

# PERSEVERANCE WITH PURPOSE: EXAMINING THE ROLE OF GRIT AND MEANING IN LIFE IN PSYCHOLOGICAL DISTRESS AMONG UNDERGRADUATE UNIVERSITY STUDENTS

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## ABSTRACT

Undergraduate study is a demanding developmental stage, and psychological distress is common among university students in Pakistan. However, the personal resources that protect against it remain understudied in this population. This study examined how grit, the presence of meaning, and the search for meaning relate to psychological distress among undergraduate university students and tested whether the presence and search for meaning mediate the association between grit and distress. A sample of 250 undergraduate students completed the Short Grit Scale, the Meaning in Life Questionnaire, and the Kessler Psychological Distress Scale (K10). Data were analyzed using Pearson correlations in SPSS and partial least squares structural equation modeling (PLS-SEM) in Smart PLS, with 5,000 bootstrap subsamples. Grit was positively related to the presence of meaning and negatively related to both the search for meaning and distress; the presence of meaning was negatively related to distress, whereas the search for meaning was positively related to distress. In the structural model, grit explained 21.9% of the variance in the presence of meaning and 11.0% in the search for meaning; together with the two meaning dimensions, it explained 43.2% of the variance in psychological distress. Both presence and search for meaning significantly and partially mediated the grit–distress relationship, and the direct effect of grit remained significant. Findings suggest that grit lowers distress both directly and by fostering present meaning while reducing fruitless searching, and point to the value of culturally responsive campus counseling.

## I. INTRODUCTION

Undergraduate college years are a challenging developmental phase marked by multiple stressors, including the demands of higher education, financial burdens, and the negotiation of an independent adult identity. These everyday stressors are exacerbated by large classes, competitive exams, few support resources for mental health on college campuses, and a stigma associated with seeking help in the context of college students in Pakistan – and a significant percentage of Pakistani university students report clinically meaningful distress (Sher et al, 2023). However, during the COVID-19 pandemic, students faced additional stressors, but personal factors such as hope and spiritual intelligence appeared to protect them from its impact (Sher et al., 2023; Flesia et al., 2023). The background of these factors makes it relevant from a practical perspective to understand how students internalize resources to withstand distress when designing preventive support. In the current research, we will concentrate

on two of these resources: Grit and Meaning in Life, and how they correspond with psychological distress among undergraduates and via what means. Psychological distress is a generic trans-diagnostic symptom level, encompassing anxiety and depression related symptoms like nervousness, hopelessness, worthlessness, restlessness, and so on (Kessler et al., 2002). However, it is not an index for a specific disorder; it is a measure of the general, all-encompassing strain that accompanies every difficult situation and serves as a small indicator of mental health. Distress is universal, situational, and context-dependent, making it a suitable measure for studies focused on everyday resilience among students, and it can be easily assessed with short screening forms such as the Kessler K10.

Grit is perseverance and passion for long-term goals: Disposition to overcome setbacks, maintain effort and interest over years of study despite plateaus and boredom (Duckworth et al., 2007). Grit has two components, perseverance of effort and consistency of interest, and meta-analysis suggests that the phenomenon is most strongly related to perseverance of effort (Credé et al., 2017). Growing evidence supports the connection between grit and mental health/well-being. Specifically, grit is related to the mental health of post-graduate students in Pakistani samples (Adeeb et al., 2023), as well as to the life satisfaction of undergraduate students in Pakistani samples, together with spirituality (Tahir et al., 2025). How these benefits are achieved, however, is largely not explained by the mechanisms by which grit is achieved, and elucidating those requires an essential step toward making the trait "intervention. The sense of meaning in life, that is, the sense of existence being meaningful, coherent, and having a purpose, is another highly experienced available second resource within humanistic and existential psychology (Frankl, 2006). Contemporary measurement can be used to differentiate two dimensions that are conceptually and significantly empirically separable (Steger et al., 2006). Presence of meaning reflects how much existing meaning, purpose, or structure people see in their lives, while the search for meaning reflects how much a person needs to seek, create, or deepen meaning in their life. It is important to make this distinction because the relationship between the two dimensions and mental health is very different. The presence of meaning is positively correlated with well-being and negatively correlated with distress. In contrast, the search for meaning is positively correlated with distress – a protective factor because of its positive correlation with very positive outcomes – and also correlated with heightened levels of distress – a risk factor because a dimension of distress (Park et al., 2010; Steger et al., 2009).

We have strong theoretical and empirical evidence suggesting that grit and meaning are connected, and that meaning explains how grit helps protect against distress. Effortful search that eventually achieves desired long-term goals is a key source of purpose and coherence: the diligent student working toward an academic credential has a sense that life is moving forward; when life lacks direction, he or she is missing that sense. Accordingly, meaning in life has been found to indirectly mediate the relationships between grit, related strengths, and distress, and to connect gratitude, forgiveness, and spirituality–mental health among postgraduate students (Adeeb et al., 2026). The relationship among resources, meaning in life, and mental health factors was also examined in a doctoral study of Pakistani postgraduate students (Adeeb, 2024). All of this together points to at least a mediation perspective on the relationship between grit and reduced distress: achieving greater presence of meaning can help decrease distress, and likewise achieving greater search for meaning can help decrease distress. However, perhaps these two perspectives are inversely related (Grouden & Jose, 2015). In collectivist and religiously involved cultures like Pakistan, meaning is often tied to beliefs, responsibilities to one's family, and the pursuit of education, whereas, with Western samples, the relationship between the presence of meaning and meaning search is found to be less positive (Steger et al., 2008). Predictions based on Western data should not be taken as direct evidence of transfer, and examining these constructs in a Pakistani undergraduate population is a contribution in itself. To date, there is no study that has combined them all in a single structural model amongst Pakistani undergraduates, and no study has tested the concurrent, parallel mediated role of presence and search in the relationship between grit and distress. From a theoretical perspective, the present study tested psychological distress to examine links with grit, presence of meaning, and search for meaning; and presence of meaning and search for meaning as mediators of the link between grit and psychological distress in a structural equation model (SEM). The following hypotheses were tested:

1. Grit, presence of meaning, search for meaning, and psychological distress would be significantly interrelated.

2. Grit, presence of meaning, and search for meaning would significantly predict psychological distress.
3. The presence of meaning and the search for meaning would mediate the relationship between grit and psychological distress.

## II. METHOD

### Participants

The cross-sectional correlational survey design was employed to look at how various components of psychological distress (psychological symptoms and mental health conditions) correlated with each organization and to evaluate a parallel mediation model within the framework of Structural Equation Modeling. The sample comprised 250 undergraduate university students (120 men, 48.0%; 130 women, 52.0%) recruited from universities in Pakistan through convenience sampling. In terms of age, 44.0% were in the 18–20-year group, 22.4% in the 21–22-year group, and 33.6% in the 23–24-year group. Reported cumulative grade point average (CGPA) fell mostly in the 3.00–3.49 band (41.6%) and the 2.50–2.99 band (36.0%), with 11.6% in the 3.50–4.00 band and 10.8% in the 2.00–2.49 band.

### Measures

Participants completed a single questionnaire booklet containing an informed consent form, a demographic information sheet, and three psychometric scales, all completed individually. [1] Demographic Information Form. This section gathered age, gender, university, department, current semester, and cumulative grade point average (CGPA). [2] Short Grit Scale (Grit-S). Grit was assessed using the 8-item Short Grit Scale (Duckworth & Quinn, 2009), rated on a 5-point scale (1 = not like me at all to 5 = very much like me); consistency-of-interest items were reverse-scored so that higher scores reflect greater grit. The internal consistency of the sample used in this study was good (Cronbach's  $\alpha = .83$ ). [3] Meaning in Life Questionnaire (MLQ) Meaning was assessed using the 10-item Meaning in Life Questionnaire (Steger et al., 2006), which was measured on a 7-point scale (1 = absolutely untrue to 7 = absolutely true). There are 2 subscores of the MLQ: Presence of Meaning (5 items) and Search for Meaning (5 items), with the presence item reverse-scored. For the current sample, the respective Cronbach's  $\alpha$  values for Presence and Search were .81 and .76. [4] Kessler Psychological Distress Scale (K10). The 10-item Kessler K10 (Kessler et al., 2002) was used to assess psychological distress by asking respondents how often they experienced anxiety and depression symptoms over the past 30 days, rated on a 5-point scale (1 = none of the time to 5 = all of the time). The higher the number, the more distressful. Cronbach's  $\alpha$  was .83 for the present sample.

### Procedure

The departmental review committee approved the study. All eligible students were contacted one-on-one and informed of the purpose of the study, the estimated time to complete (15-20 minutes), their right to withdraw at any time without penalty, and that their answers would be treated confidentially and anonymously. Written informed consent was obtained prior to completion. There were no incentives, and participation was voluntary. Completed booklets were checked for completeness, and the data were entered, cleaned, and verified prior to analysis. Data were analyzed using SPSS and Smart PLS. The data were analyzed in SPSS using descriptive statistics, reliabilities, and Pearson product-moment correlations. The mediation model was tested using partial least squares structural equation modeling (PLS-SEM) in Smart PLS, and direct and indirect (mediating) effects were calculated. Their significance was tested by bootstrapping (Hayes, 2022) for 5000 subsamples. Effect size was interpreted according to Cohen (1988), and the p-value was set at  $< .05$ .

## III. RESULTS

Data were screened for missing values ( $N = 250$ ). The demographic characteristics of the sample are presented first, followed by descriptive, reliability, correlational, and structural (mediation) analyses.

Table I: Demographic Characteristics of the Sample

| Variable | Category    | n   | %    |
|----------|-------------|-----|------|
| Gender   | Male        | 120 | 48.0 |
|          | Female      | 130 | 52.0 |
| Age      | 18–20 years | 110 | 44.0 |
|          | 21–22 years | 56  | 22.4 |
|          | 23–24 years | 84  | 33.6 |
| CGPA     | 2.00–2.49   | 27  | 10.8 |
|          | 2.50–2.99   | 90  | 36.0 |
|          | 3.00–3.49   | 104 | 41.6 |
|          | 3.50–4.00   | 29  | 11.6 |

Note. N = 250. n = frequency.

As shown in Table 1, the sample was approximately balanced by gender, was concentrated in the younger age groups, and reported cumulative grade point averages mostly in the 2.50–3.49 range.

Table II: Correlations, Descriptive Statistics, and Reliability of the Study Variables

| Variables                 | 1      | 2      | 3     | 4     |
|---------------------------|--------|--------|-------|-------|
| 1. Grit                   | —      |        |       |       |
| 2. Presence of Meaning    | .47**  | —      |       |       |
| 3. Search for Meaning     | -.33** | -.15*  | —     |       |
| 4. Psychological Distress | -.44** | -.50** | .48** | —     |
| Mean                      | 3.01   | 20.06  | 20.05 | 20.07 |
| SD                        | 0.81   | 6.25   | 5.98  | 4.25  |
| Cronbach's $\alpha$       | .83    | .81    | .76   | .83   |
| Skewness                  | 0.05   | -0.07  | -0.11 | -0.25 |
| Kurtosis                  | -0.45  | -0.58  | -0.75 | -0.52 |

Note. N = 250. \*p < .05. \*\*p < .01.

All measures had internal consistency ranging from acceptable to good ( $\alpha = .76$  to  $.83$ ), and skewness and kurtosis values were within acceptable limits, thus supporting the assumption of approximate normality (Table 2). There was a positive and significant correlation between grit and presence of meaning ( $r = .47$ ,  $p < .01$ ) and a negative and significant correlation between grit and search for meaning ( $r = -.33$ ,  $p < .01$ ) and psychological distress ( $r = -.44$ ,  $p < .01$ ). There was a negative correlation between presence of meaning and distress ( $r = -.50$ ,  $p < .01$ ), but a positive correlation between search for meaning and distress ( $r = .48$ ,  $p < .01$ ). There was a weak and negative correlation between presence and search for meaning ( $r = -.15$ ,  $p < .05$ ). All the correlations were statistically significant and in the hypothesized direction thus supporting Hypothesis 1.

Structural Model and Mediation Analysis

Partial least squares structural equation modeling (PLS-SEM) in Smart PLS was used to estimate the structural model and examine the mediating roles of the presence of meaning and the search for meaning between grit and psychological distress. More interestingly, the model accounted for a significant amount of variance in the presence of meaning ( $R^2 = 0.219$ ) and in the search for meaning ( $R^2 = 0.110$ ). The combination of grit, presence of meaning, and search for meaning accounted for a significant 43.2% of the variance in psychological distress ( $R^2 = 0.432$ ). A summary of the estimated structural model is presented in the following equations and in Figure 1:

Figure I: Structural Mediation Model of the effect of Grit on Psychological Distress through Presence and Search for Meaning

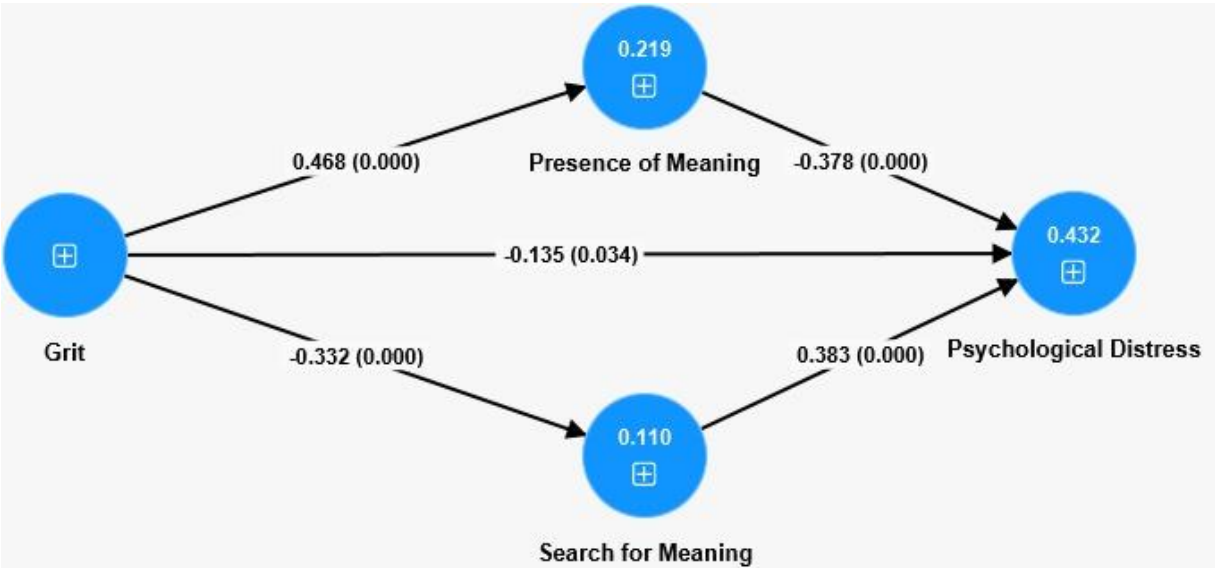


Table III: Direct and Indirect Effects of the Structural Model (N = 250)

| Causal Path                                         | $\beta$ | t     | p     | 95% CI LL | 95% CI UL |
|-----------------------------------------------------|---------|-------|-------|-----------|-----------|
| Grit → Psychological Distress                       | -0.135  | -2.13 | 0.034 | -0.257    | -0.008    |
| Grit → Presence of Meaning                          | 0.468   | 9.49  | 0.000 | 0.366     | 0.560     |
| Grit → Search for Meaning                           | -0.332  | -5.86 | 0.000 | -0.439    | -0.220    |
| Presence of Meaning → Psychological Distress        | -0.378  | -7.41 | 0.000 | -0.474    | -0.276    |
| Search for Meaning → Psychological Distress         | 0.383   | 7.36  | 0.000 | 0.282     | 0.484     |
| Grit → Presence of Meaning → Psychological Distress | -0.177  | -5.97 | 0.000 | -0.236    | -0.121    |
| Grit → Search for Meaning → Psychological Distress  | -0.127  | -4.40 | 0.000 | -0.189    | -0.076    |

*Note.* N = 250.  $\beta$  = standardized path coefficient. Bootstrap subsamples = 5,000. CI = bias-corrected confidence interval; LL = lower limit, UL = upper limit. The first five rows are direct effects; the final two rows are indirect (mediating) effects.

Table 3 shows the direct and indirect results. The results revealed that psychological distress was significantly negatively directly related to grit ( $\beta = -0.135$ ,  $p = .034$ ), while the presence of meaning was significantly positively directly related to grit ( $\beta = 0.468$ ,  $p < .001$ ) and the search for meaning was significantly negatively directly related to grit ( $\beta = -0.332$ ,  $p < .001$ ). In addition, there was a significant negative direct effect of the presence of meaning on distress ( $\beta = -0.378$ ,  $p < .001$ ), and a significant positive direct effect of the search for meaning on distress ( $\beta = 0.383$ ,  $p < .001$ ). The results suggest that the grittier the students were, the more they felt the materials had meaning; the more they felt they were searching for meaning, the more distress they experienced; and the less they felt they were searching for meaning, the less distress they experienced. Mediation analysis was then conducted to examine whether the presence and search for meaning mediated the association between grit and psychological distress. As shown in Table 3 and Figure 1, both indirect paths were significant, with bootstrap confidence intervals that excluded zero: grit → presence of meaning → distress ( $\beta = -0.177$ , 95% CI [-0.236, -0.121]) and grit → search for meaning → distress ( $\beta = -0.127$ , 95% CI [-0.189, -0.076]). The direct effect of grit on distress remained significant, thus supporting Hypotheses 2 and 3: presence and search for meaning partially mediated its relationship with psychological distress.

## IV. DISCUSSION

This research investigates the interaction among the three dimensions (Grit, Presence of Meaning, and Search for Meaning) and their relationship to psychological distress among university students. It examines the possibility of parallel mediation, in which both meaning dimensions act as mediators between Grit and Psychological Distress. The results provided consistent support for the model: the constructs were statistically related in the theoretically predicted directions, and both the presence and the search for meaning mediated a portion of the relationship between grit and distress in a structural equation model. As predicted in Hypothesis 1, a positive relationship between grit and the presence of meaning, and a negative relationship between grit and distress and the search for meaning emerged; presence of meaning was a protective factor, while distress and the search for meaning were risk correlates. This is consistent with the idea that when one works hard toward enjoyable experiences and goals, one develops a sense that life is already worthwhile, yet also experiences less of the "wandering" that comes with an unguided life (Frankl, 2006; Kleiman et al., 2013). Moreover, it aligns with Pakistani studies, which found that grit is related to positive mental health and life satisfaction of students (Adeeb et al., 2023; Tahir et al., 2025).

The opposing associations of presence and search with distress continue to support the idea that these two dimensions are separate constructs and do not reduce to a single score of "presence" or "search" (Steger et al., 2006). That presence is the dimension most related to well-being (Park et al., 2010). Structural model analyses supported Hypotheses 2 and 3: The two dimensions of meaning accounted for a considerable portion of the variance in distress, and both partially mediated the relationship between grit and distress. Both the presence of meaning and the search for meaning were increased by grit, and both were significant, as was also the reduction in distress. Grit "counters distress in two ways": it helps students feel that their lives make sense and eliminates an uneasy quest for meaning. The key findings reported in this study are consistent with previous research in which the mediator of meaning in life explained opposing yet jointly protective indirect effects of grit and related resources on mental health among Pakistani students (Adeeb, 2024; Adeeb et al., 2026). The direct effect was still significant, suggesting a mediating process and that the direct effect of grit may be mediated by the behavioral persistence and emotion regulation involved in the perseverance facet (Credé et al., 2017).

A meaning-based account of resilience, parsimoniously explained by the overall pattern, is that a gritty student who persists toward valued goals accumulates a sense of meaning in the here and now and is protected from an unproductive search for meaning, that is, distress. They take place in a cultural context where religion, family, and educational aspirations are key factors that bring meaning to the lives of Pakistani students, and where other resources like spiritual intelligence and hope have also been identified as factors that buffer students against distress (Flesia et al., 2023; Sher et al., 2023). Presence and search were only weakly and negatively related, which aligns with cross-cultural findings that the relationship between presence and search differs among cultural contexts (Steger et al., 2008). For practical purposes, in both ways, grit and the presence of meaning seem to buffer against distress, and both are, in principle, modifiable; campus counselling that helps students to link their daily efforts to meaningful long-term purposes and counselling that facilitates the resolution instead of the prolongation of the search for meaning, therefore, has the potential to be more successful in symptom reduction than counselling aimed primarily at symptom reduction.

### Limitations and Suggestions for Future Research

The present study explored the interaction among grit, the presence of meaning, and the search for meaning about psychological distress among undergraduate university students, and tested a parallel mediation model that placed the two meaning constructs between grit and distress. Results provided consistent support for the model: the model constructs were significantly related to each other in a theoretically predicted direction, and the presence and search for meaning mediated the relationship between grit and distress in a structural equation model. As predicted by Hypothesis 1, grit was positively associated with the presence of meaning and negatively associated with the search for meaning and distress. The presence of meaning was protective against distress, and the search for meaning was a risk correlate. This pattern aligns with the idea that meaningful, difficult activity around meaningful goals fosters a sense of a meaningful life while limiting the "restless searching" seen in a life without goals (Frankl, 2006; Kleiman et al., 2013). Additionally, it aligns with Pakistani evidence indicating that grit

is associated with improved mental health and life satisfaction among students (Adeeb et al., 2023; Tahir et al., 2025). These opposing associations between presence with distress and search with distress suggest that the two are separate constructs that should not be combined into a single meaning score (Steger et al., 2006) and that presence, rather than search, is the dimension that is most closely related to well-being (Park et al., 2010).

The structural model supported hypotheses 2 and 3, suggesting that it accounted for 43.2% of the variance in distress and that both partial mediation paths mediated the relationship between grit and distress. Both indirect effects were significant: a decrease in the search for meaning and an increase in grittiness, and a decrease in distress and an increase in the search for meaning. Grit thus reduces distress in two ways: by leading the student to feel that her life has value and by diminishing a troubled, unfulfilled quest for meaning. This dual mediation finding builds on previous research that demonstrated a significant indirect impact of meaning in life on the relationship between grit and mental health among Pakistani postgraduate students (Adeeb, 2024; Adeeb et al., 2026) and found that both facets of meaning had opposing but jointly protective indirect effects. However, the partial mediation of the direct effect suggests that grittiness may also contribute to reduced distress through other means, likely via the behavioral persistence and emotion regulation associated with the perseverance facet of the construct (Credé et al., 2017).

Several reasons limit these conclusions. First, the cross-sectional design requires that the language of the mediational model be interpreted as a test of a plausible model, not as evidence of causation; longitudinal and/or experience sampling designs are necessary to establish the temporal order. Second, the use of self-report scales can be subject to common-method and social desirability biases, especially for emotional difficulties, which are socially disapproved of. Third, the convenience sample was drawn from a small number of institutions, limiting the ability to generalize to the larger population of undergraduate students. Fourth, potential variables of interest (religiosity, family system, socioeconomic status, and discipline) were not included in the modeling and could be considered potential qualifiers of the observed relationships. Longitudinal designs, larger and more diverse samples, and culturally relevant factors that can serve as sources of meaning (e.g., religious coping and spiritual intelligence) should be used in future research, as they have been shown to buffer Pakistani students against distress.

## V. CONCLUSION

The findings of this study support the formation of a coherent and theoretically interpretable system among Grit, the presence of meaning, the search for meaning, and psychological distress in undergraduate university students: Grit is related to present meaning and to a decrease in fruitless searching; present meaning is related to distress. In a structural equation model, grit reduced distress both directly and indirectly via two opposing yet overlapping protective meaning pathways, and the search for meaning was a risk correlate. The study maps these pathways in a sample of Pakistani undergraduate students. It offers a more culturally informed framework for working with students' mental health in the research and counseling fields and, as a potential focus for preventive intervention, for the cultivation of grit and present meaning.

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