



Empirical Assessment of the Relationship between Existential Vacuum, Meaning in Life, Depression, and Anxiety: Evidence from University Students

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Abstract

Understanding the psychological underpinnings of depression and anxiety is a persistent priority in mental health research. Recently, the existential vacuum—a concept denoting pervasive emptiness and a lack of life meaning—has attracted attention as a potential driver of psychological distress, especially among young adults. This empirical study investigates the association between existential vacuum, meaning in life, depression, and anxiety in a large, diverse sample of university students. Utilising the Meaning in Life Questionnaire (MLQ), Beck Depression Inventory-II (BDI-II), and the State-Trait Anxiety Inventory (STAI), the study examines not only the direct relationships between meaning and mental health but also the potential mediating role of existential anxiety. Statistical analyses, including correlation, regression, and mediation models, reveal that lower meaning in life and higher existential vacuum are significantly associated with increased levels of depression and anxiety. The findings offer empirical confirmation of the existential framework's relevance to contemporary mental health and underscore the necessity of meaning-centred prevention and intervention strategies within higher education and youth-focused mental health services. This paper concludes by discussing implications for clinical practice, mental health policy, and future research in the context of a rapidly changing world.

Keywords:

Existential vacuum, meaning in life, depression, anxiety, university students, empirical study, existential anxiety, mediation analysis, mental health, prevention.

Introduction

Depression and anxiety have emerged as leading contributors to the global burden of disease, particularly among young adults navigating the complexities of higher education and the transition to adulthood (World Health Organization, 2021; Auerbach et al., 2018). Despite growing investment in mental health services and the proliferation of psychological models, the rates of affective disorders continue to rise. Recent scholarship has increasingly turned towards existential variables—such as meaning in life and existential vacuum—to explain the limitations of symptom-focused models and to address the deeper roots of psychological distress (Schnell, 2021; Steger, 2017).



The concept of the existential vacuum was introduced by Viktor Frankl (1985), who observed that modern individuals, when deprived of clear goals, values, and sources of significance, are prone to feelings of emptiness, boredom, and alienation. This lack of meaning, Frankl argued, is not merely a philosophical malaise but a psychological risk factor, predisposing individuals to neurosis, depression, and even suicide. Contemporary researchers have operationalised the existential vacuum as the subjective experience of life as empty, meaningless, or devoid of personal purpose (Steger et al., 2006; Schulenberg et al., 2016). Empirical evidence increasingly supports Frankl's thesis: a growing number of studies demonstrate robust associations between low levels of meaning and elevated symptoms of depression and anxiety across diverse cultures and life stages (Schnell, 2021; Haoyang, 2022; Garcia-Alandete et al., 2013).

University students represent a particularly vulnerable population for existential vacuum and its mental health sequelae (DeWitz et al., 2009; Lin & Shek, 2019). This developmental stage is characterised by transitions, identity exploration, academic pressure, and, in many cases, geographical or social dislocation. For many, university is the first opportunity to independently negotiate values, beliefs, and life direction, making existential questions not only salient but also, at times, overwhelming (Steger, 2017; Miao & Gan, 2020). Studies from around the world confirm that young adults who struggle to find meaning report significantly higher rates of depression, anxiety, and even suicidal ideation (Kleiman & Beaver, 2013; Lin & Shek, 2019). The COVID-19 pandemic has further magnified these challenges, exacerbating feelings of isolation, loss of direction, and uncertainty about the future (Eisenbeck et al., 2021; Trzebiński et al., 2020).

Within this context, the present empirical study seeks to answer several critical questions. First, to what extent are meaning in life and existential vacuum associated with depression and anxiety among university students? Second, does existential anxiety mediate the relationship between meaning and mental health symptoms? And finally, what are the practical implications of these associations for prevention, intervention, and policy in higher education?

To address these questions, the study utilises the Meaning in Life Questionnaire (MLQ), which assesses both the presence of and search for meaning (Steger et al., 2006). The MLQ is a widely validated instrument, with strong psychometric properties across cultures and demographic groups (Schnell, 2021; Schulenberg et al., 2016). Depression and anxiety are measured using the Beck Depression Inventory-II (BDI-II) and the State-Trait Anxiety Inventory (STAI), both of which are gold-standard tools in psychological assessment (Beck et al., 1996; Spielberger et al., 1983). The sample comprises over 600 undergraduate and postgraduate students from a range of disciplines and backgrounds, recruited from a major urban university in India. By combining validated scales, robust statistical analysis, and a diverse sample, the research aims to provide a comprehensive and generalisable picture of existential vacuum and mental health in this key population.

Initial studies have consistently found that students with lower scores on meaning in life exhibit significantly higher depression and anxiety (DeWitz et al., 2009; Lin & Shek, 2019;



Schnell, 2021). For example, a multi-country study by Garcia-Alandete et al. (2013) reported that meaning in life explained more variance in depression and anxiety than traditional socio-demographic factors or academic stress. Similarly, research by Haoyang (2022) among Chinese college students found that existential anxiety not only correlated with depression but also mediated the association between low meaning and psychological symptoms. These results have been echoed in qualitative studies, where students describe existential vacuum in terms of feeling “adrift,” “purposeless,” or “empty,” particularly during periods of academic stress or social isolation (Miao & Gan, 2020).

However, gaps remain in the literature. Few studies have explored these associations in the South Asian context, where the interplay of family expectations, rapid societal change, and unique educational pressures may shape the experience of meaning and mental health differently from Western populations (Kira et al., 2022; Schnell, 2021). Additionally, there is a need for research that explicitly examines the mediating mechanisms—such as existential anxiety—through which meaning influences psychological well-being. Mediation models allow for a more nuanced understanding of causality and offer insights for designing targeted interventions.

The theoretical implications of these questions are significant. While much research on depression and anxiety has focused on cognitive biases, emotional dysregulation, or social determinants, the existential approach suggests that restoring or enhancing meaning could be a “transdiagnostic” intervention, relevant across a range of psychological symptoms and cultural settings (Vos et al., 2015; Martela & Steger, 2016). Meaning-centred interventions—such as logotherapy, meaning-oriented counselling, or life-crafting exercises—are gaining empirical support as effective tools for promoting resilience, academic engagement, and well-being among students (Schippers & Ziegler, 2019; Schnell, 2021).

The practical and policy relevance of such research cannot be overstated. Mental health crises among young people threaten academic performance, university retention, and long-term life satisfaction (Auerbach et al., 2018; Steger, 2017). Understanding the existential factors that underpin psychological vulnerability offers new avenues for early identification, prevention, and intervention. By equipping students with skills to explore, construct, and maintain meaning in their lives, universities and mental health services may help to stem the rising tide of depression and anxiety in this generation (Miao & Gan, 2020; Eisenbeck et al., 2021).

In summary, this empirical study investigates the direct and mediated relationships between existential vacuum, meaning in life, depression, and anxiety in a large, diverse sample of Indian university students. By employing robust quantitative methods and situating its findings within the wider literature, the research offers timely evidence for the centrality of existential factors in contemporary mental health—and argues for a more holistic, meaning-centred approach in clinical, educational, and policy spheres.

Literature Review

1. Meaning in Life and Mental Health: Empirical Foundations

Meaning in life has long been regarded as a cornerstone of psychological well-being, rooted in Frankl’s existential theory (Frankl, 1985). Empirical research over the past two decades

has confirmed the centrality of meaning as both a protective factor and a predictor of resilience, particularly among youth and university students (Steger et al., 2006; Schnell, 2021). Studies consistently reveal that students with a strong sense of purpose and coherence in their lives exhibit lower rates of depression, anxiety, and suicidality (Lin & Shek, 2019; Kleiman & Beaver, 2013). Conversely, the existential vacuum—marked by feelings of emptiness and futility—has been associated with greater psychological distress and impaired functioning (Haoyang, 2022; Schulenberg et al., 2016).

2. Existential Vacuum: Conceptualisation and Measurement

The existential vacuum describes the experience of life as empty, meaningless, and lacking in direction (Frankl, 1985). In the university context, this can be exacerbated by academic pressure, transition from adolescence to adulthood, and social or familial dislocation (DeWitz et al., 2009). The Meaning in Life Questionnaire (MLQ) by Steger et al. (2006) is one of the most widely used instruments for quantifying both the presence of and search for meaning. Its psychometric validity has been confirmed across cultures, including in Indian student samples (Schnell, 2021; Miao & Gan, 2020). Table 1 below summarises key empirical studies that have investigated the relationship between meaning in life, existential vacuum, and mental health symptoms in student populations.

Table 1. Empirical Studies on Meaning in Life, Existential Vacuum, Depression, and Anxiety in University Students

Author(s) & Year	Sample & Country	Measures Used	Main Findings
Steger et al. (2006)	205 students, USA	MLQ, BDI-II, STAI	Lower meaning predicts higher depression/anxiety
Lin & Shek (2019)	1,327 students, China	MLQ, DASS-21	Meaning is protective against depression and suicide
Haoyang (2022)	372 students, China	Existential Anxiety, MLQ, BDI	Existential anxiety mediates meaning & depression
DeWitz et al. (2009)	435 students, USA	PIL, CES-D	Meaning reduces risk for depressive symptoms
Kleiman & Beaver (2013)	360 students, USA	MLQ, Suicide Ideation Scale	Meaning reduces suicide ideation risk
Miao & Gan (2020)	626 students, China	MLQ, Resilience Scale	Meaning enhances resilience, reduces distress
Garcia-Alandete et al. (2013)	346 students, Spain	PIL, BDI-II, STAI	Strong negative correlation: meaning & depression
Schulenberg et al. (2016)	275 students, USA	SONG, MLQ	Search for meaning linked to anxiety
Eisenbeck et al.	849 students,	MLQ, DASS-21	Meaning moderates pandemic-



(2021)	Spain		related distress
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Key: MLQ = Meaning in Life Questionnaire; BDI-II = Beck Depression Inventory-II; STAI = State-Trait Anxiety Inventory; DASS-21 = Depression, Anxiety, and Stress Scale; PIL = Purpose in Life Test; SONG = Seeking of Noetic Goals Test; CES-D = Center for Epidemiologic Studies Depression Scale.

3. The Role of Existential Anxiety as a Mediator

Recent empirical studies have explored not only direct associations but also mediating mechanisms linking meaning and psychological distress. Existential anxiety—worry about purpose, death, or the significance of life—has emerged as a key mediator (Haoyang, 2022; Pellens et al., 2022). For instance, students with low meaning in life are more prone to existential worries, which in turn heighten vulnerability to depression and anxiety. This finding suggests that interventions aimed at reducing existential anxiety, or fostering existential acceptance, may have transdiagnostic value in university counselling settings (Schulenberg et al., 2016; Eisenbeck et al., 2021).

4. The Indian Context and Gaps in the Literature

Although much research has been conducted in Western and East Asian countries, there remains a paucity of large-scale empirical studies on meaning in life and existential distress among Indian university students (Kira et al., 2022). Socio-cultural factors such as family expectations, rapid modernisation, and competitive academic environments may uniquely shape the manifestation and consequences of existential vacuum in Indian youth. Understanding these nuances is critical for developing culturally sensitive prevention and intervention strategies (Schnell, 2021; Miao & Gan, 2020).

Methodology

1. Research Design

A cross-sectional, correlational design was adopted to empirically examine the relationship between existential vacuum (meaning in life), depression, and anxiety among university students. This design is well-suited for identifying both direct associations and mediating effects at a single point in time (Creswell & Plano Clark, 2018).

2. Participants and Sampling

A total of **624 students** (aged 18–28 years) from undergraduate and postgraduate programmes at a metropolitan Indian university participated in the study. The sample was balanced for gender (55% female, 45% male), discipline (humanities, sciences, commerce, engineering), and socio-economic background. Stratified random sampling was employed to ensure representativeness across academic years and faculties.

Inclusion criteria:

- Age between 18–28 years
- Currently enrolled in a degree course
- Willingness to provide informed consent

Exclusion criteria:

- Self-reported diagnosis of a severe mental disorder (e.g., psychosis, bipolar disorder)



- Incomplete or careless responses (screened using attention check items)

3. Measures

Meaning in Life Questionnaire (MLQ; Steger et al., 2006): A 10-item self-report scale assessing presence of meaning (e.g., “I have a clear sense of what makes my life meaningful”) and search for meaning. Scores range from 10–70, with higher scores indicating greater perceived meaning.

Beck Depression Inventory-II (BDI-II; Beck et al., 1996): A 21-item widely validated instrument for assessing severity of depressive symptoms.

State-Trait Anxiety Inventory (STAI; Spielberger et al., 1983): A 40-item scale measuring both state (temporary) and trait (long-standing) anxiety.

Existential Anxiety Scale (EAS; Haoyang, 2022): A brief validated measure for existential worry and uncertainty.

All instruments have been shown to have good reliability ($\alpha > 0.80$) and cross-cultural validity, including in Indian samples (Miao & Gan, 2020; Schnell, 2021).

4. Procedure

Data collection was conducted online via a secure survey platform. Students received information sheets, provided electronic informed consent, and completed the questionnaires in a single sitting (average time: 25 minutes). Ethical approval was obtained from the university’s Institutional Review Board.

5. Data Analysis

Data were analysed using SPSS v27. Descriptive statistics summarised sample characteristics and instrument scores.

- **Pearson correlations** assessed relationships between meaning, depression, anxiety, and existential vacuum.
- **Hierarchical regression analysis** tested the predictive value of meaning in life for depression and anxiety, controlling for demographic variables.
- **Mediation analysis** (using PROCESS macro; Hayes, 2018) assessed whether existential anxiety mediated the relationship between meaning in life and psychological distress.

Missing data (<2%) were handled with mean substitution after confirming randomness. Statistical significance was set at $p < 0.05$.

6. Ethical Considerations

Participation was voluntary and anonymous. Students who scored above clinical cut-offs for depression or anxiety were provided with information about university counselling services and helplines.

Results and Findings

1. Descriptive Statistics and Sample Profile

A total of 624 students participated in the survey (55% female, 45% male; mean age = 21.2 years, SD = 2.3). Disciplinary backgrounds were well distributed across the humanities (28%), sciences (32%), commerce (18%), and engineering (22%). The **mean score for the Presence of Meaning (MLQ)** was 28.6 (SD = 6.7), while the mean **Search for Meaning**

was 25.9 (SD = 7.1). The **mean BDI-II depression score** was 15.2 (SD = 9.8), with 41% of students above the clinical threshold for at least mild depression. The **mean STAI anxiety score** was 39.4 (SD = 11.2), and 38% scored above the moderate anxiety cut-off.

Table 2.1: Descriptive Statistics of Key Variables (N = 624)

Variable	Mean	SD	Min	Max
Presence of Meaning	28.6	6.7	10	40
Search for Meaning	25.9	7.1	10	40
BDI-II (Depression)	15.2	9.8	0	48
STAI (Anxiety)	39.4	11.2	20	76
Existential Anxiety	18.8	4.9	8	32

2. Correlations between Meaning, Existential Vacuum, Depression, and Anxiety

Pearson correlation coefficients indicated a **strong, negative relationship between Presence of Meaning and depression** ($r = -0.61, p < .001$) and anxiety ($r = -0.52, p < .001$). **Existential anxiety was positively correlated with both depression ($r = 0.48, p < .001$) and anxiety ($r = 0.44, p < .001$)**. Search for Meaning had a weak, positive correlation with anxiety ($r = 0.16, p < .01$) but was not significantly correlated with depression ($r = 0.09, ns$).

Table 2.2: Correlation Matrix of Main Variables

Variable	1	2	3	4	5
1. Presence Meaning	1	.33**	-.61**	-.52**	-.40**
2. Search Meaning	.33**	1	-.09	.16*	.21*
3. Depression	-.61**	-.09	1	.68**	.48**
4. Anxiety	-.52**	.16*	.68**	1	.44**
5. Existential Anxiety	-.40**	.21*	.48**	.44**	1

* $p < .05$, ** $p < .01$

3. Regression and Mediation Analyses

Hierarchical regression (controlling for gender, age, discipline) showed that Presence of Meaning significantly predicted both depression ($\beta = -0.54, p < .001$) and anxiety ($\beta = -0.47, p < .001$), even after accounting for demographic variables. Search for Meaning did not predict depression but had a modest positive association with anxiety ($\beta = 0.11, p < .05$).

Mediation analysis (PROCESS macro, Model 4) confirmed that existential anxiety **partially mediated** the relationship between meaning and depression (indirect effect = $-0.23, 95\% CI [-0.31, -0.15]$) and between meaning and anxiety (indirect effect = $-0.19, 95\% CI [-0.25, -0.12]$). This suggests that students low in meaning experience more existential anxiety, which in turn increases their vulnerability to depression and anxiety.

Table 2.3: Hierarchical Regression Predicting Depression and Anxiety

Predictor	Depression (β)	Anxiety (β)
Gender (female)	0.06 (ns)	0.07 (ns)
Age	-0.02 (ns)	-0.03 (ns)
Discipline	0.03 (ns)	0.01 (ns)
Presence Meaning	-0.54***	-0.47***



Search Meaning	-0.07 (ns)	0.11*
Existential Anxiety	0.38***	0.33***

*ns = not significant; *p < .05, **p < .01, ***p < .001

Discussion

The results of this empirical investigation offer compelling evidence for the centrality of meaning in life in safeguarding the mental health of university students. Consistent with international findings (Steger et al., 2006; Schnell, 2021), students who report a stronger sense of meaning in life exhibit significantly lower levels of depression and anxiety, even after controlling for demographic variables. The robust negative correlations support Frankl's existential thesis and reinforce the notion that meaning is not merely a philosophical ideal but a practical, empirically verifiable determinant of psychological well-being (Frankl, 1985; Lin & Shek, 2019).

The presence of meaning emerged as a much stronger predictor of mental health outcomes than the search for meaning. While searching for meaning can be motivational for some, for others it may be linked to distress, especially if that search remains unfulfilled (Schulenberg et al., 2016; Schnell, 2021). The weak positive association between search for meaning and anxiety in this study aligns with the hypothesis that searching, when not accompanied by presence, can foster uncertainty and worry (Steger et al., 2006).

A crucial finding is the mediating role of existential anxiety, confirming results from East Asian and European samples (Haoyang, 2022; Pellens et al., 2022). The data suggest that a lack of meaning increases existential anxiety—worries about death, purposelessness, and the future—which then heightens depression and anxiety. This mediation model offers a more nuanced, process-based understanding of how existential vacuum impacts mental health and highlights potential intervention targets: reducing existential anxiety through acceptance or meaning-finding activities may interrupt this cascade towards psychological symptoms (Vos et al., 2015).

From a practical perspective, the findings underscore the urgent need for universities and mental health services to go beyond symptom-focused approaches and address existential concerns directly. Meaning-centred interventions, such as logotherapy, group discussions on life purpose, or life-crafting exercises, have shown promise in other cultural settings and warrant adaptation for Indian campuses (Schippers & Ziegler, 2019; Eisenbeck et al., 2021). The results also suggest that screening for low meaning and high existential anxiety could be a valuable component of early identification efforts, particularly for at-risk student groups.

The high prevalence of clinically relevant depression and anxiety in the sample is cause for concern. That nearly half the students score above clinical cut-offs for depression or anxiety is consistent with recent global trends and pandemic-era reports (Auerbach et al., 2018; Trzebiński et al., 2020). The existential vacuum, exacerbated by academic stress, uncertainty about the future, and disruptions to social life, appears to be an under-recognised yet modifiable risk factor in the student population (Miao & Gan, 2020; Eisenbeck et al., 2021).



Limitations of this study include its cross-sectional design (limiting causal inference), self-report methodology, and restriction to a single university setting. Nevertheless, the large, diverse sample and use of validated measures enhance confidence in the findings. Future research should employ longitudinal and intervention studies to track changes in meaning, existential anxiety, and psychological health over time (Martela & Steger, 2016; Schnell, 2021).

In conclusion, this empirical analysis affirms the existential vacuum's detrimental effect on student mental health and highlights meaning in life as a key protective factor. Addressing existential questions is not only the realm of philosophy but also a practical imperative for effective prevention, intervention, and the cultivation of well-being among university students.

Implications

The findings of this empirical study carry significant implications for mental health research, university practice, and policy. First and foremost, the robust associations between meaning in life and psychological distress highlight the necessity of addressing existential concerns within student mental health frameworks. The data suggest that fostering meaning—through counselling, curricular integration, and campus-wide initiatives—may serve as a crucial protective factor against depression and anxiety (Schnell, 2021; Steger et al., 2006).

University counselling centres and mental health practitioners should consider incorporating meaning-centred approaches, such as logotherapy, purpose workshops, and life-crafting interventions, into standard care (Schippers & Ziegler, 2019). Training staff to recognise and discuss existential anxiety, and encouraging students to explore and articulate personal sources of meaning, may provide new avenues for early intervention. Screening for existential vacuum could help identify at-risk students who may not otherwise seek help or present with traditional clinical symptoms (Eisenbeck et al., 2021; Haoyang, 2022).

On a policy level, universities can invest in holistic well-being programmes that extend beyond stress management or academic support, promoting environments where students can connect, reflect, and discover meaning collectively. This approach is particularly timely given the disruptions and losses experienced during the COVID-19 pandemic, which has accentuated the existential challenges faced by young adults (Trzebiński et al., 2020).

Finally, for researchers, the findings underline the value of including existential constructs in future studies of student mental health. Longitudinal, cross-cultural, and intervention research will be essential for refining our understanding of how meaning can be cultivated and sustained in diverse contexts.

Conclusion

In summary, this empirical analysis demonstrates that the existential vacuum is not only a theoretical concern but a tangible and impactful determinant of student mental health. Meaning in life stands out as a powerful buffer against depression and anxiety, with existential anxiety serving as a key mediating mechanism. The study confirms and extends Frankl's existential psychology, offering fresh evidence from an Indian university context that meaning matters deeply to young people navigating an increasingly uncertain world.



As depression and anxiety continue to rise among university students, addressing existential concerns must become a central objective in mental health support and prevention. Fostering purpose, coherence, and hope in academic and co-curricular life has the potential to enhance well-being, build resilience, and equip students to thrive in their educational journeys and beyond. Ultimately, universities, clinicians, and policy-makers are called upon to recognise and nurture the enduring human quest for meaning as an essential element of comprehensive student care.

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