

THE EFFECTS OF MEANING IN LIFE ON ACADEMIC ACHIEVEMENT

by

Karen Ji

Submitted in partial fulfillment of the
requirements for Departmental Honors in
the Department of Psychology
Texas Christian University
Fort Worth, Texas

May 6, 2019

THE EFFECTS OF MEANING IN LIFE ON ACADEMIC ACHIEVEMENT

Project Approved:

Supervising Professor: Cathy R. Cox, Ph.D.

Department of Psychology

Kayla N. Green, Ph.D.

Department of Chemistry & Biochemistry

Robert H. Neilson, Ph.D.

Department of Chemistry & Biochemistry

ABSTRACT

In an effort to improve academic achievement, we examined the effects of meaning in life (MIL) on grade performance. Prior research has found that MIL is associated with better adjustment to stressful life events. Fall semester freshmen in general psychology courses were asked to complete measures of MIL and academic adjustment. At the end of the semester, their grade point averages (GPA) were collected from the Registrars' office. The results revealed that higher meaning presence persons reported experiencing better academic adjustment to college. Higher adjustment was associated with increased final grades in the general psychology courses. No effects emerged in response to search for meaning. These findings suggest that the presence of MIL in early college life could have important implications for academic well-being and achievement.

Keywords: meaning in life, presence, adjustment to college, academic achievement

The Effects of Meaning in Life on Academic Achievement

According to recent statistics, more than 56% of college students who had started at a four-year university 6 years earlier had not completed their degree (College Atlas, 2018). When looking at students who are studying to earn a bachelor's degree for the first time, the average graduation rate in 2016 across 35 developed countries (e.g. United States, Germany, Chile, Turkey, Japan) was only 38% (OECD; Organization for Economic Cooperation and Development, 2018). Stated differently, nearly two million students who start college each year in the United States will drop out of school before earning a diploma (Hess, 2018). Numbers from community colleges are no better as 26% of full-time students complete their degree within 3 years (Hess). In an effort to find a way to improve academic achievement, the present study explored the benefits of meaning in life (MIL). This is a personality trait associated with how people make sense of, or see themselves as having significance in their lives (Steger, Frazier, Oishi, & Kaler, 2006). Meaning presence has been shown to lead to positive psychological factors such as higher affect (Zika & Chamberlain, 1992), life satisfaction (Steger & Kashdan, 2006), and school adjustment (Kiang & Witkow, 2015; Kiang & Fuligni, 2010). Because of this, it was hypothesized that MIL would be associated with better college adjustment and increased academic performance (i.e., grades) in the current research.

Meaning in Life

Within psychology, there is some variation in what is considered to be meaningful existence. For instance, MIL has been defined as having a sense of purpose and coherence (Battista & Almond, 1973), being direct in one's goals (Ryff & Singer, 1998), and/or deriving a sense of value in response to existential anxieties (e.g., "What is the meaning of life?;" Frankl, 1965; Yalom, 1980). There is also much diversity in how individuals might achieve a meaningful

life. Given that MIL is a subjective experience (i.e., there is no universal meaning that can be applied to everyone; Frankl), each person must create a satisfying life through, for example, his/her use of religion (Hepburn, 1966; Soderstrom & Wright, 1977), the pursuit of goals (Emmons, 1996), having a coherent life narrative (McAdams, 1993), by maintaining self-esteem, being efficacious (Baumeister, 1991), and so on. Even though other people might define it differently, research shows that MIL is important in helping individuals deal with stressful experiences (e.g., Park, 1997). While the definition may seem broad, Steger and colleagues (2006) designed the Meaning in Life Questionnaire (MILQ) to measure two things: (a) presence and (b) search for meaning. Presence examines how much people believe they have a purpose in life and search explores how much individuals are looking for meaning in their lives.

There is much evidence to show that high meaning persons experience more happiness, life satisfaction, general well-being (e.g., self-esteem, optimism, feeling capable & in control [i.e., self-efficacy]), and heightened feelings of social connectedness (see e.g., Steger, 2017 for a review). For example, in a cross-sectional study among participants at various ages in the lifespan (i.e., emerging adults [18-24 years], young adults [e.g., 25-44 years], middle-age adults [45-64], vs. older adults [65+ years]), researchers found that increased MIL was associated better health (i.e., life satisfaction, happiness, positive mood) regardless of age (Steger, Osishi, & Kashdan, 2009). Consistent with other aging perspectives in psychology (e.g., socioemotional selectivity theory; Carstensen, 1993), Steger and colleagues also found that individuals reported greater life meaning during the later stages of development as compared to early adulthood. Similar age-related increases in MIL and health-benefiting outcomes have been found in persons across adolescence and early adulthood (Bronk, Hill, Lapsley, Talib, & Finch, 2009). These health benefits from MIL can be useful during negative life events. For example, in times of

adversity, high meaning persons have been found to possess more positive changes in outlook (Linley & Joseph, 2011). When compared to other personality variables (e.g., locus of control, assertiveness), Zika and Chamberlain (1987) found that MIL was the most consistent predictor of psychological well-being among adults.

Conversely, people who continually search for meaning report increased anxiety, stress, depression, instances of social isolation, and maladaptive characteristics (e.g., rumination; e.g., Steger, 2017). The relationship between reduced MIL and reduced well-being is not specific to healthy populations as research has demonstrated that criminals are more likely to experience detriments to meaning and reduced health (Addad, 1987). Similarly, persons diagnosed with mental illnesses (e.g., schizophrenia, anxiety disorders) have significantly lower levels of MIL as compared to their healthy counterparts (Chaudhary & Sharma, 1976; Debats, 1999; Gonsalvez & Gon, 1983). It appears that persons with higher meaning are better able to handle the stressors of everyday life (e.g., Frankl, 1959; Brooks & DuBois, 1995), perhaps through the social support of others and/or attempting to learn from negative experiences (Carver & Scheier, 1998).

Conversely, individuals low in MIL may find it challenging to make sense of negative instances (e.g., a stressor, mental illness), leading to reduced mental and physical health outcomes (Kernan & Lepore, 2009; Dezutter et al., 2014; Steger & Kashdan, 2012).

Overall, several studies have examined the associative link between presence of and search for meaning and psychological, emotional, physical, and social well-being. For the most part, people who indicate having greater MIL (as a personality trait or through priming thoughts of meaning) are likely to experience a higher quality of life. Low meaning persons, in turn, often struggle with feelings of hopelessness, stress, anxiety, and distress (Marco, Perez, & Garcia-Alandete, 2016; Marco, Guillen, & Botella, 2017). These effects could be more prevalent in high

stress situations, such as adjusting to the demands of college during the first year. The purpose of the current work was to explore trait differences in MIL and how this personality characteristic is associated with first-year students' adjustment to college.

Adjustment to College and Academic Achievement

One factor that can contribute to students' academic success in school is the extent that they are able to adjust to the college experience. Baker and Siryk (1984) argue that adjustment to college (ATC) is more than how students are keeping up with new academic demands or how they like their university. Instead, with the aim to encompass as many variables as possible that could influence a student's time at university, they defined ATC as the combination of a student's propensity to meet academic demands, how socially comfortable one is with their environment, one's mental and physical health in a high-pressure surrounding, and overall feelings about the university (Baker & Siryk). Adding to this, there are a variety of social, emotional, and psychological factors that contribute to whether individuals are better able to adjust to academic life.

There is much evidence to show that social support is important for undergraduate students (Hefner & Eisenberg, 2009). This can include actual resources that are available to persons (e.g., friends, family, & organizations) or perceptions of support (e.g., other people are available if needed; Cronkite & Moos, 1995). Researchers, for example, have found that perceived social support leads to better psychological well-being (e.g., increased life satisfaction & happiness; reduced loneliness & anxiety; Halmandaris & Power, 1999) and higher grades in college (Cutrona, Cole, Colangelo, Assouline, & Russel, 1994). Another factor to consider when looking at dropout rates is student involvement with his or her campus and campus facilities. A study done by Mallinckrodt (1988) studied the relations between students' use of campus

facilities and retention rates. He found that activities such as using the campus library for research, studying in the library, attending dances or concerts on campus, and eating in the campus dining hall all significantly predicted student retention rates over time. Social support from friends is positively correlated with academic persistence and negatively correlated with loneliness (Nicpon et al., 2006), while greater loneliness predicts higher dropout (Aikan, 2014; Rotenberg & Morrison, 1993).

Emotional factors are also important to consider when looking at college retention as there is evidence showing that stress and depression are major contributors to whether (or not) students stay in school. A longitudinal study conducted by Gerdes and Mallinckrodt (1994) studied the emotional, social, and academic adjustment of college students over 6 years and found that increased anxiety significantly predicted less retention. In fact, college students report stress being the most important health factor affecting their well-being and adjustment to college (American College Health Association, 2018). Stress does not only influence psychological health (e.g., depression, loneliness; Ansiman & Zacharko, 1982; Kendler, Karkowski, & Prescott, 1999; Doane & Adam, 2010; Kalser & Berndt, 1985), but also physical well-being (e.g., sleep, fatigue; Verlander, Benedict, & Hanson, 1999), people's social support with others (Baqutayan, 2011), and grades (Wintre & Yaffe, 2000). Longitudinal work has found that people's stress levels over the summer months prior to starting college were related to poorer overall adjustment 6 months into classes (Baker, McNeil, & Siryk, 1985). Another longitudinal study from Daugherty and Lane (1999) found that stress was predictive of attrition if students did not feel that college was as beneficial or as positive of a challenge as they expected it to be.

Finally, research has examined the influence of psychological factors on students' well-being and college adjustment. These variables can include a person's self-esteem, locus of

control, and trait anxiety (Mooney, Sherman, & Presto, 1991; Russell & Petrie, 1992). For example, Baumeister (1996) stated that higher self-esteem can be related to resilience and the ability to “bounce back” following failure, and others have identified low self-esteem as a risk factor for poorer well-being such as depression (Orth, Robins, Trzesniewski, Maes, & Schmitt, 2009), and eating disorders during stressful situations (Sassaroli & Ruggiero, 2005). In many studies, self-esteem has been researched together with locus of control, or the degree to which someone believes they have a control over their own life events. For example, Mooney, Sherman, and Presto (1991) found that self-esteem and academic locus of control significantly predicted college adjustment in female undergraduate students. However, anxiety has been shown to have negative effects on well-being. A study conducted by Schonfeld (1997) found that anxiety negatively affected people’s physical, social, and emotional functioning. The first year of college can be a time of high stress and anxiety, which would only prevent students from properly adjusting to the new environment

MIL, College, Adjustment, and the Present Study

Although much work has examined how social, emotional, and psychological factors contribute to students’ well-being and adjustment, the purpose of the current study was to explore the associative link between MIL and college performance. Previous research examining the link between presence meaning has shown that students with high levels of meaning perform better academically and make better grades (Mason, 2017). Another link we would like to explore is the relationship between MIL and college adjustment. Past research has demonstrated that persons with high levels of meaning are better able to deal with everyday life stressors (Baker & Dubois, 1995) in the college environment. A large component of being able to adjust to college is being able to deal with the stressors that the environment provides. Therefore, if you

are able to effectively cope with the stress, you are more likely to be able to positively adjust to college. Past research has supports this and has found that presence of meaning was significantly related to overall college adjustment (Trevisan, Bass, Powell, & Eckerd, 2014).

Very few studies (Mason, 2017; Makola, 2007) have made the direct connection between MIL and academic achievement. Although prior research has examined the links between MIL, college adjustment, and academic performance, the work is limited. To our knowledge, there has not been any previous research studying all three variables within the same study. Therefore, the current study analyzed the association between college freshmen's perceptions of college adjustment, trait levels of meaning, and academic success through final course grades. Following past research (van Rooji, Jansen, & van de Grift, 2017) we hypothesized that higher levels of MIL would be associated with higher ATC. In addition, better college adjustment would be associated with higher grades. With a mediational model involving all three variables, we hypothesized that higher presence meaning would be associated with higher adjustment to college. In turn, better college adjustment would be associated with final course grades as assessed by GPAs obtained from university records.

Method

Participants

A total of 86 first semester undergraduate freshmen students (64 female; 83% Caucasian; $M_{age} = 18.36$) were recruited from general psychology courses at a university in the Southwestern United States. Students received partial course credit in return for their participation.

Procedure

Participants took a Qualtrics survey that measured MIL, ATC, and other demographic factors (i.e. race, age, household income, etc.). Afterwards, they had the option to sign a Freedom Educational Rights and Privacy Act (FERPA) release form to give us permission to view their grades at the end of the year. We analyzed their final grades from their general psychology courses.

Materials

Meaning in life (MIL). Participants answered the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) consisting of ten items: (a) five items measuring presence of meaning (e.g., “My life has a clear sense of purpose,” “I have a good sense of what makes my life meaningful;” $\alpha = .85$) and (b) five items measuring search for meaning (e.g., “I am always looking to find my life’s purpose,” “I am seeking a purpose or mission for my life;” $\alpha = .90$). All statements were answered using a 7-point Likert scale from 1 (*absolutely untrue*) to 7 (*absolutely true*).

Adjustment to college (ATC). Participants answered the Adjustment to College Scale (Bryan, 2014), which allowed us to cater the questions specifically towards the university that the participants were attending. Items included, “I am handling the demands of college well” and “I attend social activities on campus.” Responses were made on a 9-point Likert-type scale (1 = *strongly disagree*; 9 = *strongly agree*). Scale reliability for the measure was high ($\alpha = .90$).

Final course grades. If participants signed the FERPA form, we requested their final scores in their general psychology course from the university’s Registrar office. Final grades were out of 100%.

Results

Correlational analyses. Bivariate correlation analyses were first conducted between the variables using Pearson product-moment correlation coefficients. There was a moderate, positive correlation between presence of MIL and ATC, $r = .43$, $N = 86$, $p \leq .001$, $R^2 = .18$. There was a small, positive, marginally significant correlation between ATC and final grades, $r = .185$, $N = 85$, $p = .091$, $R^2 = .03$. Lastly, there was no correlation between presence of MIL and final grades, $p = .843$. There were no relationships between search for meaning, college adjustment, and grades ($ps \geq .71$). Because of this, the following analyses were only conducted with the meaning presence subscale.

Presence of MIL. A simple linear regression examined the relationship between presence of MIL in participants and their final grades. This relationship was not significant, $b = -.19$ ($SE = .96$), $t = .20$, $p = .843$, $R^2 \leq .001$. Another simple linear regression examined the relationship between presence of MIL and ATC. As presence increased, ATC also increased in students, $b = .324$, $SE = .074$, $t = 4.35$, $p \leq .001$, $R^2 = .18$.

Mediational analyses. As seen in Figure 1, a mediational analysis is interested in how a third variable (i.e., the mediator; M) influences the relationship between the predictor variable (i.e., X) and the outcome (i.e., Y). Given the indirect relationship between X (i.e., presence meaning) and Y (i.e., grades), this might explain the non-significant results as reported above. As argued by MacKinnon (2007) and Rucker et al. (2011), a significant “*c*-path” is unnecessary to run a mediational model.

As reported previously (also see Figure 2), however, there was a significant relationship between presence of meaning and ATC (i.e., *a* path). The *b*-path examined the relationship between college adjustment and final course grades while controlling for MIL (Baron & Kenny,

1986). This relationship was statistically significant, $b = 2.74$, $SE = 1.37$, $t = 2.00$, $p = .049$. Importantly, the 95% confidence interval (CI) for the indirect effect of meaning presence on grades through adjustment was significant given that zero was excluded in this range: .009, 5.475.

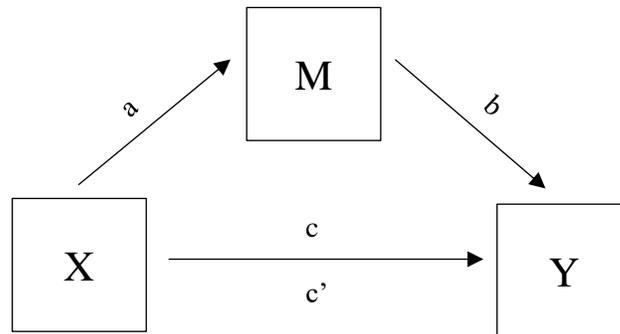


Figure 1: Mediation Model

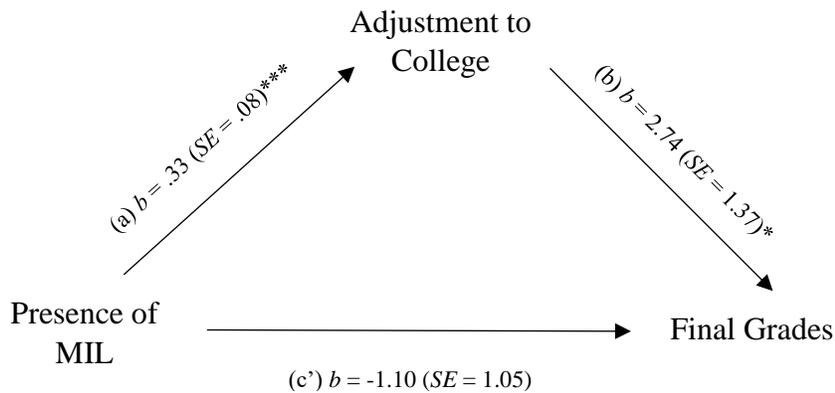


Figure 2: The indirect effect of presence of MIL on final general psychology course grades through ATC. In the path model, * indicates significant at $p \leq .05$ and *** indicates significance at $p \leq .001$.

Discussion

Among all institutions in America, only 40.6% of the 2010 starting cohort graduated from university in 4 years (National Center for Education Statistics, 2018). The importance of a college degree has grown, as they can be the key to getting a higher paying job and benefits (i.e.

health care and retirement investment; Loveless, n.d.). However, the road to earn a bachelor's degree has become tougher, as students are presented with a multitude of obstacles such as financial worries, lack of social support, and the deleterious effects of stress in the college environment. When studying what contributes to academic success, researchers have highlighted the importance of not only being able to academically adjust to college stress, but also socially, emotionally, physically, and psychologically (Baker & Siryk, 1984). Based on prior work, the current study hypothesized that more MIL could positively affect students' abilities to adjust to college, and therefore predict better academic achievement.

Our first interest was to see whether MIL was associated with higher grades (i.e., *c*-path), based on previous research that found meaning presence predicted better grades (Mason, 2017; Makola, 2007). However, in the present study, we were unable to find significant results supporting this path after running correlation and regression analyses. Our main interests, though, were focused on finding mediation between MIL, ATC, and final grades. Nevertheless, future studies should continue to research the associative link between MIL and grades.

Even though we were unable to find the direct connection between presence of meaning and final grades, we were able to find that presence of meaning was associated with better ATC. This finding is supported from previous research, as people can draw their MIL from a variety of sources to better adjust to the environment around them. For example, researchers in a qualitative study found that students who drew meaning from their ethnic identity on campus exhibited better adjustment by reporting a higher sense of belonging and inclusion (Santos, Ortiz, Morales, & Rosales, 2007). Students also have drawn meaning from their religion, as one study found that Christian students who understood their vocation (i.e. purpose in the context of God's will, self-identity, and comprehending the world) exhibited greater college adjustment (Feenstra &

Brouwer, 2008). Other researchers also found that students who are more religious reported to be better adjusted to college (Kneipp, Kelly, & Cyphers, 2009). In general, students who feel a strong sense that they have a calling or purpose in life were also found to exhibit better ATC (Yoo, Park, & Woo, 2015). Our finding is similar to past research and also demonstrates that students with higher meaning in their lives tend to be better adjusted to college.

Not only did we find the connection between meaning presence and ATC, but also a mediational pathway suggesting that students academically performed better when they had higher levels of meaning that led to better college adjustment. Past research has found similar results linking ATC to academic performance, but not with the context of meaning presence. An analogous study (van Rooij, Jensen, & van de Grift, 2017) found that students who exhibited higher intrinsic motivation to learn and more satisfaction with their major had better college adjustment. Furthermore, better adjustment and high school GPA predicted higher college GPA. Finally, they also found a similar mediational path: that motivational factors such as intrinsic motivation and degree program satisfaction only influenced university GPA through academic adjustment. Intrinsic motivation is a concept that has been positively associated with MIL in religious populations (O'Connor & Vallerand, 1990) and in adolescence through purposeful school work goals (Yeager & Bundick, 2009). With the similarities and associations between MIL and intrinsic motivation, this model is similar to the one the present study found and also emphasizes the importance of having ATC as a factor to consider when studying college students' academic success.

Although our results were specific to presence of meaning, we also analyzed the data on search for meaning. As expected, our results were non-significant. Prior research has shown that primarily presence of meaning was related to more positive well-being and can be extended to

the context of college adjustment. For example, an aforementioned study (van Rooij, Jensen, & van de Grift, 2017) found the connection between intrinsic motivation, ATC, and final GPAs. Another study found that presence of meaning was positively correlated with all areas measured (i.e. academic, personal/emotional, social, overall) in college adjustment (Trevisan, Bass, Powell, & Eckerd, 2014). When looking at search, however, past research has also found that search for meaning was associated with more negative general well-being (Marco, Perez, & Garcia-Alandete, 2016), which is consistent with our findings. By replicating this in an academic setting, we were able to provide further research for the idea that students with higher presence of meaning would academically perform better.

In this research, our results suggest that as students enter college and deal with the stress of the academic environment, should they seek help, counselors should consider asking about their meanings in their lives. Furthermore, if students were shown to have lack of or low levels of meaning, the counselors should try to initiate conversation that could help them identify a sense of purpose or meaning in their lives. From there, students could possibly better adjust to their college environment and deal with the everyday stressors that come with it. Past research has studied the role of MIL in academic settings with more regards to the well-being of college students. However, the current study contributes to the literature connecting MIL to academic performance, identifying ATC as a factor that could affect students' academic success. With the effort to improve retention and graduation rates, the present study can be analyzed with previous literature to effectively predict an accurate model of how students can utilize their MIL to succeed. More generally speaking, the current study has contributed to the literature on MIL and well-being as a whole by analyzing the possible behavioral effects of having greater well-being. Connecting presence of meaning with ATC is one aspect that is similar to the MIL and well-

being literature. However, analyzing how that connection affects students' academic performance is a step further. Our findings are similar to the research connecting presence of meaning to people's abilities to cope with everyday stressors in the sense that MIL can have an effect on people's physical behaviors. By identifying more methods that could positively affect physical well-being through psychological constructs, people can see that MIL is something they can use for their own benefit and health.

However, the present study has some limitations. First, our sample size was small. Because this study was done over time, we had high attrition. If a future study were to be conducted, one recommendation would be to acquire a larger sample and see if the effects found still hold. In addition, the participants were from a moderate-sized private university. Our participant pool was limited, and we would like to see if the effects still hold when at a large-sized public university, or at small universities and community colleges. Another limitation is that we only recruited freshmen. While we are concerned about the freshmen dropout rate, future studies can also analyze non-freshmen and see how the effects are different depending on the length of time in college.

Another limitation is that most participants identified as Caucasian with high socioeconomic backgrounds, and previous research has studied the effects of MIL as a function of race. For example, Manoka (2017) factored in race when studying presence meaning on academic performance by researching students who came from "historically disadvantaged backgrounds" (i.e., black) in South Africa. When considering other races or ethnic groups, another study found that MIL mediated the effects of ethnic identity on adjustment, specifically that among a group of Latin, Asian, and European American students, the degree of ethnic belonging was significantly associated with indicators of adjustment. Furthermore, it was also

significantly associated with higher self-esteem and intrinsic motivation. Interestingly, the European American students did not have any significant relationships with indicators of adjustment. We would be interested to see if future studies done with more diverse populations would provide the same effects.

Despite these limitations, the current study is important in that to our knowledge, it is the first study to analyze the connection between MIL, ATC, and academic performance. Not only is staying in school the best intention for students, but for teachers and universities as well. Universities can look to promote and provide the resources for students to actively explore what they perceive their meaning in life to be. Teachers can also see that if their students are struggling in class, they can provide interventions that study how adjusted a student might be, or seek to improve their performance by bringing the topic of MIL to their attention. Most importantly, students can utilize MIL as way to help them better adjust to the demands of a college environment and increase their odds of retention and graduation.

References

- Addad, M. (1987). Neuroticism, extraversion and meaning of life: A comparative study of criminals and non-criminals. *Personality and Individual Differences*, 8(6), 879-883.
[https://doi.org/10.1016/0191-8869\(87\)90139-5](https://doi.org/10.1016/0191-8869(87)90139-5)
- American College Health Association (2018). Undergraduate Student Reference Group: Executive Summary Fall 2018 [PDF File]. Retrieved from:
https://www.acha.org/documents/ncha/NCHA-II_Fall_2018_Undergraduate_Reference_Group_Executive_Summary.pdf
- Anisman, H., & Zacharko, R.M. (1982). Depression: The predisposing influence of stress. *Behavioral and Brain Sciences*, 5(1), 89-99.
<https://doi.org/10.1017/S0140525X00010633>
- Baker, R. W., McNeil, O. V., & Siryk, B. (1985). Expectation and reality in freshman adjustment to college. *Journal of Counseling Psychology*, 32(1), 94-103.
<http://dx.doi.org/10.1037/0022-0167.32.1.94mic>
- Baker, R.W., & Siryk, B. (1984). Measuring adjustment to college. *Journal of Counseling Psychology*, 31(2), 179-189. <http://dx.doi.org/10.1037/0022-0167.31.2.179>
- Baqutayan, S. (2011). Stress and social support. *Indian Journal of Psychological Medicine*, 33(1), 29-34. <https://dx.doi.org/10.4103%2F0253-7176.85392>
- Battista, J. & Almond, R. (1973). The development of meaning in life. *Psychiatry*, 36(4), 409-427. <http://search.proquest.com/docview/1301437021?accountid=7090>
- Baumeister, R.F. (1991) *Meanings of Life*. New York: Guilford Press.
- Baumeister, R.F. (1996). Should schools try to boost self-esteem? Beware the dark side. *American Educator*, 20(2), 14-19.

- Bronk, K.C., Hill, P.L., Lapsley, D.K., Talib, T.L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age groups. *The Journal of Positive Psychology, 4*(6), 500-510.
<https://doi.org/10.1080/17439760903271439>
- Brooks, J.H., & DuBois, D.L. (1995). Individual and environmental predictors of adjustment during the first year of college. *Journal of College Student Development, 36*(4), 347-360.
- Carstensen, L.L. (1993). Motivation for social contact across the life span: A theory of socioemotional selectivity. In J.E. Jacobs (Ed.) *Nebraska Symposium on Motivation 1992* (p. 209-254). University of Nebraska Press.
- Carver, C.S., & Scheier, M.F. (1998). *On the self-regulation of behavior*. New York: Cambridge University Press.
- Chaudhary, P.N. & Sharma, U. (1976). Existential frustration and mental illness: A comparative study of purpose in life in psychiatric patients and normal. *Indian Journal of Clinical Psychology, 3*(2), 171-174.
- College Atlas. (June 29th, 2018). U.S. College Dropout Rate and Dropout Statistics. Retrieved from <https://www.collegeatlas.org/college-dropout.html>
- Cronkite, R.C., & Moos, R.H. (1995). Life context, coping processes, and depression. In E.E. Beckham & W.R. Leber (Eds.) *Handbook of Depression* (p. 569-587). New York: Guilford Press.
- Cutrona, C.E., Cole, V., Colangelo, N., Assouline, S.G., & Russell, D.W. (1994). Perceived parental social support and academic achievement: An attachment theory perspective. *Journal of Personality and Social Psychology, 66*(2), 369-378.
<http://dx.doi.org/10.1037/0022-3514.66.2.369>

- Daugherty, T.K., & Lane, E.J. (1999). A longitudinal study of academic and social predictors of college attrition. *Social Behavior & Personality: An International Journal*, 27(4), 355-361. <http://doi.org/10.2224/SBP.1999.27.4.355>
- Debats, D.L. (1999). Sources of meaning: An investigation of significant commitments in life. *Journal of Humanistic Psychology*, 39(4), 30-57. <https://doi.org/10.1177/0022167899394003>
- Dezutter, J., Waterman, A.S., Schwartz, S.J., Luyckx, K., Beyers, W., Meca, A., ... Caraway, S.J. (2014). Meaning in life in emerging adulthood: A person-oriented approach. *Journal of Personality*, 82(1), 57-68. <https://doi.org/10.1111/jopy.12033>
- Doane, L.D., & Adam, E.K. (2010). Loneliness and cortisol: Momentary, day-to-day, and trait associations. *Psychoneuroendocrinology*, 35(3), 430-441. <https://doi.org/10.1016/j.psyneuen.2009.08.005>
- Emmons, R.A. (1966). Striving and feeling: Personal goals and subjective well-being. In P.M. Gollwitzer & J.A. Bargh, *The psychology of action: Linking cognition and motivation to behavior* (p. 313-337). New York: Guilford Press.
- Feenstra, J.S., & Brouwer, A.M. (2008). Christian vocation: Defining relations with identity status, college adjustment, and spirituality. *Journal of Psychology and Theology*, 36(2), 83-93. <https://doi.org/10.1177/009164710803600201>
- Frankl, V. (1959). *Man's search for meaning: An introduction to logotherapy*. Boston, MA: Beacon.
- Frankl, V.E. (1965). *The doctor and the soul: From psychotherapy to logotherapy*. New York: Vintage Books.

- Garrosa, E., Blanco-Donoso, L.M., Carmona-Cobo, I., & Moreno-Jiménez, B. (2017). How do curiosity, meaning in life, and search for meaning predict college students' daily emotional exhaustion and engagement? *Journal of Happiness Studies*, 18(1), 17-40. <https://doi.org/10.1007/s10902-016-9715-3>
- Gerdes, H., & Mallinckrodt, B. (1994). Emotional, social, and academic adjustment of college students: A longitudinal study of retention. *Journal of Counseling and Development*, 72(3), 281-288. <https://doi.org/10.1002/j.1556-6676.1994.tb00935.x>
- Gonsalvez, G.J. & Gon, M. (1983). A comparative study of purpose in life in psychopathological and normal groups. *Indian Journal of Clinical Psychology*, 10(2), 211-218.
- Graham, K.L., Morse, J.L., O'Donnell, M.B., & Steger, M.F. (2017). Repairing meaning, resolving rumination, and moving toward self-forgiveness. *Handbook of the Psychology of Self-forgiveness*, 59-72. https://doi.org/10.1007/978-3-319-60573-9_5
- Halamandaris, K.F., & Power, K.G. (1999). Individual differences, social support and coping with the examination stress: A study of the psychosocial and academic adjustment of first year home students. *Personality and Individual Differences*, 26(4), 665-685. [https://doi.org/10.1016/S0191-8869\(98\)00172-X](https://doi.org/10.1016/S0191-8869(98)00172-X)
- Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry*, 79(4), 491-499. <https://doi.org/10.1037/a0016918>
- Hepburn, R.W. (1966). Questions about the meaning of life. *Religious Studies*, 1(2), 125-140. Retrieved from <http://www.jstor.org/stable/20004617>
- Hess, F. (June 6, 2018). The College Dropout Problem. Retrieved from <https://www.forbes.com/sites/frederickhess/2018/06/06/the-college-dropout-problem/#2596d5ed5fd2>

- Kalser, C.F., & Berndt, D.J. (1985). Predictors of loneliness in gifted adolescent. *Gifted Child Quarterly*, 29(2), 74-77. <https://doi.org/10.1177%2F001698628502900206>
- Kendler, K.S., Karkowski, L.M., & Prescott, C.A. (1999). Causal relationship between stressful life events and the onset of major depression. *The American Journal of Psychiatry*, 156(6), 837-841. <https://doi.org/10.1176/ajp.156.6.837>
- Kiang, L. & Fuligni, A.J. (2009). Meaning in life as a mediator of ethnic identity and adjustment among adolescents from Latin, Asian, and European American backgrounds. *Journal of Youth and Adolescence*, 39(11), 1253-1264. <https://doi.org/10.1007/s10964-009-9475-z>
- Kiang, L. & Witkow, M.R. (2015). Normative changes in meaning in life and links to adjustment in adolescents from Asian American backgrounds. *Asian American Journal of Psychology*, 6(2), 164-173. <http://dx.doi.org/10.1037/aap0000018>
- Kneipp, L.B., Kelly, K.E., Cyphers, B. (2009). Feeling at peace with college: Religiosity, spiritual well-being, and college adjustment. *Individual Differences Research*, 7(3), 188-196.
- Linley, P.A. & Joseph, S. (2011). Meaning in life and posttraumatic growth. *Journal of Loss & Trauma*, 16(2), 150-159. <http://dx.doi.org/10.1080/15325024.2010.519287>
- Loveless, B. (n.d.). Benefits of earning a college degree. Retrieved from <https://www.educationcorner.com/benefit-of-earning-a-college-degree.html>
- Makola, S. (2007). *Meaning in life and life stressors as predictors of first-year students' academic performance*. (Doctoral Dissertation). Retrieved from <https://scholar.ufs.ac.za/handle/11660/4753>
- Mallinckrodt, B. (1988). Student retention, social support, and dropout intention: Comparison of black and white students. *Journal of College Student Development*, 29(1), 60-64.

- Marco, J.H., Guillén, V., & Botella, C. (2017). The buffer role of meaning in life in hopelessness in women with borderline personality disorders. *Psychiatry Research*, *247*, 120-124. <https://doi.org/10.1016/j.psychres.2016.11.011>
- Marco, J.H., Pérez, S., & García-Alandete, J. (2016). Meaning in life buffers the association between risk factors for suicide and hopelessness in participants with mental disorders. *Journal of Clinical Psychology*, *72*(7), 689-700. <https://doi.org/10.1002/jclp.22285>
- Mason, H.D. (2017). Sense of meaning and academic performance: A brief report. *Journal of Psychology in Africa*, *27*(3), 282-285. <https://doi.org/10.1080/14330237.2017.1321860>
- McAdams, D.P. (1993). *The stories we live by*. New York: Guilford Press.
- Mooney, S.P., Sherman, M.F., & Lo Presto, C.T. (1991). Academic locus of control, self-esteem, and perceived distance from home as predictors of college adjustment. *Journal of Counseling & Development*, *69*(5), 445-448. <https://doi.org/10.1002/j.1556-6676.1991.tb01542.x>
- National Center for Education Statistics (2018). *Digest of Education Statistics*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_326.10.asp
- Nicpon, M.F., Huser, L., Blanks, E.H., Sollenberger, S., Befort, C., & Kurplus, S.E.R. (2006). The relationship of loneliness and social support with college freshmen's academic performance and persistence. *Journal of College Student Retention: Research, Theory & Practice*, *8*(3), 345-358.
- O'Connor, B.P., & Vallerand, R.J. (1990). Religious motivation in the elderly: A French-Canadian replication and an extension. *The Journal of Social Psychology*, *130*(1), 53-59. <https://doi.org/10.1080/00224545.1990.9922933>

- OECD (2018). Education at a Glance 2018: OECD Indicators [PDF file]. Retrieved from https://www.oecd-ilibrary.org/education/education-at-a-glance-2018/profile-of-a-first-time-tertiary-graduate-2016_eag-2018-table110-en
- Orth, U., Robins, R. W., Trzesniewski, K. H., Maes, J., & Schmitt, M. (2009). Low self-esteem is a risk factor for depressive symptoms from young adulthood to old age. *Journal of Abnormal Psychology, 118*(3), 472-478. <http://dx.doi.org/10.1037/a0015922>
- Park, C.L. & Folkman, S. (1997). Meaning in the context of stress and coping. *Review of General Psychology, 1*(2), 115-144. <https://doi.org/10.1037%2F1089-2680.1.2.115>
- Rotenberg, K.J., & Morrison, J. (1993). Loneliness and college achievement: Do loneliness scale scores predict college drop-out? *Psychological Reports, 73*(3), 1283-1288. <https://doi.org/10.2466%2Fpr0.1993.73.3f.1283>
- Russell, R.K., & Petrie, T.A. (1992). Academic adjustment of college students: Assessment and counseling. In S.D. Brown & R.W. Lent (Eds.), *Handbook of Counseling Psychology* (2nd ed.) (pp. 485-511). New York: John Wiley & Sons.
- Ryff, C.D. & Singer, B. (1998). The contours of positive human health. *Psychological Inquiry, 9*(1), 1-28. https://doi.org/10.1207/s15327965pli0901_1
- Santos, S. J., Ortiz, A. M., Morales, A., & Rosales, M. (2007). The relationship between campus diversity, students' ethnic identity and college adjustment: A qualitative study. *Cultural Diversity and Ethnic Minority Psychology, 13*(2), 104-114. <http://dx.doi.org/10.1037/1099-9809.13.2.104>
- Sassaroli, S., & Ruggiero, G.M. (2005). The role of stress in the association between low self-esteem, perfectionism, and worry, and eating disorders. *International Journal of Eating Disorders, 37*(2), 135-141. <https://doi.org/10.1002/eat.20079>

- Schonfeld, W.H., Verboncoeur, C.J., Fifer, S.K., Lipschutz, R.C., Lubeck, D.P., & Buesching, D.P. (1997). The functioning and well-being of patients with unrecognized anxiety disorders and major depressive disorder. *Journal of Affective Disorders, 43*(2), 105-119. [https://doi.org/10.1016/S0165-0327\(96\)01416-4](https://doi.org/10.1016/S0165-0327(96)01416-4)
- Soderstrom, D. & Wright, W.E. (1977). Religious orientation and meaning in life. *Journal of Clinical Psychology, 33*(1), 65-68. Retrieved from [https://onlinelibrary.wiley.com/doi/abs/10.1002/1097-4679\(197701\)33:1%2B%3C65::AID-JCLP2270330113%3E3.0.CO;2-0](https://onlinelibrary.wiley.com/doi/abs/10.1002/1097-4679(197701)33:1%2B%3C65::AID-JCLP2270330113%3E3.0.CO;2-0)
- Steger, M.F. & Kashdan, T.B. (2007). Stability and specificity of meaning in life and life satisfaction over one year. *Journal of Happiness Studies, 8*, 161-179. <https://doi.org/10.1007/s10902-006-9011-8>
- Steger, M.F. (2009) Meaning in life across the life span: Levels and correlates of meaning in life from emerging adulthood to older adulthood. *The Journal of Positive Psychology, 4*(1), 43-52. <https://doi.org/10.1080/17439760802303127>
- Steger, M.F. (2017). Meaning in life and well-being. In M. Slade, L. Oades, & A. Jarden (Eds.), *Well-being, recovery, and mental health* (pp. 75-85). United Kingdom: Cambridge.
- Steger, M.F., & Kashdan, T.B. (2012) The unbearable lightness of meaning: Well-being and unstable meaning in life. *The Journal of Positive Psychology, 8*(2), 103-115. <https://doi.org/10.1080/17439760.2013.771208>
- Steger, M.F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80-93. <http://dx.doi.org/10.1037/0022-0167.53.1.80>

- Trevisan, D.A., Bass, E., Powell, K., & Eckerd, L.M. (2017). Meaning in life in college students: Implications for college counselors. *Journal of College Counseling, 20*(1), 37-51.
<https://doi.org/10.1002/jocc.12057>
- Van Rooij, E.C.M., Jansen, E.P.W.A., & van de Grift, W.J.C.M. (2018). First-year university students' academic success: the importance of academic adjustment. *European Journal of Psychology of Education, 33*(4), 749-767. <https://doi.org/10.1007/s10212-017-0347-8>
- Verlander, L.A., Benedict, J.O., & Hanson, D.P. (1999). Stress and sleep patterns of college students. *Perceptual and Motor Skills, 88*(3), 893-898.
<https://doi.org/10.2466%2Fpms.1999.88.3.893>
- Wintre, M.G., & Yaffe, M. (2000). First-year students' adjustment to university life as a function of relationships with parents. *Journal of Adolescent Research, 15*(1), 9-37.
<https://doi.org/10.1177%2F0743558400151002>
- Yalom, I.D. (1980). Meaninglessness. In *Existential psychotherapy*. Retrieved from <https://pdfs.semanticscholar.org/d05e/ba9b468ea6cdfa15b882ff3ed0977369562c.pdf>
- Yeager, D.S., & Bundick, M.J. (2009). The role of purposeful work goals in promoting meaning in life and in schoolwork during adolescence. *Journal of Adolescent Research, 24*(4), 423-452. <https://doi.org/10.1177%2F0743558409336749>
- Yoo, J.Y., Park, J.Y., & Woo, C.H. (2015). Career attitude maturity, calling, and work as meaning affecting student adjustment to college among health college students. *Journal of Korean Academy of Nursing Administration, 21*(5), 480-488.
<https://doi.org/10.11111/jkana.2015.21.5.480>

Zika, S. & Chamberlain, K. (1987). Relation of hassles and personality to subjective well-being.

Journal of Personality and Social Psychology, 53(1), 155-162.

<http://dx.doi.org/10.1037/0022-3514.53.1.155>