






# The Mediating Role of Meaning in the Relationship Between Depression and Hope

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## ABSTRACT

The purpose of study is to examine whether meaning mediates the correlation between depression and hope among students. Participants include 512 undergraduates sampled from a public university. After giving their consent, participants responded to a set of self-report instruments. Structural Equation Modelling (SEM) and path analysis were used to analyze the data. As hypothesized, findings revealed significant negative correlations between hope (agency and pathways) and meaning with depression. Furthermore, results indicate that meaning mediates the connection between depression and hope. Also, findings revealed that presence of meaning, and hope dimensions (agency and pathway thinking) indicated major predictors of depression with presence of meaning being connected with less symptoms of depression. Ostensibly, students with more depressive symptoms reflects the tendency of experiencing less presence of meaning. Furthermore, one major implication of this study is that policy makers and the management of universities need to give greater attention to including positive psychology into the curriculum for all students. Besides, as every student faces the ongoing pandemic experience, school psychologists can see more reason why hope and meaning-related interventions need to be integrated into practice.

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Keywords:

Depression, hope agency, hope pathway, meaning, positive psychology.

## 1. Introduction

Depression is defined as the presence of extreme sadness, or the loss of interest in pleasurable activities, combined with five or more of the following symptoms which involves: perpetual sad feelings, loss of interest, changes in appetite or weight loss, sleeping difficulties, psychomotor agitation, fatigue, feelings of worthlessness, or persistent suicidal thoughts (American Psychiatric Association, 2013). It is believed that depression is a function of a complex interaction of psychological, social, and biological factors in which increased stress caused by college experience can be a significant trigger to student depression. Part of the experiences youngsters are exposed to include becoming isolated from lifelong social relationships and support mechanisms they do habitually gets from parents and other significant others. This is coupled with the fact that many students in undergraduate study do incur extensive financial burden which sometimes limits their academic aptitude in a more demanding learning environment (Vredenburg et al., 1988), including abandoning their academic studies (Marthoenis, Meutia, Fathiariani & Sofyan, 2018) Likewise, loss of interest and perpetual feelings of sadness may inhibit a student being able to retain information and do well in classes.

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Presently, universities are gradually becoming more cognizant of the prominence of attending to the psychological and emotional needs of undergraduate students as depression and anxiety continue to negatively affect students' academic prowess. Despite this disturbing situation, most studies on student's depression have been focusing on predicting factors, prevalence, and other psychosocial factors connected to depression (Fata Nahas et al., 2019; Yeoh et al., 2017).

Existential meaning among students provides a formidable mechanism towards providing an approach that buffers against what Gengler (2009). In essence, existential frustration is often seen as a function of lethargy and boredom (Zaiser, 2005). According to Frankl (1959), common maladaptive emotional disturbances like anxiety, addiction, and even depression were as a result of a mismanaged perception of existential meaning, that connects every generation to a set of maladaptive behaviours labelled as collective neurosis. University students are always facing varying degrees of stressors ranging from academic expectations, family-related challenges and school-related stressors. Besides, more challenging is the pandemic situation where online studies and learning are done at home.

Despite all these challenging situations, Frankl believed that students are expected to find meaning and being able to generate motivational strategies (Frankl, 2006). In addition, aside certain environmental factors, how individuals examine the causes and consequences of certain events play a significant role in determining dysfunctional affective and behavioural responses to these events (Hammen & Cochran, 1981). Experiencing meaning has been connected towards experiencing positive cognitive and emotional states like self-determination, positive view of life, accomplishment of existential goals, life satisfaction and coping (Frankl, 2006; Stark, 2003). Over the last three decades, meaning research has revealed how the construct remains a primary motivating force and has shown to be a buffer against depression and suicide ideation among student samples (Harlow et al., 1986). Up till date, there are little or no studies exploring students' depression from meaning perspective among Malaysian samples. Precisely, university students remain a group of young adults experiencing a critical period of transition which invariably requires them to embark on major life decisions that is connected to their future.

Asides being a cognitive drive and planning ability according to Snyders' (2002) theory, Marques, Gallagher and Lopez (2017) highlight hope as not only a goal-directed cognitive process, but also as a contemplative exercise involving a person's beliefs about being able to successfully undertake the goal-directed cognitive directions. It also pushes individuals to identify significant goals and generate valuable strategies, thereby achieving their targets (Arnau et al., 2007). Furthermore, individuals with higher hope levels are connected to experiencing better outcomes in their academics, sporting activities and psychological adjustment (2002). This study sees the conceptualization of hope using Snyder's (2002) theory on the significance of hope as a coping resource for attaining well-being and reducing depression.

Aside the less attention for positive cognitive and existential constructs like hope and meaning among students population in South-East Asia, the recurring emotional challenges encountered in higher learning propel the present study to focus on examining the correlates meaning and depression among undergraduates, including whether meaning do serve as a mediating variable. Hence, a significant relationship between hope pathways and hope agency, and depression is hypothesized. Also, it is foreseen that meaning will serve as a mediating effect between these correlates.

## 2. Literature Review

It is relevant to identify some of the factors associated with depressive symptoms among university students. In addition, some disturbing factor indicates the difficulty to interpret research findings due to recurrent use of numerous measures of depression, including inconsistent samples (Yeoh et al. 2017). In a study conducted among 425 university students along some faculties of health sciences, findings revealed depression is high among university students (Fata Nahas et al. 2019). Additionally, examining the correlates of depression and some positive constructs remain the main objective of the current study.

Lew et al. (2020) investigated the impact of both presence of and search for along with suicidal tendencies among students in Mainland China. Participants include 2074 students, while instruments used for data collection include the (MLQ- involving dimensions of both presence and search for meaning); the Beck Hopelessness Scale (BHS), and the Future Disposition Inventory-24 (FDI-24). Results indicated that meaning

had a sound buffering effect against suicidal tendencies. In addition, Mascara and Rosen (2008) specifically examined the link between depression and existential meaning. Findings indicated meaning was related to decreased depressive symptoms and increased levels of hope (both trait and state dimensions). Moreover, meaning was correlated to significant increase in positive affect, with decreased depression and negative affect

Güngör and Gül Uçman (2020) assessed the impact of meaning and hopelessness on depression level among 286 Turkish employees in the healthcare sector. Findings from hierarchical regression analysis show hopelessness being positive predictor of depression, while meaning being a negative predictor of depression. Results from the study also revealed that meaning in life is a significant mediator on the correlation between depression and hopelessness.

In simpler terms, both pathways and agency thought framework can be tagged as a practical form of identifying a person’s strengths and helping to foster their positive cognitive ability. Generally, hope is seen as a desirable human strength with important outcomes for psychological well-being (Seligman & Csikszentmihalyi, 2000). Though not in Southeastern context, findings from school studies on hope reveals higher levels of hope predicts improved mental health among high school students, and decreased depression among undergraduates (Marques, Pais-Ribeiro, & Lopez, 2011; Snyder et al., 1991). However, while there are some links between these variables, it could be deduced that there are less attention on examining the direction of these correlational studies. Hence, the present study seek to determine whether meaning serves as a mediator in the connection between depression and hope.

In all, previous findings are pointing towards the link between depression, meaning and hope dimensions in various cultural and geographical settings, little is known within South-East Asian settings, most especially among university students. Being a population with varying challenges, and coupled with the ongoing pandemic with its uncertainties and psychological effects it poses on students learning, the present study aims to examine depression and positive cognitive constructs of hope and meaning. This objective portrays a contrast with the majority of studies on depression among undergraduates in Malaysia where greater attention has been concentrated on assessing prevalence and psycho-social factors (Fata Nahas et al. 2019; Yeoh et al. 2017).

### 3. 1 Design and Participants

This study examines the relationships between depression, meaning, and hope, including whether meaning mediates the relationships depression and hope among undergraduate students. Through a quantitative research design, adopting path analysis as a statistical technique reveals separate associations into direct effect and indirect effects, and also how indirect effects make a variable serve as a mediator of the correlation between variables (Bernstein et al., 1988).

Through a convenient sampling technique, 512 undergraduate students were selected from a public university in Peninsula Malaysia. The participants’ characteristics include 74.6% female students, while their male counterparts with 25.4%. In addition, a large majority were of Malay tribal origin accounting for about 77.9%. Most of the participants in the study were in their first year (84%), third year (7.2%), and second year (8.7%) as indicated in the table below

**Table 1.** *Demographic Characteristics of the Participants*

Demographic Variable	<i>f</i>	%
Gender		
Male	130	25.4
Female	382	74.6
Ethnicity		
Malay	399	77.9
Chinese	24	4.7
Indian	21	4.1
Others	68	13.3
Religion		
Islam	434	84.8
Christian	40	7.8
Buddhist	13	2.5
Hindu	20	3.9

None at All	5	1.0
Current Semester		
One	191	37.3
Two	239	46.7
Three	23	4.5
Four	22	4.3
Six	37	7.2

### 3. 2 Procedure and Instruments

After obtaining permissions from the ethics committee, the consent of the participants who voluntarily indicate their willingness to participate in the study was obtained, and some tokens (student writing materials) were given in appreciation for their participation. After signing the consent page of the set of questionnaires, they completed the anonymous survey with measures of the variables under study which took place within the span of four weeks and three days. The survey was administered after various classes based on a paper and pencil framework, and participants completed the study in a group setting during designated time slots. The data set which include the demography form, the BDI, MLQ, and the AHS were responded to after a general course class. Furthermore, the data were initially screened and some number of suitable analytical tools like regression, correlational and path analysis were conducted.

#### 3.2.1 Beck Depression Inventory.

Beck Depression Inventory (BDI) is a 21-item self-rated inventory that evaluates major symptoms of depression like extreme sadness, sense of failure, problem with sleep, loss of appetite, among others (Beck & Steer, 1993). And can be administered to evaluate adults, adolescents, and people with psychological disorders (Barrera & Garrison-Jones, 1988). Each of the item has a set of four possible responses from 0 to 3.. Also, total scores of the scale are added together in attaining a single score that reflects mild to severe depression. The BDI is known for its high internal consistency, with reported coefficients score of .86 and .81 for clinical and non-clinical samples respectively (Beck et al., 1988).

#### 3.2.2 Meaning in Life Questionnaire.

The meaning scale is a 10-item self-report scale used to assess meaning dimensions (presence of search for meaning (Steger et al., 2006). The MLQ version used in this study is based on a seven-point format from "Absolutely True" to "Absolutely Untrue". The presence of meaning subscale assesses participants' feelings in respect to how meaningful is their life, while that of search for meaning examines participants motivation towards finding meaning. From the normative sample, both subscales had Cronbach's alpha values between 0.82 and 0.88 and a one-month test-retest stability of 0.70 (MLQ-P) and 0.73 (MLQ-S). The MLQ takes about 5 minutes to complete. The MLQ was reported to have a good test-retest reliability and stable factor structure, with both scales being internally consistent, as well as being positively related to well-being and negatively associated with anxiety and depression. (see Steger et al., 2006).

#### 3.2.3 Adult Hope Scale

The Adult Hope Scale (Snyder, 2002) was devised to measure the positive cognitive state that serves the function of goal-focused strength (agency), and planning to meet future goals (pathways) (Snyder, 2002). The AHS consists of 12 items in which agency thinking and pathway thinking are two empirically validated subscales. Based on previous studies, the internal consistency is reported to be from .63 to .86; while that of the full-scale coefficients is from .74 to .88 (Snyder, 2002). The psychometric properties of the AHS includes a total scores' Cronbach alphas that ranged from .74 to .84. The AHS is often seen as a reliable and valid questionnaire among adult samples (Snyder et al., 1991), as well as being used to examine academic outcomes, psychopathology, and suicidal ideation (Bailey & Snyder, 2007; Berendes et al., 2010)..

### 3.3. Ethical

Permission was obtained from the Scientific Research and Publication Ethics Board of Universiti Pendidikan Sultan Idris (Date: 19.06.2019, Number of Sessions: 2019-0022-01).

### 3. Findings

Analysis through SPSS statistics indicated that after regressing all variables under study, it was revealed that there were significant predictors of depression in which decreased level of depression is connected with presence of meaning while higher levels of depressive symptoms are linked with absence of meaning. Significant direct effects of Hope Pathways,  $\beta = -0.11$ ,  $p < 0.05$  and Hope Agency,  $\beta = -0.21$ ,  $p < 0.05$  on Depression remained even after modelling for the mediator variables. See Table 2 below.

**Table 2.** Parameter Estimates of Variables

Dependent Variable	Predictors	Est	S.E.	z	p	95% CI
POM	Pathways	0.21	0.07	2.84	0.005	[0.07, 0.36]
	Agency	0.59	0.08	7.59	0.001	[0.44, 0.74]
AOM	Agency	0.29	0.11	2.63	0.009	[0.08, 0.51]
Depression	Pathways	-0.27	0.13	-1.99	0.046	[-0.53, -0.01]
	Agency	-0.46	0.13	-3.58	0.001	[-0.71, -0.21]
	Presence of Meaning	-0.24	0.07	-3.46	0.001	[-0.38, -0.11]
	Absence of Meaning	0.26	0.05	5.79	0.001	[0.17, 0.35]

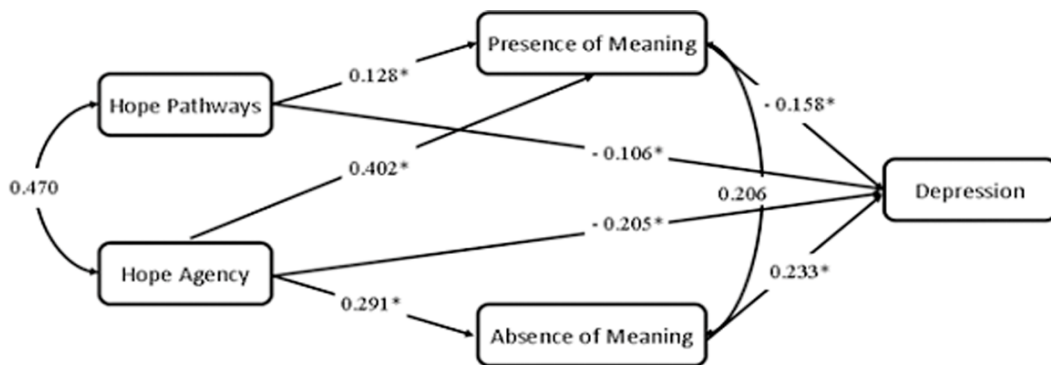
Furthermore, results from analysis indicated presence of meaning being a significant mediator on the link amidst depression and hope pathways,  $\beta = -0.02$ ,  $p < 0.05$ . Besides, both POM,  $\beta = -0.06$ ,  $p < 0.05$  and AOM,  $\beta = 0.03$ ,  $p < 0.05$  were significant mediators on the correlation for depression and hope pathways (see table 2). In all, the effects sizes for each of the mediator variable proposes that POM ( $R^2=0.226$ ) possesses a larger effect size towards depression when compared to AOM ( $R^2= 0.021$ ).

**Table 3.** Test of Mediation

Independent Variable	Estimates		S.E.	z	p	95% CI
	a	b				
<b>Hope Pathways</b>						
Total Effect	-0.126	-0.317	0.14	-2.30	0.02	[-0.59, -0.05]
Direct Effect	-0.106	-0.266	0.13	-1.99	0.05	[-0.53, -0.01]
Indirect Effect (Presence of Meaning)	-0.020	-0.051	0.02	-2.17	0.03	[-0.10, -0.01]
<b>Hope Agency</b>						
Total Effects	-0.235	-0.522	0.12	-4.22	0.00	[-0.77, -0.28]
Direct Effects	-0.205	-0.456	0.13	-3.58	0.00	[-0.71, -0.21]
Indirect Effects (Presence of Meaning)	-0.063	-0.141	0.05	-3.09	0.00	[-0.24, -0.06]
Indirect Effects (Absence of Meaning)	0.034	0.075	0.03	2.44	0.02	[0.02, 0.14]

a = Standardized Estimates; b = Unstandardized Estimates.

Analysis was conducted to investigate if the link between hope (pathways and agency) and depression is affected by meaning (absence and presence of meaning). The mediation analysis was conducted based on the recommendations of Baron and Kenny (1986) which involves the estimation of three regression equations. The path between hope-pathways and absence of meaning was removed because the estimate was not statistically significant indicating that absence of meaning is not a mediator of hope-pathways and depression. The resulting paths are illustrated in Figure 1. Structural Equation Modelling (SEM) routine in R, Rosseel (2012) to conduct the mediation analysis. There are obvious advantages to using SEM, for one, it is able to account for measurement error by incorporating it into the model. Another advantage is that all the paths are tested directly at once. Next, bootstrapping was used to obtain the standard errors used to determine significance and estimates for the indirect effects as advocated by Hayes (2009).



**Figure 1.** Correlational Dimensions of Variables

#### 4. Discussion

The results of this study revealed significant correlation between depression and hope. Analysis from SEM and path analysis indicated a significant correlation between pathways thinking and depression, indicating pathways thinking predicts depression. Generally, this cognitive hope dimension refers to a persons' specific motives and plans in the quest of goal attainment. The results submit that increased depression levels is a function of when a person lacks the formation of specific pathways and means to achieve goals. This further stipulates that when people experience high levels of depression, it is possible they experience less motivation or enthusiasm to initiate pathways and methods in attaining future goals. Our findings are consistent with that of Li et al. (2018) in which both hope dimensions were significantly negatively correlated with depression, indicating that increased hope dimensions results in decreased depression levels.

In addition, findings revealed presence of meaning serve as a significant mediating effect on the correlation between depression and hope pathways. This result indicates that students who are able to meaningfully interpret life events will possibly experience hope-based meaning. Therefore, reducing hopelessness tends to address the cognitive cause of depression. This finding can be connected to that of Güngör and Gül Uçman (2020) where it was revealed that meaning in life significantly moderated and partially mediated the association between hopelessness and depression. Furthermore, the findings reflect the essence why students, who are currently experience more distress, uncertainty and depression due to the ongoing pandemic situation, need to be supported with programs and intervention framework inculcating meaning-driven, in addition with cognitive drives and pathways ability to move on in attaining their future goals.

Though, the mediation analysis on the cross-sectional design adopted by the present study can be seen to be temporal, however, the findings unravel the essential need why positive cognitive resources like hope and meaning need greater attention in reducing students' depression. Moreover, the findings from the present study serve as novel window through which researchers and school counsellors can see how to address students' depression and emotional issues in a collectivist society like Malaysia where positive constructs like meaning and hope are less explored.

#### 5. Implications and Conclusions

The present findings have useful clinical implications. For instance, they explained that effective positive cognitive and existential approaches for depression among students should include strategies that support pathway thinking in establishing specific routes to achieve their goals. Aside adding value to university students' well-being in terms of research and practice among experts, these findings unravels the positive cognitive and motivational paradigm for university management and policy makers towards exploring existential meaning for undergraduates' wellbeing considering the current unprecedented psychological uncertainties posed by the on-going pandemic. Obviously, greater attention is needed among psychologists and administrators integrating positive psychology into the university curriculum in a bid to educate students with constructs and resources that can pave way for better understanding and identifying positive cognitive and emotional states that often fosters against depression and negative emotions.

In addition, as hope is seen to negatively correlate with depression with the results reflecting a significant bidirectional relationship between pathways thinking and depression, helping professionals, school psychologists and counsellors alike need to adopt integrative intervention that can help students to identify possible routes towards meeting set goals, and mastery skills that can help them navigate through uncertain times posed by the on-going pandemic. Students need to be assisted in understanding how to answer the questions that life asks on a daily basis, with the ability to endure difficult moments. Furthermore, the findings reflecting the mediating effects of presence of meaning point to the direction that university students need to be engaged with educational activities and programs to foster their understanding how they can positively interpret challenging events and identify meaning in life situations in order to increase the presence meaning in life.

One essential issue for research is examining the possibility on how meaning may have an effect psychological health and more specifically depressive symptomatology. Being an existential construct, the quantitative method adopted may not fully tap the rudiments why some individuals tend to acquire meaning in difficult situations, while some may attain presence of meaning due to personality characteristics

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## 7. References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th edition). American Psychiatric Association.
- Arnau, R. C., Rosen, D. H., Finch, J. F., Rhudy, J. L. & Fortunato, V. J. (2007). Longitudinal effects of hope on depression and anxiety: A latent variable analysis. *Journal of Personality*, 75, 43-64.
- Bailey TC, & Snyder CR (2007). Satisfaction with life and hope: A look at age and marital status. *The Psychological Record*, 57(2), 233.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Barrera, M., & Garrison-Jones, C. V. (1988). Properties of the Beck Depression Inventory as a screening instrument for adolescent depression. *Journal of Abnormal Child Psychology*, 16, 263-73.
- Beck, A. T., Steer, R. A., & Garbin, M. G. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review*, 8(1), 77-100.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., & Erbaugh, J. (1961). An inventory for measuring depression. *Archives of General Psychiatry*, 4, 561-571.
- Berendes D, Keefe FJ, Somers TJ, Kothadia SM, Porter LS, & Cheavens JS (2010). Hope in the context of lung cancer: relationships of hope to symptoms and psychological distress. *Journal of pain and symptom management*, 40(2), 174–182.
- Bernstein, I. H., Garbin, C. P., & Teng, G. K. (1988). *Applied multivariate analysis*. Springer-Verlag.
- Fata Nahas A. M, Elkalmi R. M. Al-Shami A. M, & Elsayed T. M. (2019). Prevalence of depression among health sciences students: Findings from a public university in Malaysia. *Journal of Pharmacy and Bio-allied Sciences*, 11(2), 170–175. [https://doi.org/10.4103/jpbs.IPBS\\_263\\_18](https://doi.org/10.4103/jpbs.IPBS_263_18)
- Frankl, V. (1959). *Man’s search for meaning*. New York: Random House.
- Frankl, V. E. (2006). *The unheard cry for meaning. Psychotherapy and humanism*. Beacon Press.

- Gengler, J. (2009). Existential Analysis and Logotherapy: Theoretical Bases for Clinical Practice. *Psychiatry and Mental Health*, XXVI (3-4), 200- 209.
- Güngör, A., & Gül Uçman A. (2020). Depression and hopelessness in Turkish healthcare workers: The moderating and mediating roles of meaning in life. *Global Public Health*, 15(2), 236-246. <https://doi.org/10.1080/17441692.2019.1656273>
- Hammen, C. L., & Cochran, S. D. (1981). Cognitive correlates of life stress and depression in college students. *Journal of Abnormal Psychology*, 90(1), 23–27. <https://doi.org/10.1037/0021-843X.90.1.23>
- Harlow, L. L., Newcomb, M. D., Bentler, P. M. (1986). Depression, self-derogation, substance use, and suicide ideation: Lack of purpose in life as a meditational factor. *Journal of Clinical Psychology*, 42, 5-21.
- Hayes, A., F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monograph*, 76(4), 408-420. <https://doi.org/10.1080/03637750903310360>
- Lew, B., Chistopolskaya, K., Osman, A., Huen, J. M. Y., Abu Talib, M., & Leung, A. N. M. (2020). Meaning in life as a protective factor against suicidal tendencies in Chinese university students. *BMC Psychiatry*, 20, Article 73. <https://doi.org/10.1186/s12888-020-02485-4>
- Marques, S. C., Gallagher, M. W., & Lopez, S. J. (2017). Hope- and academic-related outcomes: A meta-analysis. *School Mental Health*, 9(3), 250-262. doi:10.1007/s12310-017-9212-9
- Marques, S. C., Pais-Ribeiro, J. L., & Lopez, S. J. (2011). The role of positive psychology constructs in predicting mental health and academic achievement in Portuguese children and adolescents: A 2-year longitudinal study. *Journal of Happiness Studies*, 12(6), 1049-1062. doi:10.1007/s10902-010-9244-4
- Marthoenis, I., Meutia, L., Fathiariani, L., ySofyan, H. (2018). Prevalence of depression and anxiety among college students living in a disaster-prone region. *Alexandria Journal of Medicine*, 54(4), 337-340. doi: [10.1016/j.ajme.2018.07.002](https://doi.org/10.1016/j.ajme.2018.07.002)
- Mascaro, N., & Rosen, D. H. (2008). Assessment of existential meaning and its longitudinal relations with depressive symptoms. *Journal of Social and Clinical Psychology*, 27, 576-599. doi:10.1521/jscp.2008.27.6.576
- Rosseel, Y. (2012): An R package for structural equation modeling. *Journal of Statistics*, 48(2), 1-36. <https://doi.org/10.18637/jss.v048.i02>
- Snyder, C. R. (2002). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13, 249-275.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T, Yoshinobu, L., Gibb, J., Langelle, C., & Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570-585.
- Stark, P. L. (2003). The theory of meaning. In M. J. Smith, & P. R. Liehr (Eds.), *Range theory for nursing* (pp. 125-144). Springer.
- Steger, M. F., Frazier, P., & Oishi, S. (2006). The Meaning in Life Questionnaire: Assessing the Presence of and Search for Meaning in Life. *Journal of Counselling Psychology*, 53(1), 80-93, <https://doi.org/10.1037/0022-0167.53.1.80>
- Thorne, B. M., & Henley, T. B. (2005). *Connections in the history and systems of psychology* (3rd ed.). Boston: Houghton Mifflin.
- Vredenburg, K., O'Brien, E., & Krames, L. (1988). Depression in college students: Personality and experiential factors. *Journal of Counselling Psychology*, 35, 419–425. <https://doi.org/10.1037/0022-0167.35.4.419>
- Yeoh, S., H., Tam C., L., Wong, C., P. & Bonn, G. (2017). Examining depressive symptoms and their predictors in Malaysia: Stress, locus of control, and occupation. *Frontiers of Psychology*, 8, Article 1411. <https://doi.org/10.3389/fpsyg.2017.01411>
- Zaiser, R. (2005). Working on the noetic dimension of man: Philosophical practice, logotherapy, and existential analysis. *Philosophical Practice: Journal of the American Philosophical Practitioners Association*, 1(2), 83-88.