

Embracing Life's Challenges: Developing A Tool for Assessing Resilient Mindset in Second Wave Positive Psychology

Gökmen Arslan^{1,2} and Paul T. P. Wong³

¹Department of Psychological Counseling, Mehmet Akif Ersoy University, Türkiye

²Centre for Wellbeing Science, University of Melbourne, Australia

³Department of Psychology, Trent University, Canada

The purpose of this study is to develop and validate the Resilient Mindset Scale (RMS), a brief tool designed to measure resilient mindset among Turkish individuals. Additionally, the study aims to explore the relationship between resilient mindset and mental well-being among adolescents and young adults, providing further evidence in this domain. The exploratory factor analysis, conducted with a sample of 327 participants, revealed that the RMS has a unidimensional structure consisting of six items that effectively measure core indicators of a resilient mindset. Subsequent confirmatory factor analysis, conducted with a sample of 338 participants, confirmed the one-factor structure, demonstrating a good-data model fit with strong factor loadings and internal reliability estimates. Further analyses demonstrated moderate to strong correlations between resilient mindset and mental well-being indicators. Moreover, the latent variables path model revealed that the measurement model had a moderate to strong predictive effect on positive academic functioning, psychological well-being, and psychological distress. These findings establish the psychometric reliability and validity of the RMS as a measurement tool for assessing a resilient mindset among adolescents and young adults. Mental health providers can integrate the concept of a resilient mindset into therapeutic approaches and interventions to foster resilience and enhance mental well-being.


Keywords: Resilient mindset, resilience, well-being, positive psychology, second wave positive psychology (PP2.0)

Resilience is a multifaceted construct that refers to the ability of individuals, communities, and systems to withstand and recover from stress, trauma, or other challenges (Arslan, 2022). Additionally, it is a dynamic process that involves the interaction of multiple factors, including personal characteristics (such as a positive outlook, self-esteem, and self-efficacy), social support networks, and environmental conditions such as, access to resources and opportunities (Masten, 2014; Ungar & Liebenberg, 2011; Wong & Wong, 2012). Research has consistently shown that resilience is correlated with better physical and psychological health (Hu et al., 2015; McGowan et al., 2018; Nath & Pradhan, 2012), as well as increased well-being and quality of life (Arslan, 2019; Duggan et al., 2016; Xu & Ou, 2014). Briefly, resilience matters because it helps people to navigate and overcome life's challenges, and to thrive in the face of change and adversity. The theoretical and empirical evidence suggests that resilience has implications for the prevention and intervention of mental health problems, as well as for the promotion of well-being and positive development in individuals and communities.

Traditionally resilience is the ability to recover from or adjust to adversity or change (Luthar et al., 2000; Masten, 2001). Resilience is also the ability to bounce back from challenges (Smith et al., 2008), and it is a crucial quality for individuals to promote mental health and well-being (Arslan, 2021a). It is an important quality to have because it helps individuals and communities to withstand and bounce back from difficult situations (Davydov et al., 2010; Masten, 2014). When people are resilient, they are better able to cope with stress, adapt to changing circumstances, and maintain their well-being and happiness even in the face of adversity. Also, resilience plays a role in mental health, as it can help to reduce the negative impact of stress and trauma on an individual's well-being (Arslan, 2016; Connor & Davidson, 2003; Davydov et al., 2010; Du et al., 2017).

In the recent development of second wave positive psychology (PP2.0; Wong, 2011), resilience, meaning, well-being, and virtue are considered the four main pillars of positive psychology. More recently, in the era of the pandemic, resilience takes on added importance for sustainable well-being within the context of inescapable human suffering (Wong et al., 2021). The perspective of existential positive psychology (EPP or PP2.0) adds a vertical dimension to positive psychology (PP) research; it explores the heights and depths of every domain of PP research (Wong, 2023a, 2023b; Wong et al., 2021). From this new framework, the resilient mindset is a much richer concept than the traditional understanding

Gökmen Arslan  <https://orcid.org/0000-0001-9427-1554>

Paul T. P. Wong  <https://orcid.org/0000-0003-4982-8127>

Correspondence concerning this article should be addressed to Gökmen Arslan, Department of Psychological Counseling, Mehmet Akif Ersoy University, Burdur, Türkiye. Email: gkmnarslan@gmail.com

of resilience in terms of mental toughness and bouncing back (Wong, 2020). Wong (2020) operationally and theoretically defined the resilient mindset as the TRAMMB model, which is an acronym for six evidence-based attributes of resilience. The resilient mindset is much broader than the traditional definition of resilience in terms of bouncing back after setbacks; it involves not only the capacity to bounce back, but also the virtue of endurance, the growth mindset of transforming trauma to triumph through meaning (Frankl, 1946, 1985; Wong & Wong, 2012). Thus, a resilient mindset equips individuals to respond to adversity in a way that makes them stronger, better, and happier. Wong (2020) operationally defined the resilient mindset in terms of six attributes;

- Be *tough* mentally in order to face a competitive and difficult world (Scarfe & Baxter, n.d.) We need control, commitment, challenge, and confidence to face adversity (Gucciardi, 2020).
- Be *responsible* for adapting to each difficult situation with ethics and flexibility (Arslan & Wong, 2022).
- *Appreciate* what you still have in spite of the losses. Appreciate the gift of being alive and the goodness in the world (Jans-Beken & Wong, 2019).
- Practice *mindfulness* by accepting life as it is and embracing life with openness without judgement in order to have the clarity of mind to do the right thing (Moore, 2022).
- Practice the *meaning* mindset (Wong, 2012) by looking for what is beautiful, good, and meaningful even in difficult situations.
- *Believe* in a better future through faith, hope, and love (Wong, 2023a, 2023b).

According to Hanson (2020), a resilient mind is defined as "constructing a conscious, deliberate alignment of our physical, emotional, mental, and spiritual resources to effectively engage with a specific situation." Thus, Wong's 6-factor model acknowledges that resilience is both dynamic and multidimensional. After conducting several pilot studies, Wong and Arslan (2020) developed an item pool to measure a resilient mindset based on the TRAMMB model. This model was created through an extensive review of the resilient literature, focusing particularly on post-traumatic growth, meaning-oriented coping, and second wave positive psychology. However, the psychometric properties of the measure have not yet been examined. In the present study, additional items were added to the item pool, and the psychometric properties of the measure were evaluated (for more information, refer to the measure section).

In recent years, there has been a growing interest in the development of interventions and measures (see, Arslan, 2022 for a brief review) that aim to promote and assess resilience in different cultures, with the goal of improving mental health and well-being. However, very few have focused on resilient mindset which reflects one's resilient cognitions that contributes to developing resilience and cultivating well-being (Arewasikporn et al., 2019; Arslan & Coşkun, 2023). Additionally, measuring resilient mindset is an essential step in developing effective prevention and intervention strategies to promote mental health and well-being when faced with adversity. To this end, the purpose of this study is to validate a brief tool– the Resilient Mindset Scale (RMS) – aimed at assessing individuals' cognitions that help them to bounce back from

challenges and to examine the association between resilient mindset and mental well-being indicators (e.g., psychological distress, psychological well-being) among Turkish adolescents and young adults.

Resilient Mindset and Mental Well-Being

Resilient people are better able to cope with stress, adapt to change, and maintain their functioning and well-being in the face of challenges. Resilient mindset refers to having a conscious of physical, psychological, social, and spiritual resources to effectively overcome challenging situations. It can be argued that building resilience relies on cultivating a mindset that enables people to positively overcome or adapt to these challenges. Recently, the focus has shifted from simply describing resilience as the ability to recover from difficulties, to emphasizing the development of resilient mindset (Wong, 2020). This construct involves a set of resilient thoughts that are flexible, conscious, creative, and realistic (Arewasikporn et al., 2019). As a growth mindset, it enables people to not just bounce back but also to bounce forward and proactively deal with difficulties, which contribute to building true resilience (Wong et al., 2021).

Resilient mindset also encompasses having the awareness and understanding of one's own strengths and weaknesses in order to navigate challenges. Understood this way, resilient mindset can be characterized by a set of attitudes and beliefs that allow an individual to bounce back from difficult experiences and challenges, and to grow and learn from them. When people have a resilient mindset, they are able to maintain a positive outlook, even in the face of difficult situations. They are able to see challenges as opportunities for growth, rather than as insurmountable obstacles. Additionally, people with resilient mindset are able to regulate their emotions, thoughts and behaviors effectively, which help them to better adapt to stressors. Similar to the literature on resilience, some studies have emphasized the importance of developing a resilient mindset in order to effectively manage responses to stressors and achieve positive outcomes (Arewasikporn et al., 2019; Arslan & Coşkun, 2023; Caughter & Crofts, 2018; Hansen et al., 2021; Wong et al., 2021). For instance, Hansen et al. (Hansen et al., 2021) found that individuals with lower levels of resilient mindset experienced worse physical and mental health, and higher levels of burnout and worry during the COVID-19 pandemic. It also mitigated the adverse impacts of coronavirus-related stressors on college student depressive symptoms (Arslan & Coşkun, 2023). With the emergence of second wave positive psychology (PP 2.0), which focuses on achieving flourishing for both individuals and society through balancing positive and negative experiences (Lomas & Ivztan, 2016; Wong, 2019), some scholars have also highlighted developing a resilient mindset and cultivating inner resources as a proactive means of dealing with adverse experiences, resulting in true resilience (Wong et al., 2021). Within this context, individuals with lower levels of resilient mindset are more likely to experience psychological, social, and behavioral problems, such as anxiety or depression, when confronted with challenges. Therefore, measuring a resilient mindset can assist in identifying individuals who are at risk of developing these difficulties. Additionally, measuring resilient mindset can contribute to evaluating the effectiveness of interventions and prevention programs designed to promote mental

Table 1. Factor loadings of the RMQ: Sample 1 (EFA) and Sample 2 (CFA)

Item	EFA		CFA	
	λ	u^2	λ	ℓ^2
I have the mental and emotional toughness to deal with the challenges I face	.68	.53	.65	.42
No matter what I am going through, I appreciate being alive.	.65	.58	.64	.41
In a state of stress, I can observe what is going on with an open mind	.62	.62	.69	.47
I try to make a positive meaning out of the negativities I encounter because they provide...	.75	.44	.75	.60
No matter how bad the situation, I overcome difficulties with my faith in a higher power.	.81	.35	.68	.47
I struggle patiently with the ups and downs of life without giving up.	.77	.40	.53	.28

Note. EFA = exploratory factor analyses; CFA = confirmatory factor analysis. λ = item loadings for first-order factors; ℓ^2 = indicator reliability for first-order factor items; u^2 = uniqueness.

health and well-being. By assessing changes in resilient mindset over time, researchers can determine whether a specific intervention is successful in enhancing resilience.

Considering the vital role of resilient mindset in overcoming adversity and promoting resilience, mental health, and well-being it is warranted to develop and validate a measure for assessing of resilient mindset providing effective mental health services. Although many tools are available to assess resilience in adolescents and young adults, to the best of our knowledge, there is no scale developed to assess resilient mindset. Therefore, the aim of the present study aimed to develop and validate a new and brief tool to assess the resilient mindset of adolescents and young adults, and to examine the link between resilient mindset and mental well-being. Moreover, the objective of the study is to assess the measurement invariance of the RMS across gender and different developmental stage.

Method

Participants

The study included two samples, including 665 high school and college students attending a public high school and university in Türkiye. Sample 1, which was utilized for the exploratory factor analysis, comprised of 327 college students. They were 70% female and ranged in age from 18 to 47 years ($M = 22.91$, $SD = 4.13$). Sample 2, which was utilized for the confirmatory factor analysis, included 338 adolescents. They were 49% female and ranged in age from 15 to 18 years ($M = 16.22$, $SD = .91$). A survey was designed and hosted on the web, which included the study measures and demographic questions. Participants were informed that they could end their participation at any time and that their answers would be kept private. Furthermore, students who volunteered to participate in the study had to sign an electronic consent form before taking the survey.

Measures

Resilient Mindset Scale (RMS). The creation of the RMS item pool followed the procedures outlined in standard texts on scale development (e.g., Tay & Jebb, 2017; Worthington & Whittaker, 2006). In addition to revising the initial item pool by Wong & Arslan (2020), which consisted of six items, theoretical and empirical literature were reviewed to generate additional items (e.g., the TRAMMB model; Wong, 2020). This process resulted in a total of 10 items aimed at capturing the core aspects of a resilient mindset. Afterward, the 10-item version was given to a panel of three esteemed professionals in the field of resilient mindset assessment, who are all tenured professors in counseling psychology, to evaluate

the item pool. The experts individually assessed the items with regards to factors such as conciseness, clarity, and appropriateness. Based on their suggestions, some modifications were made to two of the items to enhance their clarity and conciseness. The item pool was edited, resulting in a final version with 10 items. The final item pool was rated using a 5-point scale (see Appendix A).

Mental Well-Being. The mental well-being of the young adults was assessed using two different measures that encompassed both positive and negative indicators of mental health: the Brief Inventory of Thriving (BIT) (Su et al., 2014) and the Brief Symptom Inventory (BSI-18) (Derogatis & Fitzpatrick, 2004). The BIT, a 10-item self-report scale, was used to measure young adults' psychological well-being and was scored on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Results showed that the BIT had strong internal reliability in the Turkish population (Arslan, 2021b). The BSI-18, an 18-item self-report measure, was used to assess psychological symptoms among young adults and was rated on a 5-point Likert scale, ranging from 0 (not at all) to 4 (very much). The BSI-18 also had strong internal reliability in Turkish samples (Arslan, Yıldırım, Karataş, et al., 2022).

The mental well-being of adolescents was measured using multiple scales. Besides the Brief Inventory of Thriving (Su et al., 2014), the Subjective Academic Well-being Scale (SAWS) (Arslan, Yıldırım, & Albertova, 2022) and the Youth Internalizing Behavior Screener (YIBS; Arslan, 2020) were also utilized. The SAWS is a 6-item self-report scale that assesses positive academic functioning and is scored on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). It had strong internal reliability for Turkish adolescents (Arslan, Yıldırım, & Albertova, 2022). The YIBS, a 10-item self-report scale, was used to measure adolescent internalizing problems, including depression and anxiety. It uses a 4-point Likert scale ranging from 1 (almost never) to 4 (almost always) and had strong internal reliability for Turkish people (Arslan, 2020).

Data Analyses

The data analysis was performed in several stages. First, an exploratory factor analysis (EFA) was conducted to examine the factor structure of the RMS. Before the EFA, descriptive statistics were examined and showed that some pilot items were not normally distributed (skewness and kurtosis values greater than |2|). Therefore, it was deemed that the principal-axis factoring method with Promax (oblique) rotation was the most fitting technique for conducting factor analysis. The results of the factor analysis were evaluated based on factor loadings $\geq .50$ and cross-loadings $\geq .32$ (Stevens, 2009; Tabachnick & Fidell, 2013).

Table 2. Descriptive statistics for the study variables

Scales	Minimum	Maximum	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	ω	α
<i>Young Adults</i>								
Resilient mindset	0	24	18,43	4,00	-,61	,86	.86	.86
Psychological well-being	12	50	36,20	7,00	-,69	,77	.89	.90
Psychological distress	0	69	17,65	14,59	,92	,31	.88	.87
<i>Adolescents</i>								
Resilient mindset	0	24	12,98	4,65	-,51	,03	.82	.82
Subjective academic well-being	6	30	19,64	4,98	-,22	-,28	.75	.74
Psychological well-being	10	50	32,41	8,78	-,51	,14	.89	.89
Internalizing problems	10	48	23,72	7,71	,36	-,57	.88	.88

Note. ω = McDonald's ω ; α = Cronbach's α ;

After exploring the factor structure of the scale, a confirmatory factor analysis (CFA) was used to confirm the latent structure of the scale. The results of the CFA were interpreted using several data-model fit statistics, including RMSEA and SRMR values $\leq .08$ and TLI and CFI scores $\geq .90$, which indicate adequate data-model fit (Hooper et al., 2008; Kline, 2015). Construct composite reliability estimate (H) was also examined and a value of $\geq .70$ was considered adequate (Mueller & Hancock, 2008). Additionally, measurement invariance of the RMS was tested to investigate configural, metric, and scalar invariance across developmental stages (adolescence and young adulthood) and gender using multiple-group factor analysis. The results of the measurement invariance were interpreted based on Δ CFI scores, with scores less than .01 considered evidence of invariance across groups (Cheung & Rensvold, 2002). Thereafter, correlation analysis was carried out to explore the link between resilient mindset and mental well-being variables, which was interpreted using conventional standards. Furthermore, latent variable path analyses were used to test predictive effect of resilient mindset on adolescents' and young adults' mental well-being outcomes. The data-model fit statistics and squared-multiple correlations ($R^2 = .02-.129$ = small, $.13-.259$ = moderate, $\geq .26$ = large) were used to evaluate the latent variable path results (Cohen, 1988). All analyses were carried out utilizing SPSS v27 and AMOS v24.

Results

Exploratory Factor Analysis

The results of the exploratory factor analysis revealed a one-factor solution with eigenvalues greater than 1, accounting for approximately 52% of the variance. The sample size was good, as indicated by the Kaiser-Meyer-Olkin (KMO) value of .90. Additionally, there was no singularity present, as evidenced by Bartlett's chi-square test ($\chi^2 = 1950.21$, $df = 45$, $p < .001$), and the factor loadings were strong, ranging from .60 to .83. Additionally, visual inspection of the scree plot and parallel analyses suggested the one-factor solution. However, the one-factor solution provided poor data-model fit statistics ($\chi^2 = 297.04$, $df = 35$, $p < .001$, TLI = .82, BIC = 94.39 RMSEA [90% CI] = .15 [.14, .17]). Hence, we checked additional analyses (e.g., anti-image correlation, covariance matrix) to provide a better fit to the data. After reviewing these results, four items were removed one at a time and the analysis was rerun with a

one-factor solution each time. Further results demonstrated the one-factor solution with eigenvalues > 1 , which comprised six items explained 51% of the variance. Factor loadings of the scale were robust, ranging from .61 to .81 (see Table 1). Additionally, the EFA results provided close data-model fit statistics ($\chi^2 = 17.68$, $df = 9$, $p < .001$, TLI = .98, BIC = -34.43 RMSEA [90% CI] = .05 [.01, .09]).

Confirmatory Factor Analysis

Confirmatory factor analysis was utilized to investigate the latent structure of the measure with adolescents. Findings from this factor analysis yielded the good data-model fit ($\chi^2 = 26.01$, $df = 9$, $p < .05$, CFI = .97, TLI = .95, RMSEA [95% CI] = .07 [.04, .10], SRMR = .03), characterizing by a strong construct composite reliability estimate ($H = .84$) and factor loadings, ranging from .53 to .78 (see Table 1). Thereafter, measurement invariance across gender and developmental stages were carried out using multiple-groups confirmatory factor analyses. Results of these analyses indicated that the measurement for configural, metric and scalar invariance across gender and developmental stage model provided poor-to-good data-model fit statistics, as seen in Table 3. Measurement invariance analyses revealed that the configural and metric invariance were maintained for both gender and developmental stages, but scalar invariance was not observed based on the changes in the Δ CFI values.

Validity and Reliability Analyses

Descriptive statistics for the 6-item RMS showed that the scale had a relatively normal distribution (skewness and kurtosis less than |1|) and moderate to large corrected item-total correlation coefficients (ranging from .50 to .63). The scale also demonstrated strong reliability in both samples, as indicated by the results in Table 2. Bivariate correlation analysis reported that resilient mindset had a positive and significant correlation with psychological well-being ($r = .44$, $p < .001$) and a negative association with psychological distress ($r = -.24$, $p < .001$) among young adults. Furthermore, resilient mindset had positive and significant correlations subjective academic well-being ($r = .36$, $p < .001$) and psychological well-being ($r = .56$, $p < .001$) and was negatively associated with internalizing problems ($r = -.44$, $p < .001$) among adolescents. Further, latent variable path model, which utilized to examine the predictive effect of resilient mindset model on adolescent and young adult mental wellbeing indicators, demonstrated adequate data-model fit statistics

Table 3. Measurement invariance results

Invariance Level	χ^2	df	p	RMSEA [90%CI]	CFI	Δ CFI
<i>Young adults–gender</i>						
Configural invariance	31.28	18	.027	.048 [.02, .07]	.981	—
Metric invariance	35.10	23	.051	.040 [.00, .06]	.983	.002
Scalar invariance	53.53	29	.004	.051 [.03, .07]	.966	.017
<i>Adolescents–gender</i>						
Configural invariance	33.73	18	.014	.051 [.02, .08]	.972	—
Metric invariance	34.28	23	.061	.038 [.00, .06]	.980	.002
Scalar invariance	59.17	29	.001	.056 [.03, .08]	.946	.034
<i>Developmental stage</i>						
Configural invariance	43.01	18	.001	.046 [.03, .06]	.982	—
Metric invariance	64.51	23	<.001	.052 [.04, .07]	.970	.012
Scalar invariance	314.06	29	<.001	.122 [.11, .13]	.764	.206

Note. Developmental stage = adolescence vs young adulthood

for adolescents ($\chi^2 = 932.33$ $df = 24$, $p < .001$, CFI = .94, TLI = .90, RMSEA [95% CI] = .09 [.07, .11], SRMR = .05) and good data-model fit statistics for young adults ($\chi^2 = 33.22$, $df = 19$, $p < .05$, CFI = .98, TLI = .98, RMSEA [95% CI] = .05 [.02, .07], SRMR = .03). Resilient mindset also had significant predictive power on young adult psychological well-being and psychological distress, as well as adolescent subjective academic well-being, psychological well-being, and internalizing problems, explaining approximately small-to-large of variance in the variables (see Figure 1). These results indicate that adolescents and young adults with less resilient mindset are more likely to suffer from greater psychological symptoms and lower levels of psychological well-being than those with higher resilient mindset.

Discussion

The objective of the current study is to develop and validate a brief tool—the Resilient Mindset Scale (RMS)—aimed at evaluating an individual's attitudes and beliefs that contribute to their ability to bounce back from challenges. The need for such a tool is highlighted by the connection between resilient mindset and well-being outcomes (Arewasikporn et al., 2019; Arslan & Coşkun, 2023; Wong, 2020) and the need for prevention and intervention strategies for adolescents and young adults, particularly within a cultural context. The results of the study showed that the RMS consisted of six items that explained 51% of the variance and had strong factor loadings. The measurement model also had good fit statistics, with strong reliability and validity. Validity analyses further indicated that there were small to strong correlations between resilient mindset and mental well-being indicators. The path model also revealed that resilient mindset had a moderate to large effect on mental well-being outcomes, such as psychological distress and subjective academic well-being. These findings suggest that the RMS is a psychometrically valid tool for measuring resilient mindset in Turkish young adults and adolescents.

Resilient mindset helps people to overcome adversity and lead a more fulfilling life. It is also beneficial for promoting well-being outcomes. This study indicated that resilient mindset was related to

greater psychological well-being and less psychological distress among college students. Similarly, young adults with higher levels of resilient mindset reported lower levels of internalizing problems, as well as greater psychological well-being and positive academic functioning.

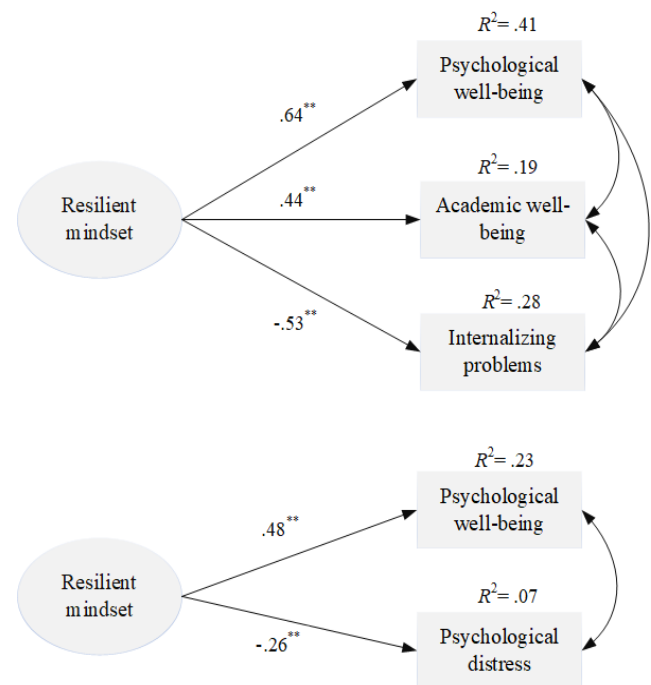


Figure 1. Latent variable path models for adolescents' and young adults' mental well-being Note. ** $p < .001$.

Consistent with these findings, a few studies found that having a resilient mindset was associated with better physical and mental health (Arewasikporn et al., 2019; Caughter & Crofts, 2018; Hansen et al., 2021). Resilient mindset enables people to not just bounce back but also to bounce forward and proactively deal with difficulties, leading to true resilience (Wong et al., 2021). In addition, having a resilient mindset can aid in enhancing mental

well-being by fostering a sense of purpose and meaning in life, which is beneficial for overall mental health and well-being (Kim et al., 2005). Individuals with a resilient mindset are more likely to maintain a positive outlook, even in the face of challenges and view these challenges as opportunities for growth. Furthermore, they have the ability to effectively regulate their emotions, thoughts, and behaviors, which helps them to better adapt to stressors, thereby improving their mental well-being. Although the relationships between resilient mindset and well-being outcomes are not fully understood, the current results suggest that resilient mindset plays a key role in improving mental well-being among adolescents and young adults.

The findings of this study should be viewed with caution due to certain limitations in the methodology. The study only involved participants who were adolescents and young adults from a high school and university in Türkiye, and the data was collected through self-reported surveys and convenience sampling. Thus, it's crucial to replicate these findings with a larger, more representative sample. It would also be helpful to examine the psychometric properties of the measure with different populations, such as children and adults, and cultures as cultural factors can affect feelings and beliefs. Additionally, the study's measurement of mental well-being relied on a combination of positive and negative indicators, which may not provide a full picture. Further studies using additional indicators of mental health and well-being could provide a more complete understanding. Further investigation into the relationship between resilient mindset and well-being could provide valuable insights for future research and practices. Finally, the measurement invariance analyses revealed that both configural and metric invariance were maintained across both gender and developmental stages. However, scalar invariance was not observed. It is possible that societal or cultural factors influenced the interpretation or response patterns to the scale items, resulting in measurement non-equivalence between genders. Additionally, cognitive, emotional, or social changes during adolescence and young adulthood may have influenced the understanding or interpretation of the scale items, thereby affecting measurement equivalence. Further investigations are needed to establish the psychometric properties of the scale within these specific subgroups, using diverse samples and considering different cultures.

Despite the limitations outlined above, the study's findings still have important implications for research and practice. Based on the standards for evaluating universal screening tools (as outlined by Glover & Albers, 2007), the results suggest that the RMS is a reliable, usable, and culturally appropriate assessment tool for measuring the resilient mindset of adolescents and young adults. The primary benefit of the RMS is to provide a brief, reliable, and cost-effective resource for mental health providers and practitioners. Considering that people with lower levels of resilient mindset are more likely to experience negative outcomes, such as anxiety or depression, when faced with challenges, mental health providers can, for example, use this measure to identify individuals who are at risk for developing mental health problems. Further, the RMS can help them to evaluate the effectiveness of interventions and prevention services that aim to promote mental health and well-being. By assessing changes in resilient mindset over time, researchers can also determine whether a particular intervention is

successful in increasing resilience. Additionally, the study results have reported that resilient mindset has the significant predictive effect on mental well-being indicators, and participants with less resilient mindset experience greater psychological distress and lower levels of positive academic functioning and psychological well-being. This evidence suggests that resilient mindset may be essential to understand the protective factors that contribute to mental well-being, and to design effective interventions and policies that promote well-being in the face of challenges. Given that the data was collected from participants during the COVID-19 pandemic which has various adverse impacts on mental health and well-being, the study also provides additional insight into understanding the link between resilient mindset and mental well-being.

Another exciting development during the pandemic is that the resilient mindset will play a vital role in second wave positive psychology (PP2.0), or existential positive psychology (Wong, 2023a), which introduces the following principles and practices:

- Accepting that life is full of evil and suffering.
- Emphasizing the dynamic balance between opposites (happiness and suffering) through dialectics.
- Incorporating indigenous positive psychology, such as the ancient wisdom of finding deep joy in bad situations.

PP2.0 adds an existential dimension to every area of positive psychology, such as mature happiness (Wong & Bowers, 2018) and tragic optimism (Leung et al., 2021). More recently, Chen et al. (2021) demonstrates the importance of a spiritually oriented model of well-being and a resilient mindset in positive education in a college sample in Taiwan. In sum, a resilient mindset can add new levels of depths and heights to positive psychology research as discussed in the introduction. Mental health providers can incorporate resilient mindset into the therapeutic process and interventions to promote resilience and mental well-being in adolescents and young adults.

Compliance with Ethical Standards

Ethical Standards

All study procedures involving human participants followed institutional and/or national research committee ethical standards and the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This study was also approved by the Institutional Review Boards, number GO2021/177 and E-27749142-605.01-47394067.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Author Contributions

Gökmen Arslan was the primary researcher for this study, leading literature search, analysis and writing the initial manuscript. Paul Wong oversaw the study, contributing to theoretical framework. Both authors contributed to the final version of the manuscript and approved the submitted version.

Acknowledgements

The authors would like to express their gratitude to all the participants in the study.

Received: April 27, 2023

Accepted: July 7, 2023

Published Online: July 11, 2023

References

- Arewasikporn, A., Sturgeon, J. A., & Zautra, A. J. (2019). Sharing positive experiences boosts resilient thinking: everyday benefits of social connection and positive emotion in a community sample. *American Journal of Community Psychology*, 63(1–2), 110–121. <https://doi.org/10.1002/ajcp.12279>
- Arslan, G. (2016). Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. *Child Abuse & Neglect*, 52, 200–209. <https://doi.org/10.1016/j.chiabu.2015.09.010>
- Arslan, G. (2019). Mediating role of the self-esteem and resilience in the association between social exclusion and life satisfaction among adolescents. *Personality and Individual Differences*, 151, Article 109514. <https://doi.org/10.1016/j.paid.2019.109514>
- Arslan, G. (2020). Measuring emotional problems in Turkish adolescents: Development and initial validation of the Youth Internalizing Behavior Screener. *International Journal of School and Educational Psychology*. <https://doi.org/10.1080/21683603.2019.1700860>
- Arslan, G. (2021). Psychological maltreatment predicts decreases in social wellbeing through resilience in college students: A conditional process approach of positive emotions. *Current Psychology*. <https://doi.org/10.1007/s12144-021-01583-0>
- Arslan, G. (2021). Psychological well-being in college students: Psychometric properties of the Brief Inventory of Thriving (BIT) and the Comprehensive Inventory of Thriving (CIT). *Journal of School and Educational Psychology*, 1(1), 6–16. <https://doi.org/10.47602/josep.v1i1.6>
- Arslan, G. (2022). Measuring and promoting resilience in youth. In K. A. Allen, M. J. Furlong, D. A. Vella-Brodrick, & S. M. Suldo (Eds.), *Handbook of positive psychology in schools* (pp. 493–507). Routledge. <https://doi.org/10.4324/9781003013778-38>
- Arslan, G., & Coşkun, M. (2022). Coronavirus-related stressors, resilient mindset, loneliness, depressive symptoms in college students: Testing a moderated mediation model. *Psychological Reports*, 00332941221139721.
- Arslan, G., & Wong, P. T. P. (2022). Measuring personal and social responsibility: An existential positive psychology approach. *Journal of Happiness and Health*, 2(1), 1–11. <https://doi.org/10.47602/johah.v2i1.5>
- Arslan, G., Yıldırım, M., & Albertova, S. M. (2022). Development and initial validation of the Subjective Academic Wellbeing Measure: A new tool of youth wellbeing in school. *Journal of Positive School Psychology*, 6(1), 3–11. <https://doi.org/10.47602/jpsp.v6i1.251>
- Arslan, G., Yıldırım, M., Karataş, Z., Kabasakal, Z., & Kılınç, M. (2022). Meaningful living to promote complete mental health among university students in the context of the COVID-19 pandemic. *International Journal of Mental Health and Addiction*, 20(2), 930–942. <https://doi.org/10.1007/s11469-020-00416-8>
- Caughter, S., & Crofts, V. (2018). Nurturing a resilient mindset in school-aged children who stutter. *American Journal of Speech-Language Pathology*, 27(3S), 1111–1123. https://doi.org/10.1044/2018_AJSLP-ODC11-17-0189
- Chen, C., Chang, S., & Wu, H. (2021). Discovering and approaching mature happiness: The implementation of the CasMac model in a university English class. *Frontiers in Education*. <https://www.frontiersin.org/articles/10.3389/educ.2021.648311/full>
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233–255. https://doi.org/10.1207/S15328007SEM0902_5
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Lawrence Erlbaum.
- Connor, K. M., & Davidson, J. R. (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>
- Davydov, D. M., Stewart, R., Ritchie, K., & Chaudieu, I. (2010). Resilience and mental health. *Clinical Psychology Review*. <https://doi.org/10.1016/j.cpr.2010.03.003>
- Derogatis, L. R., & Fitzpatrick, M. (2004). The SCL-90-R, the Brief Symptom Inventory (BSI), and the BSI-18. In M. E. Maruish (Ed.), *The use of psychological testing for treatment planning and outcomes assessment: Instruments for adults, Volume 3, 3rd ed.* (pp. 1–41). Lawrence Erlbaum Associates Publishers.
- Du, H., Li, X., Chi, P., Zhao, J., & Zhao, G. (2017). Meaning in life, resilience, and psychological well-being among children affected by parental HIV. *AIDS Care*, 29(11), 1410–1416. <https://doi.org/10.1080/09540121.2017.1307923>
- Duggan, C., Wilson, C., DiPonio, L., Trumpower, B., & Meade, M. A. (2016). Resilience and Happiness After Spinal Cord Injury: A Qualitative Study. *Topics in Spinal Cord Injury Rehabilitation*, 22(2), 99–110. <https://doi.org/10.1080/10792648.2016.113195300533>
- Frankl, V. E. (1985). *Man's search for meaning*. Washington Square Press (Originally published in 1946)
- Glover, T. A., & Albers, C. A. (2007). Considerations for evaluating universal screening assessments. *Journal of School Psychology*, 45(2), 117–135. <https://doi.org/10.1016/j.jsp.2006.05.005>
- Gucciardi, D. F. (2020, April 14). Mental toughness: Taking stock and considering new horizons. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (4th ed.) (Chp. 6). <https://doi.org/10.1002/9781119568124.ch6>
- Hansen, J., Hartwell, C., & Madsen, S. R. (2021). *The Impact of COVID-19 on Utah Women and Work: Resilient Mindset and Wellbeing* (pp. 1–5). Publisher: Utah Women & Leadership Project. https://digitalcommons.usu.edu/marketing_facpub/139/
- Hansen, S. (2020, November 16). What is resilient mindset and how to build it. *Resilience Institute*. <https://resiliencei.com/blog/resilient-mindset>
- Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural

- equation modelling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6(1), 53–60.
- Hu, T., Zhang, D., & Wang, J. (2015). A meta-analysis of the trait resilience and mental health. *Personality and Individual Differences*, 76, 18–27. <https://doi.org/10.1016/j.paid.2014.11.039>
- Jans-Beken, L. G. P. J., & Wong, P. T. P. (2019). Development and preliminary validation of the Existential Gratitude Scale (EGS). *Counselling Psychology Quarterly*. Advance online publication. <https://doi.org/10.1080/09515070.2019.1656054>
- Kim, T. H., Lee, S. M., Yu, K., Lee, S., & Puig, A. (2005). Hope and the meaning of life as influences on Korean adolescents' resilience: Implications for counselors. *Asia Pacific Education Review*, 6, 143–152.
- Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford.
- Leung, M. M., Arslan, G., & Wong, P. T. P. (2021). Tragic optimism as a buffer against COVID-19 suffering and the psychometric properties of a brief version of the Life Attitudes Scale. *Frontiers in Psychology*, 12, 646843. <https://doi.org/10.3389/fpsyg.2021.646843>
- Lomas, T., & Ivztan, I. (2016). Second wave positive psychology: Exploring the positive–negative dialectics of wellbeing. *Journal of Happiness Studies*, 17(4), 1753–1768. <https://doi.org/10.1007/s10902-015-9668-y>
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The Construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71(3), 543–562. <https://doi.org/10.1111/1467-8624.00164>
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, 56(3), 227–238. <https://doi.org/10.1037/0003-066X.56.3.227>
- Masten, A. S. (2014). Ordinary magic: Resilience in development. In *Ordinary magic: Resilience in development*. Guilford Press.
- McGowan, J. A., Brown, J., Lampe, F. C., Lipman, M., Smith, C., & Rodger, A. (2018). Resilience and Physical and Mental Well-Being in Adults with and Without HIV. *AIDS and Behavior*, 22(5), 1688–1698. <https://doi.org/10.1007/s10461-017-1980-6>
- Moore, M. (2022, June 23). Mindfulness: The art of cultivating resilience. *PsychCentral*. <https://psychcentral.com/lib/mindfulness-the-art-of-cultivating-resilience>
- Mueller, R. O., & Hancock, G. R. (2008). Best practices in structural equation modeling. In J. Osborne (Ed.), *Best practices in quantitative methods* (pp. 488–510). SAGE Publications, Inc.
- Nath, P., & Pradhan, R. K. (2012). Influence of positive affect on physical health and psychological well-being: Examining the mediating role of psychological resilience. *Journal of Health Management*, 14(2), 161–174. <https://doi.org/10.1177/097206341201400206>
- Scarfe, G., & Baxter, M. (n.d.). Connecting mental toughness and wellbeing in education [Poster presentation]. https://www.academia.edu/42328995/Connecting_Mental_Toughness_and_Wellbeing_in_Education_58154_Poster
- Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194–200. <https://doi.org/10.1080/10705500802222972>
- Stevens, J. P. (2009). *Applied multivariate statistics for the social sciences*. Routledge.
- Su, R., Tay, L., & Diener, E. (2014). The development and validation of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Applied Psychology: Health and Well-Being*, 6(3), 251–279. <https://doi.org/10.1111/aphw.12027>
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics (6th ed.)*. Pearson.
- Tay, L., & Jebb, A. (2017). Scale development. In S. Rogelberg (Ed.), *The SAGE encyclopedia of industrial and organizational psychology*. Sage publications.
- Ungar, M., & Liebenberg, L. (2011). Assessing resilience across cultures using mixed methods: Construction of the Child and youth resilience measure. *Journal of Mixed Methods Research*. <https://doi.org/10.1177/1558689811400607>
- Wong, P. T. P. (2011). Positive psychology 2.0: Towards a balanced interactive model of the good life. *Canadian Psychology/Psychologie canadienne*, 52(2), 69–81. <https://doi.org/10.1037/a0022511>
- Wong, P. T. P. (2012). The meaning mindset: Measurement and implications. *International Journal of Existential Psychology and Psychotherapy*, 4(1), 1–3.
- Wong, P. T. P. (2019). Second wave positive psychology's (PP 2.0) contribution to counselling psychology. *Counselling Psychology Quarterly*, 32(3–4), 275–284. <https://doi.org/10.1080/09515070.2019.1671320>
- Wong, P. T. P. (2020). *Made for resilience and happiness: Effective coping with COVID-19 according to Viktor E. Frankl and Paul TP Wong*. INPM Press.
- Wong, P. T. P. (Ed.). (2023a). *A second-wave positive psychology in counselling psychology: A paradigm shift*. Routledge.
- Wong, P. T. P. (2023b). Spiritual-existential wellbeing (SEW): The faith-hope-love model of mental health and total wellbeing. *International Journal of Existential Positive Psychology*, 12(1). <https://www.meaning.ca/ijepp-article/vol12-no1/spiritual-existential-wellbeing/>
- Wong, P. T. P., & Arslan, G. (2020). *The Resilient Mindset Measure*. <http://www.drpaullwong.com/wp-content/uploads/2020/08/The-resilient-mindset-measure-Wong-2020-Final.pdf>
- Wong, P. T. P., & Bowers, V. (2018). Mature happiness and global wellbeing in difficult times. In N. R. Sifton (Ed.), *Scientific concepts behind happiness, kindness, and empathy in contemporary society* (pp. 112–134). IGI Global.
- Wong, P. T. P., Mayer, C.-H., & Arslan, G. (2021). COVID-19 and existential positive psychology (PP2. 0): The new science of self-transcendence. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.800308>
- Wong, P. T. P., & Wong, L. (2012). A meaning-centered approach to building youth resilience. In P. T. P. Wong (Ed.), *The human quest for meaning: Theories, research, and applications, 2nd ed.* (pp. 585–617). Routledge/Taylor & Francis Group.
- Worthington, R. L., & Whittaker, T. A. (2006). Scale development research. *The Counseling Psychologist*, 34(6), 806–838. <https://doi.org/10.1177/0011000006288127>
- Xu, J., & Ou, L. (2014). Resilience and quality of life among

Wenchuan earthquake survivors: The mediating role of social support. *Public Health*, 128(5), 430–437.
<https://doi.org/10.1016/j.puhe.2014.03.002>

Appendix A
Resilient Mindset Scale (RMS)

© Arslan & Wong

Please indicate how much you agree or disagree with each of the following statements by circling the most appropriate number on a 5-point scale.

	Almost Never True	Rarely True	Sometimes true	Often True	Almost Always True
	0	1	2	3	4
1. I have the mental and emotional toughness to withstand the challenges that I face or come my way.	0	1	2	3	4
2. No matter what I experience, I appreciate being alive.	0	1	2	3	4
3. Even in stressful situations, I can observe what is happening with an open mind.	0	1	2	3	4
4. I strive to extract a positive meaning from the challenges I encounter, as they provide opportunities for learning.	0	1	2	3	4
5. No matter how grim the situation, I overcome difficulties with my faith in myself and in a higher power.	0	1	2	3	4
6. I persistently and patiently grapple with the ups and downs of life without giving up.	0	1	2	3	4