

THE ROLE OF SOCIAL CONNECTION IN
FLOURISHING AND LANGUISHING
COLLEGE STUDENTS

by

Berkley Behnke

Submitted in partial fulfillment of the
requirements for Departmental Honors in
the Department of Communication Studies

Texas Christian University

Fort Worth, Texas

May 8, 2023

THE ROLE OF SOCIAL CONNECTION IN
FLOURISHING AND LANGUISHING
COLLEGE STUDENTS

Project Approved:

Supervising Professor: Chris Sawyer, Ph.D.

Department of Communication Studies

Kristen Carr, Ph.D.

Department of Communication Studies

Randal Lewis, MBA

Department of Management and Leadership

ABSTRACT

Flourishing is a concept of increasing interest in present research, constructive in the development and well-being of individuals and communities. This quantitative study aims to understand the relationship between social connections in college students flourishing and languishing. The research emphasizes how flourishing promotes success and productivity in students and may have long-term implications on physical and mental health. The socio-relational aspect of emotions is the basis for understanding the communicative role in this process. The relevance of student flourishing is emphasized by explaining the mental and physical health risks and benefits associated with perceived social support and social connection. The human inclination to socially bond and connect is the foundation for understanding physiological and psychological outcomes. With growing numbers of college students suffering from mental health-related issues, the topic highlights the importance of prioritizing relational maintenance and social support. It also explores social support as a potential mediator of stress and anxiety. Undergraduate students enrolled in TCU's *Communicating Effectively* course were recruited for the research study. The study measured various dimensions of social support, flourishing, and languishing through multiple surveys. The study found a positive association between social support and flourishing, a negative association between social support and languishing, and a negative association between flourishing and languishing.

INTRODUCTION

The transition to college is a vulnerable time for young adults, characterized by social pressures and desires, lifestyle changes, and new daily stressors. Numerous studies warn of the precipitous decline in students' mental health. Researchers from Boston University report that anxiety and depression rates have more than doubled within the past decade. The American College Health Association's 2022 national survey reported that last year 77% of college students experienced moderate to severe psychological distress (Abrams, 2022). By examining first-year college students' experiences, we can better understand how communication, emotion, and social relationships influence languishing or flourishing throughout transitional periods. The study investigates whether social connections improve mental and physical well-being. The study proposes social connection's ability to buffer the effects of stress and anxiety on mental and physical health.

Humans have an inherent need for social connection and social relationships. We seek, form, and maintain our social connections through communication guided by emotions and innate emotional needs. Most human emotions result from social exchanges, as our primary intrinsic concerns are with others (Oatley et al., 2006, p.368). Every social encounter evokes emotional responses that construct social relationships and sequentially guide individuals' emotional states. Our social desires are so strong that research on neural pathways reveals a significant cross-over between the human sensations of physical and emotional pain (Sturgeon & Zautra, 2016).

Consequently, reciprocal human relationships are a fundamental aspect of the human ability to flourish (Hyvärinen et al., 2022, p.6). With flourishing and languishing at opposite sides of the mental health continuum spectrum, the APA dictionary of psychology defines

flourishing as a condition indicating positive physical and mental health, where well-functioning social and personal relationships are present, and languishing as a condition involving a lack of mental health characterized by detachment and loss of interest in life (Westerhof & Keyes, 2010). The research addresses whether social connection impacts college students' flourishing or languishing.

The study uses the short form of Lamers et al.'s (2011) *Mental Health Continuum*, which is the most often used scale to measure student flourishing. We will use two indicators of student languishing, the *College Student Stress Scale* (Feldt, 2008) and Tindle et al.'s (2022) *University Students' Needs Scale*. The study also uses several indicators of social support, including the *University Belonging Scale*, the *Perceived Environmental Support Scale*, the *Social Network Scale*, and the *Social Support from Parents and Friends Scale*. The hypotheses are as follows: H1: There will be a positive association between social support and student flourishing. H2: There will be a negative association between social support and student languishing. H3: There will be a negative association between student flourishing and languishing.

REVIEW OF LITERATURE

Connectedness as a Basic Human Need

Humans are socially operated individuals created to establish and maintain bonds with others. Children are born social creatures wired to seek attachment and connection from their earliest days. Experiencing a sense of belonging meaningfully impacts emotional patterns and cognitive processes. Vansteenkiste et al.'s (2020) article characterizes relatedness as one of humankind's basic psychological needs. The authors define *basic psychological needs* as "critical resources" underlying individuals' natural propensity to move towards "increasing self-organization, adjustment, and flourishing." The distinction separating social connection and

social bonds as a need rather than a want is conveyed throughout research on the powerful effects of loneliness. The research elaborates on the health implications of social deprivation that exceed frustration and emotional distress. Baumeister & Leary (1995) explain that “simply being part of a supportive social network reduces stress,” even if the people within the specified network do not provide “explicit emotional or practical assistance” (p. 508). A study by Harvard’s SHINE Research program found that individuals with a strong sense of belonging at work are 1.5 times more productive and engaged in their jobs, 2.2 times more satisfied with their work, and 1.4 times more socially connected in overall life.

The field of psychology has published fundamental research on the neural mechanisms of social networks. One study in the *Journal of Neuroscience* found that social laughter triggers endogenous opioid release, demonstrating a human neurochemical pathway that promotes social bonds and relationships (Manninen et al., 2017). Social connection influences various brain regions where dopamine and opioid networks are present. These networks are associated with the brain's natural reward system, a key motivator of social interaction. By evaluating the complex neural process of constructing and maintaining social networks, neurobiologists have found that individuals with more extensive social networks have more power and social resources (Han et al., 2021). Theorists have proposed that the relationship between social connection and health may be explained by the cortical and subcortical regions of the brain concerned with emotions activated by social processes and perceptions (Kober et al., 2008). Because social support appears to moderate stress, it may be essential in protecting our bodies from its harmful physical and mental effects.

Influence of Social Connection on Physical and Mental health

Social connection profoundly impacts physical and mental health, with studies showing direct correlations between loneliness and psychological disorders, cognitive decline, and all-cause mortality (Lieberz et al., 2021). When the human need to socially belong is unsatisfied, inflammatory and immune responses are impaired (Lieberz). Holt-Lunstad and her colleagues conducted a meta-analysis of over 148 studies, revealing that having quality social relationships increased individuals' chance of survival by 50% (Holt-Lunstad et al., 2010). The findings are robust in understanding social connection as a necessity for maintaining well-being. The study also found that the health implications of low or inadequate social connection were similar to those of heavy cigarette smokers and alcoholics. Additionally, substantial evidence shows that US mortality rates are "consistently higher for divorced, single, and widowed individuals" (Baumeister & Leary, 1995, p.508). Aside from the physical impact of social connection, humans require secure social systems to survive mentally. Loneliness is a leading cause of several psychological disorders, such as depression, insomnia, and personality disorders (Mushtaq et al., 2014).

Transition to College

Studies indicate that first-year college students are especially susceptible to languishing (Knoesen & Naudé, 2018). The transition to college is often accompanied by high stress, anxiety, and uncertainty due to change and unfamiliar circumstances. Stress is a leading factor in students' difficulty adjusting to college (O'Donnell et al., 2018). However, research shows that high social support in stressful and anxiety-inducing situations lessens stress-related physiology (Oatley et al., 2006, p. 240). A study by (Worsley et al., 2021) found that students primarily felt psychological distress due to the absence of their familiar support structures, resulting in an

increased need for sources of compassion, support, and advice. The ability to approach challenges and struggles is much more achievable when students feel supported in their environments. One study discussed in chapter nine of Oatley et al.'s *Understanding Emotions* showed that hearing friends supportive comments in stressful situations may activate “dopamine-rich areas of the brain, such as the ventral striatum” (Oatley et al., 2006, p.240). Socially supportive student environments substantially influence individuals’ decision-making upon entering college. Higher social connectedness within the first year of college is associated with fewer health-risk behaviors (Klaiber, 2018). Some associated behaviors include irregular sleep patterns, obsessive behaviors, and lessened physical activity (Holt-Lunstad et al., 2010).

The Significance of Flourishing

The needs for belonging and attachment must first be satisfied to experience feelings of positivity, hopefulness, and motivation. All these components are fundamental in fulfilling one’s potential, otherwise known as flourishing. This idea is represented in prominent psychological theories such as *Maslow’s Hierarchy of Needs*. Maslow’s Hierarchy of Needs is based on Abraham Maslow’s concept that for someone to feel motivated and capable of fulfilling their goals, they must first meet the needs of autonomy, competence, and relatedness. Relatedness refers to having a sense of belonging and feeling connected to others. His theory states that humans cannot achieve optimal well-being without fulfilling these three needs. Some explanation for social connection’s foundational role in flourishing may be the positive feedback loop for social and emotional well-being provoked by connectedness.

Research shows that the “brain believes it is flourishing when it makes positive evaluations of life events, the self, goals, and relationships” (Las Heras et al., 2023, p. 38). Wissing et al.’s (2019) study of flourishing and languishing in adults found that flourishers were

“strongly others-oriented” in their motivations for achieving goals in life. In comparison, those categorized as languishing were motivated mainly by personal well-being (p.590). Another interesting finding in Wissing’s study was the contrast in the discussion of spouses in languishing vs. flourishing participants. While flourishing adults commented on strong intrinsic motivations and memories, languishing participants primarily expressed outside forces as motivators for relationships (p. 592-593). Research has continuously proven the benefits of flourishing in individuals. Flourishing influences day-to-day life and the execution of social roles. Keyes (2002) found that flourishing adults missed fewer workdays and experienced higher levels of creativity and productivity. Flourishing is also correlated with the formation of resilience and coping skills.

Flourishing in College

Because higher social support is associated with lower baseline levels of cortisol, forming social connections during the first year of college can help students flourish (Oatley et al., 2006, p. 240). Healthy cortisol levels are associated with better mood, lower stress, lower blood pressure, and a better immune system. Furthermore, studies find that students' friendship formation within the first year of college influences their long-term health (Klaiber, 2018). The study also explains that higher social integration in college is associated with better student adjustment, improved physical health, and better self-reported health (p.291). Some reasoning may include a correlation between the quality of friendships and happiness found in a 2007 examination of college students' social relationships. (Oatley et al., 2006, p. 369). “Socially supportive environments, sense of belonging, and civic engagement” are amongst the most potent predictors of flourishing in college students (Volstad et al., 2020). University-focused studies define *social support* as the “perceived availability of social resources.” Students’

perceptions of supportive networks are prominent indicators of self-efficacy. In college, social engagement and interaction are powerful tools providing access to abundant opportunities (Oatley et al., 2006, p. 368).

PILOT STUDY REPORT

We conducted a pilot study to help increase the quality of our research and validate the procedures for our complete data collection analysis. Forty-three undergraduates enrolled in communication studies classes volunteered for the study. After giving informed consent, these pilot study participants completed the *Mental Health Continuum Short Form* (MHC-SF), the most often used scale to measure student flourishing. They also completed two indicators of student languishing, the *College Student Stress Scale* (Feldt, 2008) and (Tindle et al., 2022) *University Students' Needs Scale*. Participants also filled out several indicators of social support, including the *University Belonging Scale*, the *Perceived Environmental Support Scale*, the *Social Network Scales*, and the *Social Support from Parents and Friends Scale*. Reliabilities for all measures used in the pilot study ranged from adequate ($\alpha = .71$) to good ($\alpha = .92$). Our initial results support each of our hypotheses. The pilot study revealed a positive correlation between social support and student flourishing (See Table 1). There was a negative association between social support and languishing (See Table 2) and a negative association between languishing and flourishing (See Table 3).

Table 1. *Correlations between Measures of Social Support and Student Flourishing*

<u>Social Support Measures</u>	<u>Measures of Student Well Being (Flourishing)</u>		
	<u>Emotional</u>	<u>Social</u>	<u>Psychological</u>
University Belonging	.31*	.37*	.25
Institutional Support	.32*	.43*	.21
Family Support	.34*	.24	.30*
Social Network Support	.36*	.39*	.16
Online Support	.29	.36*	.20
Parental Support	.06	.08	.27
Friend Support	.06	.03	.06

Asterisk (*) Indicates $p < .05$

Table 2. *Correlations between Measures of Social Support and Student Languishing*

<u>Social Support Measures</u>	<u>Student Stress and Needs for Family, Friends, and Emotion</u>			
	<u>Stress</u>	<u>Family</u>	<u>Friends</u>	<u>Emotional</u>
University Belonging	.02	-.10	-.12	-.01
Institutional Support	-.14	-.29	-.39*	-.01
Family Support	-.05	-.43*	-.35*	-.18
Social Network Support	-.13	-.20	-.17	-.13
Online Support	-.12	-.26	-.13	-.06
Parental Support	-.31*	-.52*	-.39*	-.32*
Friend Support	-.21	-.21	-.03	-.04

Asterisk (*) Indicates $p < .05$

Table 3. *Correlations between Measures of Student Flourishing and Languishing*

<u>Student Languishing</u>	<u>Measures of Student Well Being (Flourishing)</u>		
	<u>Emotional</u>	<u>Social</u>	<u>Psychological</u>
Student Stress	-.31*	-.42*	-.50*
Family Needs	-.20	-.13	-.20
Need for Friends	-.16	-.11	-.38*
Emotional Needs	-.44*	-.27	-.55*

Asterisk (*) Indicates $p < .05$

METHOD

Participants

Participants in the current study were 242 (81 male, 116 female) TCU undergraduates enrolled in COMM 10123 Communicating Effectively in Your Community during the Spring semester of 2023. Participants had an average age of 19.80 (.87) years. Forty-eight participants were first-year students (19.92%), 157 were second-year students (65.15%), 24 were academic juniors (9.96%), and 12 were seniors (4.98%). In terms of ethnicities, 12 self-identified as Asian (4.96%), 15 were African Americans (6.20%), 1 Pacific Islander (.41%), 23 were of Middle Eastern descent (9.50%), three were Hispanic (1.24%), 184 self-identified as White, and 4 described themselves as having “Other” ethnicity.

Procedure

All participants volunteered for a study on the languishing and flourishing of post-pandemic undergraduates. After giving their informed consent, participants completed a series of

self-report measures of flourishing, languishing, and social support presented in an online survey through *Qualtrics*. All study participants received 5 points toward their final course grade, as allowed in the COMM 10123 syllabus. Correlation estimates were used to test all study hypotheses.

Instruments

In previous research, all instruments used in the current study demonstrated adequate or better reliability and performed according to theoretical expectations. Specifically, Lamers et al.'s (2011) Mental Health Continuum (MHC) measured student flourishing. The MHC provides measures of emotional well-being, social well-being, and psychological well-being for undergraduate students. Feldt's (2008) College Student Stress Scale (CSSS) and Tindle et al.'s University Needs Instrument (UNI) served as measures of student languishing. Additionally, the UNI yields three subscales: Family Support Needs, Friend Support Needs, and Emotional Support Needs.

Participants also completed measures of social support, including Richards and Branch's (2012) Social Support from Parents and Friends Scales (SSPFS), Cole et al.'s (2017) Social Network Scales (SNS), Garriott and Nisle's (2018) Perceived Environmental Support Scale (PESS), and Slaten et al.'s (2018) University Belonging Scale (UBS). The SSPFS estimates the level of social support from parents and friends. The SNS has two dimensions: in-person and online social support. The PESS measures social support provided by institutions and from family and friends. Last, the UBS measures the level of support that students receive from faculty members and staff.

RESULTS

Means, standard deviations, and reliability estimates for all instruments used in the study appear in Table 4. Reliability for all measures in the study ranged from adequate to good.

Hypothesis 1 predicted a positive association between measures of flourishing and social support. Table 5 displays pair-wise correlations for the MHC subscales and the measures of social support described in the Methods section. In each case, the correlation between measures of flourishing and social support were positive and reached statistical significance. Therefore, H1 was supported.

Hypothesis 2 predicted a negative association between measures of languishing and social support. Table 6 displays pair-wise correlations for student stress and needs and social support. In each case, measures of languishing and social support were negative. Fifteen correlation estimates reached statistical significance. H2 was supported.

Hypothesis 3 predicted a negative association between measures of languishing and flourishing. Table 7 displays pair-wise correlations for the subscales of the MHC and each indicator of languishing. In every case, the correlation between languishing and flourishing was negative and reached statistical significance. H3 was supported.

DISCUSSION

In conjunction with prior research and literature, the study's findings indicate that social relationships are critical factors in determining one's physical and mental well-being. Studies on the human proclivity for social relationships in psychological and physiological research may

explain the consequences of social deprivation and difficulty functioning. Future research can help make practical suggestions in revising work, school, and other environments to promote and foster personal growth through social activities. By understanding the abilities and benefits of flourishing individuals, researchers can explore the comprehensive effect of flourishing individuals on communities and public health. The findings can be used in recommending healthier social environments and increasing life satisfaction.

Overall, the results of the main study were much stronger than the pilot study. The reliability estimates and almost all pair-wise correlations were more robust. In addition, more correlations reached significance than in the pilot study due to the larger sample size. Most of the measures had high correlations, with the highest being between in-person social support and flourishing. Additionally, friend support was shown to have a high correlation with flourishing. Future research may look further into the potential for online communication to resemble the benefits of in-person interaction. The results showed a high correlation between online social support and flourishing. A possible explanation is more sizeable social networks in flourishing individuals. However, there may be underlying factors worth considering.

Various factors may influence the study's results, including the time of the semester and the school's location and environment. The study was done toward the end of the Spring semester, and the results may not be generalizable to other times of the year. Research on this topic may help shift from individualistic ideology to a more collectivistic approach in work, school, and other structured environments to create more strategies tailored to social understanding and interaction. In addition, universities may create strategies more suitable for college students to excel. Universities may prioritize fostering healthy social environments that

give students a strong sense of belonging, leading to higher satisfaction and more valuable experiences.

CONCLUSION

Research across multiple fields supports the claim that individuals with adequate social connections have superior mental and physical health. By analyzing the data collected through the social support surveys and indicators of languishing and flourishing in college students, the findings imply that social connection significantly impacts college students' flourishing or languishing. There is a positive association between social support and flourishing in college students, a negative association between social support and languishing, and a negative association between flourishing and languishing. The study emphasizes individuals' reliance on support systems throughout fluctuating circumstances. Furthermore, the study's findings portray social connection as a powerful tool in helping enhance college students' mental and physical well-being. Because the study classifies the transition to college as a period of heightened stress and anxiety, social support may help ease the trepidation in challenging times following college and throughout adulthood. A secure support system is imperative to an individual's capacity to flourish. The perception of satisfied social needs helps equip individuals to handle life's hindrances. Institutions that promote flourishing in students can optimize the functionality and progression of an environment.

Results from the Main Study

Table 4. Means, Standard Deviations (SD), and Reliability Estimates for All Study Variables

<u>All Variables in the Study</u>	<u>Mean</u>	<u>SD</u>	<u>Cronbach's Alpha</u>
Emotional Well-being	4.80	0.91	.87
Social Well-being	3.99	1.14	.85
Psychological Well-being	4.61	0.93	.87
College Student Stress Scale	2.93	0.73	.88
Level of Parental Support	4.17	0.76	.80
Level of Friends' Support	4.32	0.70	.90
In-Person Social Support	3.57	0.75	.90
Online Social Support	3.63	0.77	.88
Institutional Support	3.86	0.74	.74
Family and Friends Support	4.58	0.55	.83
Support from Faculty/Staff	3.14	0.60	.90
Family Support Needs	2.80	0.70	.81
Friend Support Needs	3.19	0.87	.81
Emotional Support Needs	2.96	1.15	.91

Table 5. *Correlations between Measures of Social Support and Student Flourishing*

<u>Social Support Measures</u>	<u>Measures of Student Well Being (Flourishing)</u>		
	<u>Emotional</u>	<u>Social</u>	<u>Psychological</u>
Faculty/Staff Support	.35*	.38*	.43*
Institutional Support	.39*	.39*	.44*
Family Support	.28*	.16*	.28*
In-person Support	.43*	.46*	.50*
Online Support	.37*	.39*	.39*
Parental Support	.31*	.30*	.33*
Friend Support	.46*	.37*	.50*

Asterisk (*) Indicates $p < .05$

Table 6. *Correlations between Measures of Social Support and Student Languishing*

<u>Social Support Measures</u>	<u>Student Stress and Needs for Family, Friends, and Emotion</u>			
	<u>Stress</u>	<u>Family</u>	<u>Friends</u>	<u>Emotional</u>
Faculty/Staff Support	-.27*	-.17*	-.07	-.22*
Institutional Support	-.32*	-.19*	-.15*	-.26
Family Support	-.15*	-.18*	-.05	-.12
In-person Support	-.22*	-.12	-.19*	-.31*
Online Support	-.14*	-.12	-.05	-.24*
Parental Support	-.23*	-.19*	-.15*	-.23*
Friend Support	-.23*	-.19*	-.17*	-.28*

Asterisk (*) Indicates $p < .05$

Table 7. *Correlations between Measures of Student Flourishing and Languishing*

<u>Student Languishing</u>	<u>Measures of Student Well Being (Flourishing)</u>		
	<u>Emotional</u>	<u>Social</u>	<u>Psychological</u>
Student Stress	-.42*	-.42*	-.46*
Family Needs	-.25*	-.25*	-.27*
Need for Friends	-.24*	-.24*	-.32*
Emotional Needs	-.50*	-.50*	-.55*

Asterisk (*) Indicates $p < .05$

References

- Abrams, Z. (2022). Student mental health is in crisis. Campuses are rethinking their approach. *Monitor on Psychology*, 53(7). <https://www.apa.org/monitor/2022/10/mental-health-campus-care>
- Academic Belonging (n.d.) *MIT Teaching + Learning Lab*. <https://tll.mit.edu/teaching-resources/inclusive-classroom/academic-belonging/>
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529.
<https://doi.org/10.1037/0033-2909.117.3.497>
- Cole, D. A., Nick, E. A., Zelkowitz, R. L., Roeder, K. M., & Spinelli, T. (2017). Online social support for young people: Does it recapitulate in-person social support; can it help? *Computers in Human Behavior*, 68, 456-464. doi: <https://dx.doi.org/10.1016/j.chb.2016.11.058>
- Ekman, E., & Simon-Thomas, E. (2021). Teaching the Science of Human Flourishing, Unlocking Connection, Positivity, and Resilience for the Greater Good. *Global advances in health and medicine*, 10, 21649561211023097. <https://doi.org/10.1177/21649561211023097>
- Feldt, R. C. (2008). Development of a brief measure of college stress: The College Student Stress Scale. *Psychological Reports*, 102(3), 855-860. doi: <http://dx.doi.org.ezproxy.tcu.edu/10.2466/pr0.102.3.855-860>
- Fredrickson B. L. (2001). The role of positive emotions in positive psychology. The broaden-and-build theory of positive emotions. *The American psychologist*, 56(3), 218–226.
<https://doi.org/10.1037//0003-066x.56.3.218>
- Garriott, Patton O., & Nisle, Stephanie. (2018). Stress, coping, and perceived academic goal progress in first-generation college students: The role of institutional supports. *Journal of Diversity in Higher Education*, 11(4), 436-450. doi: <https://dx.doi.org/10.1037/dhe0000068>

- Giblett, A., & Hodgins, G. (2021). Flourishing or Languishing? The Relationship Between Mental Health, Health Locus of Control and Generalised Self-Efficacy. *Psychological Reports*.
<https://doi.org/10.1177/00332941211040432>
- Han M, Jiang G, Luo H and Shao Y (2021) Neurobiological Bases of Social Networks. *Front. Psychol.* 12:626337. <https://doi.org/10.3389/fpsyg.2021.626337>
- Harvard T.H. Chan School of Public Health (2022). *New Paper- building flourishing work communities to build a better society*. Sustainability and Health Initiative for NetPositive Enterprise.
<https://shine.sph.harvard.edu/2022/02/16/new-paper-building-flourishing-work-communities-to-build-a-better-society/>
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS medicine*, 7(7), e1000316. <https://doi.org/10.1371/journal.pmed.1000316>
- Hyvärinen, S., Äärelä, T., & Uusiautti, S. (Eds.). (2022). *Positive education and work: Less struggling, more flourishing*. Cambridge Scholars Publisher.
- Lamers, S. M. A., Westerhof, G. J., Bohlmeijer, E T., ten Klooster, P. M., & Keyes, C. L. M. (2011). Evaluating the psychometric properties of the Mental Health Continuum-Short Form (MHC-SF), *Journal of Clinical Psychology*, 67(1), 99-110.
- Las Heras, M., Grau-Grau, M., Rofcanin, Y. (2023). Human Flourishing. In: Las Heras, M., Grau Grau, M., Rofcanin, Y. (eds). Springer, Cham. https://doi.org/10.1007/978-3-031-09786-7_1
- Lieberz, J., Shamay-Tsoory, S. G., Saporta, N., Esser, T., Kuskova, E., Stoffel-Wagner, B., Hurlemann, R., & Scheele, D., (2021). Loneliness and the Social Brain: How Perceived Social Isolation Impairs Human Interactions. *Advanced Science*, 8(21). <https://doi.org/10.1002/advs.202102076>
- Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 43(2), 207-22. <https://doi.org/10.2307/3090197>

- Klaiber, P. (2018). Long term health implications of students' friendship formation during the transition to university. *Applied Psychology: Health and Well-Being*. <https://doi.org/10.1111/aphw.12131>
- Knoesen, R., & Naudé, L. (2018). Experiences of flourishing and languishing during the first year at university. *Journal of Mental Health (Abingdon, England)*, 27(3), 269-278.
<https://doi.org/10.1080/09638237.2017.1370635>
- Kober, H., Barrett, L. F., Joseph, J., Bliss-Moreau, E., Lindquist, K., & Wager, T. D. (2008). Functional grouping and cortical-subcortical interactions in emotion: A meta-analysis of neuroimaging studies. *NeuroImage*, 42(2), 998-1031. <https://doi.org/10.1016/j.neuroimage.2008.03.059>
- Manninen, S., Tuominen, L., Dunbar, R. I., Karjalainen, T., Hirvonen, J., Arponen, E., Hari, R., Jääskeläinen, I. P., Sams, M., & Nummenmaa, L. (2017). Social laughter triggers endogenous opioid release in humans. *The Journal of Neuroscience*, 37(25), 6125-6131.
<https://doi.org/10.1523/JNEUROSCI.0688-16.2017>
- Martino, J., Pegg, J., & Frates, E. P. (2015). The Connection Prescription: Using the Power of Social Interactions and the Deep Desire for Connectedness to Empower Health and Wellness. *American journal of lifestyle medicine*, 11(6), 466-475. <https://doi.org/10.1177/1559827615608788>
- Mushtaq, R., Shoib, S., Shah, T., & Mushtaq, S. (2014). Relationship between loneliness, psychiatric disorders and physical health? A review on the psychological aspects of loneliness. *Journal of clinical and diagnostic research: JCDR*, 8(9), WE01-WE4.
<https://doi.org/10.7860/JCDR/2014/10077.4828>
- Oatley, K., Keltner, D., & Jenkins, J. M. (2006). *Understanding emotions*. Malden, MA: Blackwell Pub.
- O'Donnell, M.B., Shirley, L.A., Park, S.S., Nolen, J.P., Gibbons, A.M., & Rosén, L.A. (2018). The College Adjustment Questionnaire: A Measure of Students' Educational, Relational, and

- Psychological Adjustment to the College Environment. *Journal of College Student Development* 59(1), 116-121. [doi:10.1353/csd.2018.0009](https://doi.org/10.1353/csd.2018.0009).
- Richards, T. N., & Branch, K. A. (2012). The relationship between social support and adolescent dating violence: A comparison across genders. *Journal of Interpersonal Violence*, 27(8), 1540-1561. doi: <https://dx.doi.org/10.1177/0886260511425796>
- Seligman, M. E. P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.
- Slaten, C. D., Elison, Z. M., Deemer, E. D., Hughes, H. A., & Shemwell, D. A. (2018). The development and validation of the University Belonging Questionnaire. *Journal of Experimental Education*, 86(4), 633-651. doi: <https://dx.doi.org/10.1080/00220973.2017.1339009>
- Sturgeon, J. A., & Zautra, A. J. (2016). Social pain and physical pain: shared paths to resilience. *Pain management*, 6(1), 63–74. <https://doi.org/10.2217/pmt.15.56>
- Tindle, R., Castillo, P., Doring, N., Grant, L., & Willis, R. (2022). Developing and validating a university needs instrument to measure the psychosocial needs of university students. *British Journal of Educational Psychology*, 92(4), 1550 – 1570. doi: <https://dx.doi.org/10.1111/bjep.12515>.
- Vansteenkiste, M., Ryan, R.M. & Soenens, B. (2020) Basic psychological need theory: Advancements, critical themes, and future directions. *Motiv Emot* 44, 1–31. <https://doi.org/10.1007/s11031-019-09818-1>
- Volstad, C., Hughes, J., Jakubec, S. L., Flessati, S., Jackson, L., & Martin-Misener, R. (2020). "You have to be okay with okay": experiences of flourishing among university students transitioning directly from high school. *International journal of qualitative studies on health and well-being*, 15(1), 1834259. <https://doi.org/10.1080/17482631.2020.1834259>

Westerhof, G. J., & Keyes, C. L. (2010). Mental Illness and Mental Health: The Two Continua Model Across the Lifespan. *Journal of adult development*, 17(2), 110–119.

<https://doi.org/10.1007/s10804-009-9082-y>

Wissing, M.P., Schutte, L., Liversage, C. Entwisle, B., Gericke, M., & Keyes, C., Important Goals, Meanings, and Relationships in Flourishing and Languishing States: Towards Patterns of Well-being. *Applied Research Quality Life* 16, 573–609 (2021). [https://doi.org/10.1007/s11482-019-](https://doi.org/10.1007/s11482-019-09771-8)

[09771-8](https://doi.org/10.1007/s11482-019-09771-8)

Worsley, J. D., Harrison, P., & Corcoran, R. (2021). Bridging the Gap: Exploring the Unique Transition From Home, School or College Into University. *Frontiers in public health*, 9, 634285.

<https://doi.org/10.3389/fpubh.2021.634285>

Zumbrunn, S., McKim, C., Buhs, E., & Hawley, L. (2014). Support, belonging, motivation, and engagement in the college classroom: a mixed method study. *Instructional Science*, 42(5), 661–

684. <https://doi.org/10.1007/s11251-014-9310-0>

APPENDIX A

Mental Health Continuum – Short Form (MHC-SF)

In the past month, how often did you feel . . .

1. Happy.
2. Interested in life.
3. Satisfied with life.
4. That you had something important to contribute to society.
5. That you belonged to a community (like a social group, your neighborhood, your city.)
6. That our society is becoming a better place for all people.
7. That people are basically good.
8. That the way society works makes sense to you.
9. That you like most parts of your personality.
10. Good at managing the responsibilities of your daily life.
11. That you had warm and trusting relationships with others.
12. That you have experiences that challenge you to grow and become a better person.
13. Confident to think or express your own ideas and opinions.
14. That your life has a sense of direction or meaning to it.

For each of the items listed above, survey respondents will rate the frequency of that feeling in the past month on a six-point Likert scale (never, once or twice a month, about once a week, two to three times a week, almost every day, every day).

The MHC-SF is composed of three factors: Emotional Well-being (items 1 – 3), Social Well-being (items 4 – 8), and Psychological Well-being (items 9 – 14).

APPENDIX B

College Student Stress Scale (CSSS)

For the following items, report how often each has occurred this semester using the following scale:

1. felt anxious or distressed about personal relationships _____
2. felt anxious or distressed about family matters _____
3. felt anxious or distressed about financial matters _____
4. felt anxious or distressed about academic matters _____
5. felt anxious or distressed about housing matters _____
6. felt anxious or distressed about being away from home _____
7. questioned your ability to handle difficulties in your life _____
8. questioned your ability to attain your personal goals _____
9. felt anxious or distressed because events were not going as planned _____
10. felt as though you were NO longer in control of your life _____
11. felt overwhelmed by difficulties in your life _____

Survey respondents will rate each CSSS item on the following scale: Never = 1; Rarely = 2; Sometimes = 3; Often = 4; Very Often = 5. Higher values indicate more student stress.

APPENDIX C

University Needs Instrument (UNI)

I currently need . . .

1. . . . help to deal with family pressure to succeed.
2. . . . help to adjust my lifestyle to suit attending university.
3. . . . to feel that my family supports my study choice.
4. . . . emotional support from family members.
5. . . . the opportunity to spend more time with my family.
6. . . . the opportunity to spend more time with my friends.
7. . . . to connect with other university students in my courses.
8. . . . help to establish new friendships at university.
9. . . . emotional support from my friend not at university.
10. . . . support from friends in the same course as me.
11. . . . help to cope with feeling stressed.
12. . . . help to cope with feeling anxious.
13. . . . help to cope with feeling lonely.
14. . . . help to cope with feeling frustrated.
15. . . . help to cope with feeling depressed.

Each of the fifteen questions begins with the sentence stem, 'I currently need . . .' and participants will rate them on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating lower levels of perceived social support.

The UNI has three social support dimensions: Family Support Needs (items 1 – 5), Friend Support Needs (items 6 – 10), and Emotional Support Needs (items 11 – 16).

APPENDIX D

University Belonging Scale (UBS)

1. I believe that a faculty/staff member at my university cares about me.
2. I feel connected to a faculty/staff member at my university.
3. I feel that a faculty/staff member has appreciated me.
4. I feel that a faculty member has valued my contributions in class.

Survey respondents will rate UBS items using four response options (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree), with higher scores indicating high levels of support.

These scale items are the Faculty/Staff Relations dimension of the UBS.

APPENDIX E

Perceived Environmental Support Scales (PESS)

1. I have received helpful assistance from a teacher or tutor when I needed such help.
2. I have access to a “mentor” who can offer me advice and encouragement.
3. I have received helpful assistance from my advisor.
4. I feel that there are people “like me” at this college.
5. I have access to a positive “role model” (i.e., someone you can look up to and learn from observing).
6. I have received encouragement from my friends for pursuing college.
7. I feel that my family members support my decision to attend college.
8. I feel that close friends or relatives are proud of me for making the decision to attend college.
9. I feel supported for my decision to attend college from important people in my life.

Survey respondents will rate each PESS scale item on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating high levels of perceived support.

The PESS has two dimensions: Institutional Support (items 1 – 5) and Family and Friend Support for Attending College (items 6 - 9).

APPENDIX F

Social Network Scale (SNS)

1. At school, how many times to you start conversations with other?
2. How often do school friends call you (either during school or afterwards)?
3. At school, how many times do people say something nice to you?
4. How many times have people done something nice for you at school?
5. At school, how many people seem to like you?
6. How many friends from school do you talk with most days?
7. How many of your friends from school do you like a lot?
8. How many people at school would say they are your friend?
9. How often do you use the internet to contact other people?
10. How often do other people contact you online?
11. How often does someone say something nice to you online?
12. How many times have people done something nice for you online?
13. How many people have posted something nice about you online?
14. How many online friends do you text or chat with online?
15. How many of your online friends do you like a lot?
16. How many people follow or like you online?

Survey respondents will rate each SNS item on a Likert scale ranging from 0 (none or never) to 4 (a lot), with higher scores indicating high levels of support.

The SNS has two social support dimensions: In-person Social Support (items 1 – 8) and Online Social Support (items 9 – 16).

APPENDIX G

Social Support from Parents and Friends Scales (SSPFS)

1. My parents often ask me what I am doing in school.
2. My parents give me the right amount of affection.
3. I can go to my parents with concerns about dating and my relationships.
4. I feel close to my parents.
5. My parents trust me.
6. I can tell my friends private things and I know they won't tell other people.
7. My friends care about me.
8. My friends make me feel good about myself.
9. I am comfortable talking to my friends when I have a problem.
10. I feel close to my friends.
11. I talk to my friends about my private thoughts and feelings.

Survey respondents will rate each SSPFS item on a Likert scale ranging from 0 (strongly disagree) to 4 (strongly agree), with higher scores indicating high levels of support.

The SSPFS has two dimensions: The Level of Parental Social Support (items 1 – 5) and The Level of Friends' Social Support (items 6 – 11).