample engaged in online work and online learning. By examining distinct resilience-related resources alongside differentiated emotional states, the study aims to

contribute to a more nuanced and context-sensitive understanding of psychological adaptation in contemporary digital environments.

Method

Data were collected through an online survey administered via the Google Forms platform. Participants were informed that the study aimed to examine psychological resilience and emotional functioning in digitally mediated work and learning environments. They were also informed that participation was voluntary, anonymous, and that all collected data would be used solely for scientific purposes. Prior to each questionnaire and scale, participants received brief information regarding the purpose of the instrument as well as instructions for completion. At the end of the survey, a demographic section was included assessing participants' socio-demographic characteristics. The collected data were processed and statistically analyzed using IBM SPSS (v. 29).

Participants

The sample included 375 Bulgarian participants engaged in online work and online learning activities. Participants ranged in age from 18 to 48 years ($M = 21.43$, $SD = 3.93$). The gender distribution consisted of 140 males (37.3%) and 235 females (62.7%). Data were collected through an anonymous online psychological survey. Participation was voluntary, and all respondents were informed about the aims of the study, the confidentiality of the collected data, and the scientific purposes of the research prior to participation. The online format allowed the inclusion of individuals actively involved in digitally mediated educational and occupational environments, reflecting the everyday psychological conditions associated with prolonged online engagement.

Instruments

For the purposes of the present study, a psychological assessment battery including the following questionnaires and scales was administered.

The first instrument was the Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003), designed to assess psychological resilience as a multidimensional adaptive capacity associated with emotional regulation, persistence, coping flexibility, and functioning under conditions of stress and adversity. The questionnaire is self-report and consists of 25 items.

In the original version, participants evaluate each statement using a five-point Likert scale ranging from "0 – not true at all" to "4 – true nearly all the time." In the present study, a modified response format was applied using a seven-point agreement scale ranging from "1 – strongly disagree" to "7 – strongly agree." The original instrument includes five resilience-related dimensions: "Personal Competence, High Standards, and Tenacity," "Trust in One's Instincts, Tolerance of Negative Affect,

and Strengthening Effects of Stress," "Positive Acceptance of Change and Secure Relationships," "Control," and "Spiritual Influences."

The second instrument was the IWP Multi-Affect Indicator developed by Warr (2016), designed to assess affective well-being in occupational and educational contexts through emotions differing in valence and activation level. The original version includes 16 affective descriptors representing four emotional domains: Anxiety, Depression, Enthusiasm, and Comfort. During the linguistic adaptation of the questionnaire, two descriptors from the original version ("dejected" and "laid-back") were excluded due to semantic overlap with other retained emotional states and difficulties identifying conceptually precise Bulgarian equivalents. Several descriptors were additionally refined in order to improve semantic clarity and contextual comprehensibility within the Bulgarian cultural context. As a result, the final adapted version consisted of 15 affective descriptors. In the original version, the emotional states are evaluated using a six-point frequency scale. In the present study, a modified five-point response scale ranging from "1 – never" to "5 – all the time" was applied in order to facilitate clearer differentiation and more consistent responding within the online research context.

Factor Structure of the Connor–Davidson Resilience Scale

The factorial structure of the Bulgarian adaptation of the Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003) was examined through exploratory factor analysis using Principal Component Analysis with Varimax rotation. The analysis aimed to investigate the latent organization of resilience-related characteristics within the Bulgarian sample and to evaluate the structural adequacy of the adapted instrument. Sampling adequacy indicators demonstrated excellent suitability of the data for factor analysis (Kaiser–Meyer–Olkin measure = .935; Bartlett's Test of Sphericity: $\chi^2(300) = 4153.95$, $p < .001$). The extracted factors explained 59.75% of the total variance, indicating satisfactory structural coherence and psychometric adequacy of the scale.

The obtained factorial solution revealed a multidimensional structure reflecting several interconnected psychological resources involved in adaptation, emotional regulation, and coping under stress. Although the original factorial structure proposed by Connor and Davidson was only partially replicated, the extracted dimensions demonstrated clear conceptual interpretability and satisfactory internal consistency. Rather than reproducing the original factor configuration, the Bulgarian adaptation yielded psychologically meaningful clusters of items corresponding to distinct aspects of resilience functioning in digitally mediated contexts. Consequently, revised factor labels were introduced in order to more accurately reflect the semantic content and psychological meaning of the retained item groupings (see Table 1).

Table 1. *Rotated Factor Matrix of the Bulgarian Adaptation of the Connor–Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003).*

Item	Adaptive Coping Capacity	Goal-Directedness	Personal Agency	External Reliance	Social Support
Able to adapt to change	.781				
Can deal with whatever comes	.758				
Coping with stress strengthens me	.742				
Tend to bounce back after hardship	.731				
Under pressure, stay focused	.706				
Think clearly under pressure	.691				
Can handle unpleasant feelings	.648				
Not easily discouraged by failure	.617				
Achieve goals despite obstacles		.817			
Strong sense of purpose		.801			
Work to attain goals		.783			
Give best effort no matter what		.751			
Like challenges		.710			
Past success gives confidence		.694			
Things happen for a reason		.602			
Pride in achievements		.588			
Think of self as strong person			.774		
Feel in control of life			.756		
Make difficult decisions			.691		
Prefer taking the lead			.643		
Sometimes fate or God can help				.779	
Have to act on a hunch				.713	
Trust instincts under stress				.645	
Close and secure relationships					.812
Know where to turn for help					.748
Eigenvalue (after rotation)	5.214	3.882	2.311	1.911	1.620
Explained Variance (%)	20.86	15.52	9.24	7.64	6.48
Cumulative Variance (%)	20.86	36.39	45.63	53.27	59.75
Cronbach's α	.846	.876	.768	.618	.723

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only factor loadings above .40 are presented.

The first factor, Adaptive Coping Capacity (8 items; α = .846), included statements associated with emotional flexibility, stress tolerance, behavioral adaptation, and the ability to recover under pressure. The factor reflects the capacity to maintain psychological functioning despite emotionally demanding or uncertain situations. Goal-Directedness (8 items; α = .876) represented persistence, motivational orientation, and the ability to sustain focus and commitment to personal goals despite obstacles and difficulties. Personal Agency (4 items; α = .768) captured

perceptions of self-efficacy, decisiveness, confidence in personal capabilities, and perceived influence over challenging situations.

The factor labeled External Reliance (3 items; α = .618) included items associated with reliance on intuition, external sources of meaning, faith, or broader beliefs supporting psychological stability under stress. Unlike the original "Spiritual Influences" factor proposed by Connor and Davidson, the obtained structure suggested a broader orientation toward external forms of guidance, meaning-making, and psychological support rather than exclusively spiritual beliefs. The fifth factor, Social Support (2 items; α = .723), reflected perceived emotional connectedness and the availability of supportive interpersonal relationships during stressful experiences. Although brief in structure, the factor demonstrated satisfactory internal consistency and conceptual clarity.

The revised factor labels were selected to improve conceptual clarity and interpretability while maintaining theoretical consistency with contemporary resilience research. This renaming approach follows common psychometric practices in cross-cultural adaptation studies, where factor nomenclature is determined not only by theoretical expectations, but also by the empirical composition and psychological coherence of the extracted dimensions. Overall, the obtained structure supports the multidimensional conceptualization of resilience and suggests that resilience-related psychological functioning in digitally mediated environments involves several differentiated but interconnected adaptive resources.

Factor Structure of the IWP Multi-Affect Indicator

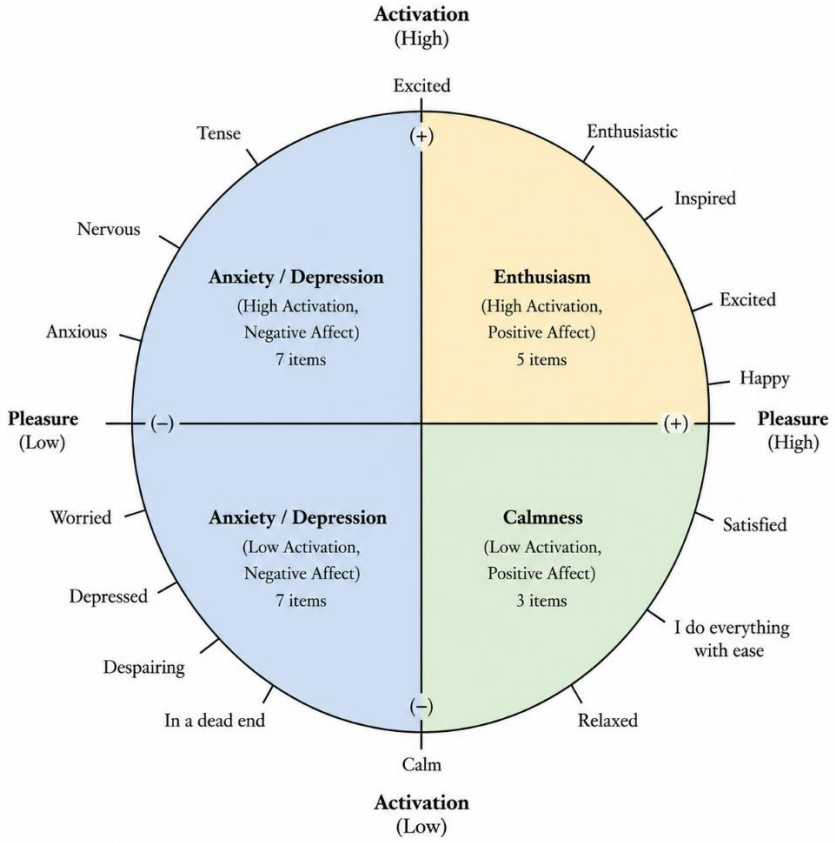
The factorial structure of the Bulgarian adaptation of the short version of the IWP Multi-Affect Indicator (Warr, 2016) was also examined through exploratory factor analysis using Principal Component Analysis with Varimax rotation. The instrument assesses affective well-being through emotional states differing in emotional valence and activation level. While Warr's original circumplex model conceptualizes emotional experience through four affective quadrants — anxiety, depression, enthusiasm, and comfort — cross-cultural adaptations may demonstrate alternative empirical structures depending on linguistic and contextual characteristics.

Figure 1 presents the circumplex structure of the Bulgarian adaptation of the IWP Multi-Affect Indicator based on the dimensions of emotional valence (pleasure) and activation. The figure illustrates the organization of emotional states into three empirically derived affective domains: Emotional Distress, Enthusiastic Emotions, and Calm Emotions. In the Bulgarian adaptation, anxiety- and depression-related emotions converged into a unified Emotional Distress dimension, while positive affect remained differentiated into high-activation enthusiastic emotions and low-activation calm emotional states.

A total of 15 affective descriptors were included in the analysis: enthusiastic, nervous, calm, depressed, happy, anxious, satisfied, despairing, inspired, tense, relaxed, excited, worried, "I do everything with ease," and "in a dead end." Figure 1 presents the circumplex structure of the Bulgarian adaptation of the IWP Multi-Affect Indicator based on the dimensions of emotional valence (pleasure) and activation. The figure illustrates the organization of emotional states into three empirically derived affective domains: Emotional Distress, Enthusiastic Emotions, and Calm Emotions. In the Bulgarian adaptation, anxiety- and depression-related emotions converged into

a unified Emotional Distress dimension, while positive affect remained differentiated into high-activation enthusiastic emotions and low-activation calm emotional states.

Figure 1. *Circumplex Structure of the Bulgarian Adaptation of the IWP Multi-Affect Indicator*



Sampling adequacy indicators demonstrated excellent suitability of the data for factor analysis (Kaiser–Meyer–Olkin measure = .916; Bartlett's Test of Sphericity: $\chi^2(105) = 3292.623$, $p < .001$). Three components with eigenvalues greater than 1 were extracted, explaining 67.41% of the total variance. The rotated solution revealed a psychologically meaningful and interpretable structure (see Table 2).

Table 2. *Rotated Factor Matrix of the Bulgarian Adaptation of the IWP Multi-Affect Indicator (Warr, 2016).*

Item	Emotional Distress	Enthusiastic Emotions	Calm Emotional States
In a dead end	.816		
Despairing	.774		
Depressed	.767		
Anxious	.704		
Worried	.680		
Nervous	.663		
Tense	.661		

Excited		.791	
Enthusiastic		.779	
Satisfied		.740	
Inspired		.732	
Happy		.700	
Relaxed			.774
Calm			.702
I do everything with ease			.572
Eigenvalue (after rotation)	4.091	3.379	2.642
Explained Variance (%)	27.27	22.53	17.61
Cumulative Variance (%)	27.27	49.80	67.41
Cronbach's α	.916	.856	.722

Note. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Only factor loadings above .40 are presented.

The first factor, Emotional Distress (7 items), integrated descriptors traditionally associated with both anxiety and depressive affect, including "in a dead end," "despairing," "depressed," "anxious," "worried," "nervous," and "tense." Rather than forming two separate emotional domains, high-activation anxiety and low-activation depressive affect converged into a broader dimension of psychological distress. This merged structure suggests a substantial semantic and experiential overlap between tension, emotional exhaustion, discouragement, and depressive affect within the Bulgarian adaptation and the examined online context.

The second factor, Enthusiastic Emotions (5 items), included descriptors such as excited, enthusiastic, inspired, happy, and satisfied. These emotional states reflect activated positive affect characterized by energy, motivational involvement, optimism, and psychological engagement. The third factor, Calm Emotions (3 items), included calm, relaxed, and "I do everything with ease," reflecting low-activation positive emotional states associated with emotional balance, relaxation, and subjective psychological comfort. Although relatively brief, both subscales demonstrated satisfactory internal consistency and conceptual coherence.

Overall, the obtained structure partially supports Warr's theoretical model while also demonstrating cultural and contextual specificity in the organization of affective experiences. Negative emotional states appeared less differentiated into distinct anxiety and depressive dimensions and were instead experienced as a broader emotional distress construct. In contrast, positive affect remained differentiated into activated enthusiastic emotions and low-activation calm emotional states. The results support the construct validity and applicability of the Bulgarian short version of the IWP Multi-Affect Indicator for research examining emotional functioning, occupational well-being, stress, and resilience in digitally mediated educational and occupational environments.

Results

Descriptive Statistics for the Study Variables

Descriptive statistics were calculated for all resilience and affective well-being variables in order to examine the distributional characteristics of the data and the overall levels of the studied psychological constructs. As presented in Table 3, the variables demonstrated acceptable distributional properties, with skewness and kurtosis values remaining within recommended ranges for parametric analyses. Overall, participants reported relatively higher levels of resilience-related resources and moderate levels of emotional well-being in digitally mediated work and learning environments.

Table 3. *Descriptive Statistics for the Study Variables*

Variable	M	SD	Skewness	Kurtosis	Min	Max
Adaptive Coping Capacity	3.81	.76	−.50	.01	1.13	5.00
Goal-Directedness	3.98	.75	−.74	.45	1.25	5.00
Personal Agency	3.79	.86	−.42	−.53	1.25	5.00
External Reliance	3.86	.92	−.65	−.02	1.00	5.00
Social Support	3.85	.97	−.79	.07	1.00	5.00
Emotional Distress	2.87	.99	.16	−.70	1.00	5.00
Enthusiastic Emotions	3.36	.83	−.33	.06	1.00	5.00
Calm Emotional States	3.12	.86	.03	−.46	1.00	5.00

Note. *M* = Mean; *SD* = Standard Deviation.

Correlations Between Resilience Dimensions and Affective Well-Being Variables

Pearson correlation analysis was conducted to examine the relationships between resilience dimensions and affective well-being variables in online work and learning environments. The obtained results (see Table 4) demonstrated a coherent pattern of associations supporting the multidimensional relationship between resilience and emotional functioning.

Table 4. *Correlations Between Resilience Dimensions and Affective Well-Being Variables*

Variable	Emotional Distress	Enthusiastic Emotions	Calm Emotional States
Adaptive Coping Capacity	−.533**	.523**	.510**
Goal-Directedness	−.442**	.543**	.375**
Personal Agency	−.341**	.429**	.301**
External Reliance	−.069	.181**	.072
Social Support	−.415**	.436**	.277**

Note. Pearson correlation coefficients are presented. ** $p < .01$ (two-tailed).

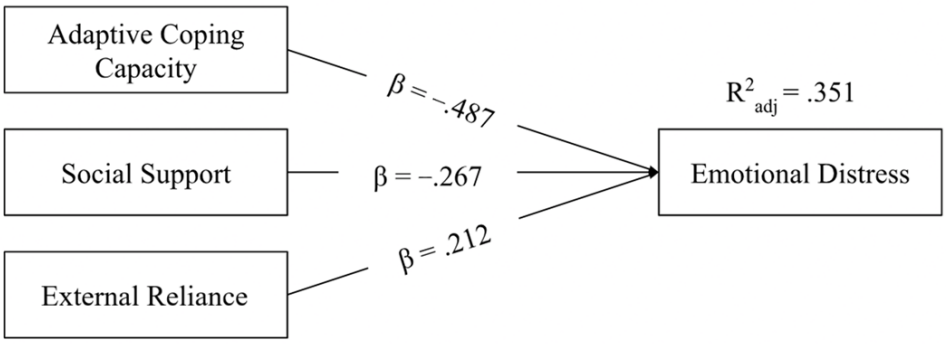
Higher levels of adaptive coping, goal-directedness, personal agency, and social support were consistently associated with lower emotional distress and more positive emotional experiences. In particular, adaptive coping capacity and goal-directedness demonstrated the strongest associations with enthusiastic and calm emotional states, suggesting the importance of emotional flexibility, persistence, and self-regulatory functioning for positive emotional adaptation in digitally mediated contexts.

Social support was also positively related to positive emotional experiences and negatively associated with emotional distress, highlighting the protective role of perceived interpersonal connectedness even within predominantly online environments. In contrast, external reliance demonstrated comparatively weaker and less consistent associations with emotional functioning, suggesting that reliance on external sources of meaning or regulation may represent a more context-dependent resilience-related resource. Overall, the correlation patterns support the assumption that resilience-related psychological resources are differentially connected to both positive and negative dimensions of affective well-being.

Resilience Components as Predictors of Emotional Distress

A stepwise multiple regression analysis was conducted to examine the predictive role of resilience dimensions for Emotional Distress in digitally mediated work and learning environments. The final regression model was statistically significant, $F(3, 371) = 68.35$, $p < .001$, explaining 35.1% of the variance in Emotional Distress (adjusted $R^2 = .351$). Adaptive Coping Capacity emerged as the strongest negative predictor ($\beta = -.487$, $p < .001$), indicating that greater emotional flexibility and adaptive self-regulation were associated with lower levels of emotional distress. Social Support also demonstrated a significant negative association with Emotional Distress ($\beta = -.267$, $p < .001$), suggesting a protective role of perceived interpersonal connectedness. In contrast, External Reliance positively predicted Emotional Distress ($\beta = .212$, $p < .001$), indicating that stronger reliance on external sources of regulation or stability was associated with higher levels of psychological strain. Overall, the model suggests that emotional distress in online environments is shaped by both adaptive self-regulatory capacities and interpersonal psychological resources (see Fig. 2).

Figure 2. *Predictors of Emotional Distress.*

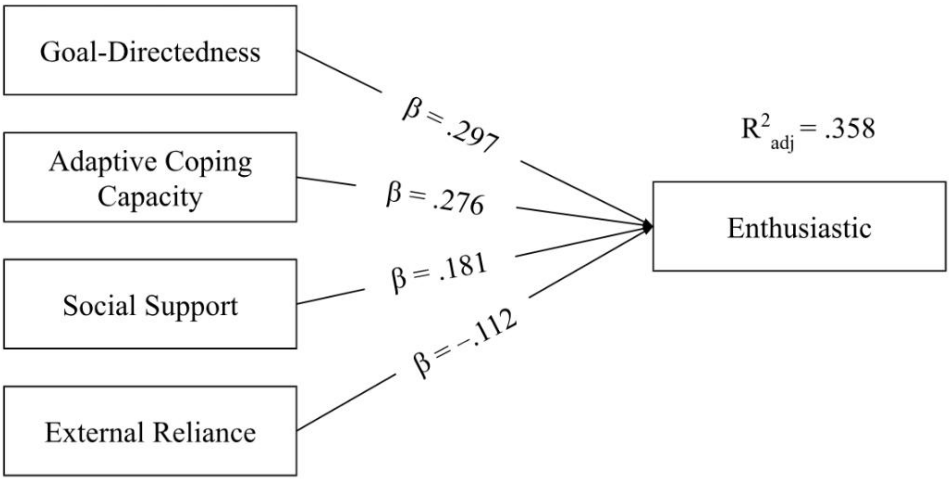


Note. All β coefficients were statistically significant at $p < .001$.

Predictors of Enthusiastic Affect Among Resilience Components

A second stepwise multiple regression analysis examined the predictors of Enthusiastic Affect in digitally mediated work and learning environments. The final regression model was statistically significant, $F(4, 370) = 53.03$, $p < .001$, explaining 35.8% of the variance in Enthusiastic Affect (adjusted $R^2 = .358$). Goal-Directedness emerged as the strongest positive predictor ($\beta = .297$, $p < .001$), suggesting that motivational persistence and future-oriented engagement are closely associated with activated positive emotional experiences in online contexts. Adaptive Coping Capacity also demonstrated a substantial positive association ($\beta = .276$, $p < .001$), indicating the importance of emotional flexibility for maintaining enthusiastic affect. Social Support positively predicted enthusiastic emotions as well ($\beta = .181$, $p < .001$), supporting the role of perceived connectedness in sustaining positive emotional engagement. By contrast, External Reliance showed a negative association with Enthusiastic Affect ($\beta = -.112$, $p < .001$). Overall, the model suggests that enthusiastic emotional functioning in online environments is associated with a combination of motivational persistence, adaptive coping, and interpersonal psychological resources (see Fig. 3).

Figure 3. *Predictors of Enthusiastic Emotions*

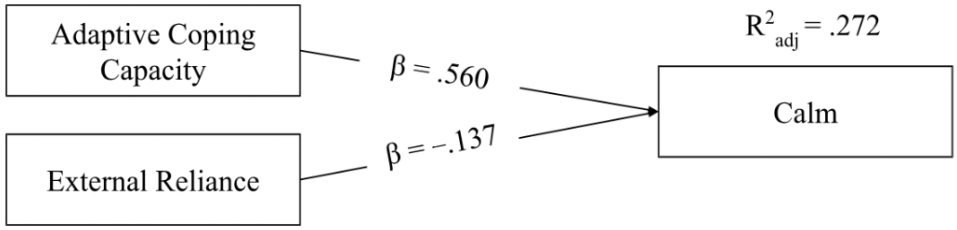


Note. All β coefficients were statistically significant at $p < .001$.

Predictors of Calmness Among Resilience Dimensions

The third stepwise multiple regression analysis explored the predictive role of resilience dimensions for Calm Emotional States in digitally mediated work and learning environments. The final regression model was statistically significant, $F(2, 372) = 70.80$, $p < .001$, explaining 27.2% of the variance in Calm Emotional States (adjusted $R^2 = .272$). Adaptive Coping Capacity demonstrated the strongest positive association with Calmness ($\beta = .560$, $p < .001$), highlighting the central importance of emotional self-regulation and psychological flexibility for maintaining low-activation positive emotional states in online contexts. External Reliance, in contrast, demonstrated a significant negative association with Calm Emotional States ($\beta = -.137$, $p < .001$), suggesting that stronger dependence on external sources of stability may be related to reduced emotional equilibrium and recovery capacity. Overall, the model indicates that calm emotional functioning in online environments is strongly associated with adaptive self-regulatory processes rather than with external forms of psychological orientation (see Fig. 4).

Figure 4. *Predictors of Calm Emotions.*



Note. All β coefficients were statistically significant at $p < .001$.

Discussion

The linguistically adapted version of the IWP Multi-Affect Indicator retained the theoretical foundations of Warr's (2016) circumplex model while introducing several modifications aimed at improving semantic clarity and cultural appropriateness within the Bulgarian context. The original instrument includes 16 affective descriptors representing four affective domains differing in emotional valence and activation level: Anxiety, Depression, Enthusiasm, and Comfort. During the adaptation process, two descriptors from the original version ("dejected" and "laid-back") were excluded due to substantial semantic overlap with other retained items and difficulties in identifying conceptually precise and culturally natural equivalents in Bulgarian. Several additional descriptors were linguistically refined in order to improve comprehensibility and contextual relevance without altering the conceptual meaning of the original constructs. As a result, the final adapted version consisted of 15 affective descriptors reflecting both positive and negative emotional states varying in activation intensity.

The adaptation process was guided simultaneously by theoretical and psychometric considerations. Particular attention was given to preserving the conceptual integrity of Warr's circumplex framework while ensuring that the

emotional descriptors remained psychologically meaningful within the Bulgarian linguistic context. The excluded items appeared less distinguishable from neighboring low-activation emotional states such as depressed, relaxed, and at ease, increasing the likelihood of semantic redundancy during participant interpretation. The retained descriptors demonstrated satisfactory variability and conceptual coherence, producing a stable factorial structure organized around broader dimensions of Emotional Distress, Enthusiastic Affect, and Calmness/Comfort. Such selective adaptation procedures are consistent with established practices in cross-cultural psychometric research, where abbreviated or linguistically refined versions are often developed to improve interpretability and contextual applicability while preserving the theoretical foundations of the original instrument.

The obtained results highlight the importance of examining emotional functioning in digitally mediated environments through multidimensional rather than generalized approaches to well-being. Contemporary online educational and occupational contexts frequently involve prolonged cognitive activation, sustained attentional demands, reduced opportunities for psychological recovery, and fragmented interpersonal interaction (Akese, 2024; Shi et al., 2025). Under such conditions, emotional experiences may become more internally regulated, cumulative, and difficult to differentiate. Within this framework, resilience appeared not as a single global protective factor, but as a differentiated system of psychological resources associated with distinct emotional experiences. Adaptive coping capacity demonstrated the most stable associations across emotional outcomes, suggesting that emotional flexibility and the ability to reorganize psychological functioning under changing demands may represent central mechanisms supporting adaptation in digitally mediated environments. Similar observations were reported by Ge (2025), who found that resilience among students engaged in online learning was associated with reduced emotional exhaustion alongside stronger emotional engagement and self-regulated learning behavior.

The differentiated relationships between resilience dimensions and affective states additionally support multidimensional conceptualizations of emotional well-being. Warr's (2016) circumplex framework proposes that emotional experiences differ simultaneously in emotional valence and activation level, allowing for a more nuanced understanding of psychological functioning than traditional positive–negative affect distinctions. Within the obtained models, goal-directedness demonstrated the strongest association with enthusiastic affect, suggesting that motivational persistence and future-oriented engagement may play an especially important role in sustaining activated positive emotional states in online environments. These findings correspond with research by Madrid et al. (2014), who demonstrated that activated positive affect was specifically related to proactive engagement and adaptive occupational functioning. More recent findings by Zhang (2025) similarly indicate that emotional engagement and self-confidence contribute significantly to maintaining psychological involvement during prolonged online educational activities.

At the same time, adaptive coping capacity demonstrated particularly strong associations with calm emotional states, suggesting that low-activation positive affect may depend less on motivational activation and more on emotional flexibility,

recovery processes, and self-regulatory stability. This distinction appears theoretically important because calmness in digitally mediated environments may not simply reflect the absence of emotional strain, but rather the ability to preserve psychological equilibrium under continuous cognitive demands. Recent research supports this interpretation. Bagdžiūnienė et al. (2023), for example, reported that emotional resilience resources were associated with emotional flexibility and psychological well-being among professionals exposed to prolonged occupational stress, while Abbasi (2025) demonstrated that emotional resilience and online social connectedness contributed to greater digital well-being and reduced emotional disengagement. Together, these findings suggest that emotionally adaptive functioning in online contexts may involve the capacity to sustain internal emotional balance under prolonged activation rather than merely minimizing negative affective experiences.

A particularly noteworthy result concerns the convergence of anxiety and depressive affect into a unified Emotional Distress factor within the Bulgarian adaptation of the instrument. In Warr's (2016) original theoretical model, anxiety and depression represent qualitatively distinct emotional experiences differing in activation level. In the obtained structure, however, descriptors associated with tension, worry, discouragement, emotional exhaustion, and depressive affect clustered within a broader dimension of psychological distress. Several factors may contribute to this convergence. Previous cross-cultural research has shown that the circumplex differentiation between anxiety and depression is not always consistently reproduced across linguistic contexts, particularly in shorter adapted affective measures. In addition, occupational and chronic stress environments frequently involve the simultaneous presence of anxious activation and emotional depletion, making these experiences subjectively difficult to separate. Within digitally mediated contexts characterized by prolonged attentional demands and blurred boundaries between academic, occupational, and personal functioning, emotional tension may gradually evolve into broader states of exhaustion and discouragement rather than remaining clearly differentiated forms of affect. Similar tendencies have been indirectly reflected in studies demonstrating overlapping experiences of anxiety, emotional fatigue, cognitive exhaustion, and motivational depletion in remote learning and online occupational settings (Nuñez et al., 2022; Akese, 2024).

The role of social support within the obtained models further emphasizes the importance of interpersonal connectedness for emotional adaptation in online environments. Social support demonstrated negative associations with emotional distress and positive associations with enthusiastic affect, suggesting that perceived emotional connectedness may function as a stabilizing psychological resource even under conditions of reduced face-to-face interaction. Contemporary evidence increasingly indicates that the subjective experience of social connectedness remains psychologically significant in digitally mediated contexts despite the reduced immediacy of interpersonal communication. Abbasi (2025), for instance, demonstrated that online social connectedness contributed significantly to emotional resilience and digital well-being by reducing emotional disengagement and feelings of isolation. Similarly, Bagdžiūnienė et al. (2023) observed that perceived emotional support was associated with greater emotional flexibility and adaptive functioning under prolonged occupational demands. These findings suggest that resilience-related processes are

deeply interconnected with interpersonal emotional experiences rather than functioning solely as intrapersonal coping capacities.

The associations involving external reliance require more cautious interpretation. Within the obtained models, external reliance positively predicted emotional distress while simultaneously demonstrating negative associations with calm emotional states. Although the construct may reflect meaning-making tendencies, intuitive orientation, or reliance on external sources of psychological stability, stronger external reliance in digitally mediated contexts may also indicate uncertainty regarding autonomous emotional regulation and reduced confidence in independent coping capacities. Online environments often require individuals to organize tasks independently, regulate attentional focus, and manage emotional demands without immediate external structure or direct interpersonal feedback. Under such conditions, greater external reliance may coexist with heightened emotional instability and reduced psychological certainty. At the same time, the emotional meaning of external reliance may vary across sociocultural and linguistic contexts, making culturally sensitive interpretation particularly important.

These observations also carry important practical implications for psychological assessment and intervention in online educational and occupational settings. The obtained models suggest that multidimensional approaches to emotional functioning may provide more informative and clinically meaningful perspectives than generalized indicators of stress or global well-being alone. Distinguishing between emotional distress, enthusiastic affect, and calm emotional states allows for a more differentiated understanding of emotional adaptation under prolonged online participation. In addition, resilience-related dimensions such as adaptive coping capacity, goal-directedness, and social support may represent meaningful targets for preventive and supportive interventions aimed at strengthening emotional functioning in digitally mediated environments. Existing evidence already suggests that resilience-related capacities can be enhanced through structured online interventions associated with improvements in emotional regulation and reductions in anxiety and depressive symptoms (Building Personal Resilience Following an Online Intervention, 2022).

Several limitations should nevertheless be acknowledged. The reliance on self-report measures may introduce subjective interpretation biases, while the cross-sectional design limits conclusions regarding causal relationships between resilience dimensions and emotional states. At the same time, the multidimensional structure of both instruments allowed for a considerably more differentiated examination of emotional adaptation than is typically achieved through generalized stress or well-being measures alone. The culturally sensitive adaptation of the affective measure additionally contributes to understanding emotional functioning within Bulgarian digitally mediated contexts, where emotional experiences may demonstrate culturally specific semantic and experiential patterns. Taken together, the obtained results highlight the importance of examining resilience and emotional functioning through context-sensitive and multidimensional psychological frameworks capable of capturing the complexity of emotional adaptation in contemporary digital environments.

References

Abbasi, P. N. (2025). How self-compassion, emotional resilience, and online social connectedness shape digital well-being. Journal of Social Sciences Archives.

Akese, A. R. (2024). The psychological effects of remote learning on students. Research in Administrative and Management Sciences.

Bagdžiūnienė, D., et al. (2023). Resources of emotional resilience and its mediating role in teacher well-being. Frontiers in Psychology, 14, 1305979.

Building personal resilience following an online intervention. (2022). Western Journal of Nursing Research.

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor–Davidson Resilience Scale (CD-RISC). Depression and Anxiety, 18(2), 76–82. https://doi.org/10.1002/da.10113

Ge, D. (2025). Resilience and online learning emotional engagement among college students in the digital age: A perspective based on self-regulated learning theory.

Madrid, H. P., Patterson, M. G., Birdi, K. S., Leiva, P. I., & Kausel, E. E. (2014). The role of weekly activated positive mood, context, and personality in innovative work behaviour: A multilevel and interactional model. Journal of Organizational Behavior, 35(2), 234–256.

Medina-Garrido, J. A., et al. (2023). Relationship between work-family balance, employee well-being and job performance.

Nuñez, T. R., et al. (2022). Students' emotional well-being and academic functioning during remote learning. JMIR Formative Research, 6(11), e34388.

Shi, Q., et al. (2025). Research on psychological resilience, digital competence, and self-efficacy among online teachers. Behavioral Sciences, 15(3), 366.

Warr, P. B. (2016). IWP Multi-Affect Indicator. Institute of Work Psychology, University of Sheffield.

Warr, P. B., Bindl, U., Parker, S. K., & Inceoglu, I. (2014). Four-quadrant investigation of job-related affects and behaviours. European Journal of Work and Organizational Psychology, 23(3), 342–363. https://doi.org/10.1080/1359432X.2012.744449

Zhang, Y. (2025). Assessing and enhancing emotional well-being in online learning.