

Role of Perceived Social Support in Stress, Life Satisfaction and Academic Performance Among University Students

Seema Zahid, Roza Jamal, and Bushra Hassan

International Islamic University

The present study was designed to gain a better understanding of the role social support plays in reducing stress and promoting life satisfaction and academic performance among university students. A total of 241 male and female students were recruited in a sample using convenient sampling technique. The study revolved around two key questions i.e., whether social support acts as buffer in relationship between stress and academic performance and whether social support renders any interaction effect on relationship between life satisfaction and academic performance. The data were collected using Multidimensional Scale of Perceived Social Support, University Stress Scale, Satisfaction with Life Scale, and Academic Performance Scale. The findings suggest that social support partially mediates the relationship between stress and academic performance whereas the relationship between life satisfaction and academic performance is also contingent upon social support. Given the strength and consistency of findings, it follows that devising stress reduction academic programs would be benefiting for educational institutions. The educationists, researchers and mental health professionals may intervene to further investigate and establish relevant stress concerns and well-being indicators among students.

Keywords. Social support, stress, life satisfaction, academic performance, mediation, moderation

Academic institutions are likely to place rigorous pressure upon the university students. When student's roles and responsibilities come in conflict with each other, they may face difficulties in prioritizing and managing them. The academic success of students doesn't happen in a vacuum; rather it occurs within nested surroundings having subtle and dynamic influences. With continually

Seema Zahid, Roza Jamal, and Bushra Hassan, Department of Psychology, International Islamic University, Islamabad, Pakistan.

Correspondence concerning this article should be addressed Seema Zahid, Department of Psychology, International Islamic University, Islamabad, Pakistan. Email: seemazahid767@gmail.com

increasing challenges, educational institutions have to deal with a major concern of improving overall wellbeing and academic performance of students. A thorough examination of academic literature divulges that psychosocial needs of students contribute significantly to their academic success. The nature of their experiences, such as unmet psychosocial needs, sadness, worry, hopelessness and loneliness have negative impact on overall wellbeing and academic performance of students. In such situations, students are posed with a challenge to balance health, academics, social ties, hobbies and finances which may in turn put a lot of pressure on them (Ceyhan, 2008).

On contrary, a great body of research demonstrates that social support renders positive impact on overall well-being (Gini et al., 2009; Lindsey, Joe, & Nebbitt, 2010). According to Haber et al. (2007) divide social support into two major categories; objective and subjective social support. Objective support involves support systems which are grounded in reality and are not dependent on person's perception such as network support, material support, stable social relations (friends, colleagues, marriage) and unstable social ties (informal groups). The Subjective support encompasses feelings of respect and emotional support and therefore they are largely dependent upon person's subjective perception and feelings. Based on literature discussed above, social support can be viewed in terms of subjective experience based on various social ties and networks related to a person and its objective impact on that person.

Social Support, Stress and Academic Performance

Literature reveals that students experience critical transitions during university life in their young adulthood. These transitions are often characterized by stress, confusion, changes, exploration and choices made during this phase exert enduring ramifications (Arnett, 2000). The students in university often stumble upon circumstances which prove to be in stark contrast to those of school or college life situations. Circumstances like, heavy workload, deadlines, accommodation, scholarship, competition, relationship issues, health issue and homesickness stand as potential stressors for those who are on learning spree at university level (Ceyhan & Ceyhan, 2011).

Furthermore, students in their academic life have limited social exposure and experience as compared to professional life. Therefore, they have comparatively low self-regulation and psychological endurance that consequently make them more vulnerable to psychological issues and poor academic performance (Bask & Salmela-Aro, 2013).

Social support reduces burnouts and enhances emotional balance by providing people with positive and healthy social channels (Boren, 2013). By the same token, literature sheds light on association between social support and academic performance of students. Academic performance is considered as a core criterion for assessing success of students at university level. Literature shows that academic performance and achievement has positive association with social support and life satisfaction of students (Lepp et al., 2014).

Social Support, Life Satisfaction and Academic Performance

Life satisfaction pertains to subjective evaluation of quality of life and an essential element of subjective-wellbeing (Yap & Baharudin, 2016). It indicates various psychological states and serves as a resource for autonomy, emotional regulation, self-control, beliefs, positive emotions, adaptation, problem solving and balance across life span (Jovanovi & Jovanovi, 2016). The association between life satisfaction and academic performance has been focus of attention for many years (Ng et al., 2009; Samaha & Hawi, 2016). Numerous studies investigated antecedents of academic performance (Bourassa et al., 2015; Cheung & Lucas, 2015; Luhmann et al., 2014; Moksnes & Espnes, 2013; Malinauskas et al., 2014).

Literature demonstrates that psychological resources are essential in protecting people from stress and dysfunction in both academic and non-academic contexts. The psychological resources refer to mental mechanisms involving individual's skills, ability, willingness, disposition, motivation or adaptability to change or fit various tasks, environmental or social features (Ployhart & Vandenberg, 2010). The psychological resources are specially considered to be useful for new students who encounter totally new circumstances and experiences. However, among these resources, life satisfaction is a key psychological resource to help people improve their ability adapt to increasingly changing circumstances (Santilli et al., 2014).

However, people receiving higher social support has strong mental capacities and is physically healthier (Cao et al., 2020; Guay et al., 2013; Seiffge-Krenke & Pakalniskiene, 2011). Social support elevates deleterious effects of stressful experiences in terms of health, well-being, life satisfaction and academic performance by annihilating emotional reactions towards stressors and preventing inappropriate coping strategies. So, social support may play moderating role between life satisfaction and academic performance. Therefore, keeping above literature in view, we propose in current study that

social support positively influences academic performance by mediating stress and moderating life satisfaction among university students. Literature yields ample evidence of stress producing negative evidence for students' wellbeing and academic performance. The stress heightens the risk for psychological issues, physical concerns, burnouts, attrition as well as dissatisfaction with life (Lepp et al., 2014; Leamson, 1999; Purdie et al., 1996; Zhao et al., 2005). Therefore, it becomes pertinent to identify buffering factors to prevent stress and elate life satisfaction while producing positive academic outcomes for students. The current study thus aims to investigate mediating role of social support between stress and academic performance.

On the flip side, literature demonstrates that life satisfaction is positively associated with wellbeing and academic achievement of students (Dogan & Celik, 2014; Kumar et al., 2016; Ng et al., 2009; Samaha & Hawi, 2016). Thus, the study intends to explore whether the level of social support accounts for any variation in relationship between life satisfaction and academic performance. Despite the range of extant literature, fewer emanated from developing countries to emphasize university students in terms of stress, life satisfaction, academic outcomes and social support. Majority of studies focused on medical and engineering students (Dahlin et al., 2005; Perdan et al., 2000; Saipanish, 2003) yet, literature on students from social sciences particularly from the field of Psychology is lacking. The ignominy of performance below potential, rising cases of stress, depression, dissatisfaction and suicide students from social sciences intensifies the need for investigating the life of students in deeper details and with higher frequency. Therefore, the present study aims to fill in literature gaps by providing empirical evidence on role of social support between stress, life satisfaction and academic performance while emphasizing social sciences students. The study comes up with following implications.

This study will enhance the body of literature regarding the mediating role and moderating roles of social support in stress, life satisfaction and academic performance among university students. At baseline, the inferences made from this study can be communicated to people via internet, journals, orientation programs and classroom discussions. It would help students; teachers and professionals understand the immense importance of social support. It would enhance their awareness of how life and academic outcomes may vary with the presence, absence or extent of available social support. This information would in turn help them understand their own situations and take corrective actions in a better way.

At broader level, as the major concern for higher education institutions these days is to recruit, retain and facilitate students achieve their full potential while balancing their academic and non-academic life domains. The findings of the present study would serve as valuable input to parents, educators and mental health professionals to facilitate students' academic outcomes and promote balance in their professional and personal lives by elevating stressors and enhancing life satisfaction and overall wellbeing. Tavassoli and Sune (2018) found that social support enhances work-life balance by rendering positive impact on the working roles and responsibilities. Social support facilitates organizational commitment, work fulfillment and career achievement (Marcinkus et al., 2007; Tavassoli & Sune, 2018). Moreover, as it is evident that academic outcomes also determine overall well-being and quality of life of students. To that end, encumbrance lies on educators to see students as dynamic beings and bring the best out of them. Therefore, based upon these results, a comprehensive learning system can be devised to foster overall development of students. Ultimately, in times of pronounced paucity of quality education at university level, the present study will offer food for thought for various subsequent studies involving different samples to validate its findings.

Hypotheses

1. There is negative relationship between stress and academic performance among university students.
2. There is positive relationship between social support and academic performance among university students.
3. Social support significantly mediates the relationship between stress and academic performance among university students.
4. The social supports moderate the relationship between life satisfaction and academic performance among university students.

Method

Participants and Procedure

A sample of 270 students including female students ($n = 137$) and males ($n = 133$) from five different universities in Islamabad and Rawalpindi yielded the empirical evidence for the study. These five universities included International Islamic University Islamabad (IIUI), Foundation University Rawalpindi Campus, Capital University of Science & Technology, Fatima Jinnah University Rawalpindi, and Riphah International University. The capital city Islamabad and

Rawalpindi being adjacent to each other are called as Twin cities of Pakistan. The twin cities are the pivot for higher education and are known for their top-ranked national and international universities. The sample was elicited using convenient sampling technique. The researcher sought ethical approval from Institutional Ethical Review Committee, IIUI. After fulfilling all requirements, the researcher approached the participants and briefed about the purpose of the study. Informed consent was taken from them and all of them willingly participated in the study.

Measures

Multidimensional Scale of Perceived Social Support (MSPSS)

Perceived Social Support pertains to perception of help and support coming from family, friends or social channels. In current study perceived social support was measured using MSPSS. This scale was designed by [Zimet et al in 1988](#). It consists of 12 items in total based on 7-point likert type format. The response options range from *very Strongly disagree* (1) to *very Strongly agree* (7). The internal consistency of the scale was found to be .84. The scale can be scored either by dividing it into three subscales i.e. significant other subscale, family subscale and friends subscale and calculating the mean or otherwise by obtaining the sum across 12 items and then dividing the sum by 12. Low score on the scale indicates low social support and vice versa.

University Stress Scale

Stress in general refers to any kind of change producing physical, emotional or psychological strain. The stress among university students in present study was assessed using University Stress Scale ([Stallman & Hurst, 2016](#)). The scale consists of 21 items against 4 response categories ranging from *not at all* (0) to *constantly* (3). The score is obtained by the sum across all items while the cut off score being 13. A score greater than 13 is predictive of significant stress among students. The internal consistency of the instrument was found to be .83.

Satisfaction with Life Scale (SWLS)

Life satisfaction refers to a measure of subjective well-being in terms of mood, goal achievement, self-concept and satisfaction with relationships. The life Satisfaction of students in present study was determined using SWLS. This scale was devised by [Diener et al. in 1985](#). It consists of 5 items measuring satisfaction with life. The scale

is based on 7-point rating scale ranging from ‘*Strongly disagree*’ (7) to ‘*Strongly agree*’ (1). The Internal consistency coefficient for this scale was found to be .77. The level of satisfaction with life is determined by interpreting total score on the scale. Higher score indicates higher satisfaction with life and vice versa.

Academic Performance Scale

Academic performance refers to the extent to which a student achieves short term as well as long term educational goals. The academic performance of students in present study was assessed via q This is a self-report measure having 5-point rating scale (Carson Birchmeier et al., 2015 as cited in Varsha & Arjun, 2024). It consists of 8 items in total with response categories ranging from ‘*Strongly agree*’ (4) to ‘*Strongly disagree*’ (1). Different score-ranges are provided for assessing the level of academic performance. These ranges include; 33-40 (excellent performance), 25-32 (Good performance), 17-24 (moderate performance), 9-16 (poor performance), 0-8 (failing performance). The scale marked internal consistency of .75.

Results

Table 1: *Frequencies and Percentages of Demographic Variables of Study (N = 241)*

Variables	Categories	n	%
Gender	Male	98	40.7
	Female	143	59.3
Age	15-20 years	97	40.2
	21-25 years	138	57.3
	26-30 years	06	2.5
Semester No.	1 st	10	4.1
	2 nd	09	3.7
	3 rd	07	2.9
	4 th	05	2.1
	5 th	72	29.9
	6 th	11	4.6
	7 th	33	13.7
	8 th	94	39.0

Above Table shows frequency and percentage of demographic variables of the study which are gender, age and semester order of university students. There were 59.3% females and 40.7% males in the sample of different age range. Out of total sample, 40.2% fall in the age range 15-20 years, 57.3% were between 21-25 years of age while 2.5% were from 26-30 years age range. Similarly, semester

order indicates that students participating from first semester comprised 4.1% of the sample, second semester students were 3.7%, third semester students comprised 2.9% and so on.

Table 2: *Psychometric Properties of the Study Variables (N = 241)*

Variables	k	α	M	SD	Range		
					Actual	Skewness	Kurtosis
Perceived Social Support	12	.84	63.02	11.43	23-54	-.43	.29
Stress	21	.83	18.42	8.47	10-47	.43	.49
Life Satisfaction	05	.77	26.22	5.51	10-35	-.75	.25
Academic Performance	08	.75	32.75	3.80	23-40	.04	-.54

Above mentioned [Table 2](#) indicates descriptive statistics, alpha coefficients and number of items for perceived social support, stress, life satisfaction and academic performance. Alpha coefficients of all measures were found to be in good range. For perceived social support, it is .84, for stress, .83 for life satisfaction it is .77 and for academic performance, it is .75. The standardized Skewness and kurtosis values are between -1 to +1, which shows data is normally distributed.

Table 3: *Correlation between Social Support, Stress, Life Satisfaction and Academic Performance (N = 241)*

#	Scales	I	II	III	IV
I	Social Support	-			
II	Stress	-.21**	-		
III	Life Satisfaction	.53**	-.16*	-	
IV	Academic Performance	.30**	-.60*	.03**	-

Note. * $p < .05$. ** $p < .01$.

[Table 3](#) demonstrates correlation coefficients between social support, stress, life satisfaction, academic performance. The results indicate that social support has significant negative relationship with stress ($r = -.21, p < .01$) and significant positive relationship with life satisfaction ($r = .53, p < .01$) and with academic performance ($r = .30, p < .05$) the table further indicates that stress has significant negative relationship with life satisfaction ($r = -.16, p < .01$) and with academic performance ($r = -.06, p < .01$). The life satisfaction has significant positive relationship with academic performance ($r = .31, p < .01$) whereas academic performance has significant positive relationship with life satisfaction ($r = .03, p < .01$).

The predicting role of social support, stress and life satisfaction in academic performance of university students was determined using simple linear regression analysis. It was used to assess the amount of variance contributed by predictor variable towards outcome variable. The results summarised as follows.

Table 4: *Linear Regression Analysis Predicting Academic Performance through Social Support, Stress and Life Satisfaction (N = 241)*

Variable	B	SEB	B	t	p
Social Support	.10	.02	.30	4.92	.000
Stress	-.03	.03	-.06	.98	.02
Life Satisfaction	.21	.04	.31	5.11	.000

Table 4 reveals that social support accounted for 9.2% of variance in academic performance $F(1, 239) = 24.25, p < .001$ and thus, significantly positively predicts academic performance $t(239) = 4.92, p < .001$. However, stress accounted for 0.4% of variance in academic performance $F(1, 239) = .980, p < .05$ and therefore significantly negatively predicts academic performance $t(239) = .98, p < .05$. Moreover, life satisfaction accounted for 9.9% of variance in academic performance $F(1, 239) = 26.13, p < .001$ so, significantly positively predicts academic performance $t(239) = 5.11, p < .001$.

Mediation of Social Support Between Stress and Academic Performance

Table 5: *Mediating Role of Social Support Between Stress and Academic Performance (N = 241)*

	Social Support		
	B [95% CI]	SE B	β
Step I			
Constant	68.55** [28.07-40.04]	1.81	
stress	-.295** [-0.30, -0.10]	.113	-.2104**
$R = .21, R^2 = .04, F(1, 239.0) = 94.88 (p < .001)$			
Step II			
Constant	26.40** [23.3, 29.46]	1.55	
Stress	-.01* [-.04, -.00]	.02	.00*
Academic performance	.10** [.01, .11]	.02	.30**
$R = .30, R^2 = .09, F(2, 238.0) = 12.07 (p < .001)$			

Note. * $p < .05$. ** $p < .01$.

Table 5 shows process analysis to investigate the mediating role of social support between stress and Academic performance. In step-II the R^2 value of .09 explained 9.21% variance in the outcome variable by the mediator social support, $F(2, 238) = 12.07$, $p < .001$. Results show that social support ($B = .30^{**}$, $p < .001$) significantly partially mediated the relationship between stress and Academic performance.

Figure 1. *Mediation of Social Support Between Stress and Academic Performance*

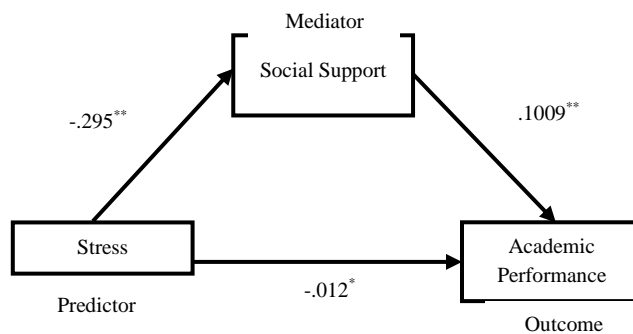


Figure 1 is showing the direct effect of stress on Academic performance ($B = -.012$, $p < .05$) and an indirect effect of stress through social support ($B = -.295$, $p < .001$) on academic performance ($B = .1009$, $p < .001$)

Moderation of Social Support on Life Satisfaction and Academic performance

To study the moderating role of social support in relationship between life satisfaction and academic performance, moderation analysis was performed through PROCESS Macro and results are as follows.

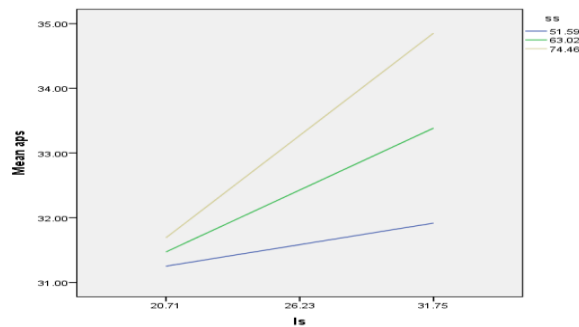
Table 6: *Moderating Role of Social Support in Relationship Between Life Satisfaction and Academic Performance (N = 241)*

	<i>B</i>	<i>SEB</i>	<i>t</i>	<i>p</i>	95% CI	
					<i>LL</i>	<i>UL</i>
Constant	39.59	4.51	8.76	.000	30.69	48.49
Life Satisfaction	.45	.18	2.47	.01	.20	.52
Social support	.18	.07	2.41	.01	.02	.30
Interaction of Variables	.00	.00	3.40	.000	.00	.01

At the mean value of life satisfaction there was a significant positive relationship between life satisfaction and academic performance $\beta = .45$, $t = 2.47$ ($p < .05$). At the mean value of the

social support there was a significant positive relationship between social support and academic performance $\beta = .18, t = 2.41 (p < .05)$. There is a significant interaction between life satisfaction and social support in predicting academic performance $\beta = .00, t = 3.40 (p < .001)$. This indicates that relationship between life satisfaction and academic performance is conditional upon social support.

Figure 2. Moderating Role of Social Support in Relationship Between Life Satisfaction and Academic Performance



Results of modgraph indicates when social support is low (-1SD) there is significant positive relationship between life satisfaction and academic performance $\beta = .06, t = 1.10 (p < .05)$, on average scores of social support there is significant positive relationship between life satisfaction and academic performance $\beta = .17, t = 3.54 (p < .001)$. Moreover, at higher level of social support (+1SD) there is also significant positive relationship between life satisfaction and academic performance $\beta = .28, t = 4.51 (p < .001)$. Therefore, we can conclude that social support significantly moderates the relationship between life satisfaction and academic performance and it shows that at the higher level of social support, life satisfaction is related with better academic performance.

Discussion

The extant literature evinces that stress is inherent among university students and that it comes up with negative health and academic outcomes (Ceyhan, 2008). To that note social support serves as a buffer against stress facilitating positive outcomes (Rueger et al., 2010). However, there is scarcity of research exploring buffering role of social support against stress and with academic outcome such as performance or achievement of students in social sciences. Therefore, the first major question addressed in present study was whether social support plays protective role between stress and academic performance of students.

The findings against this question revealed that social support has significant negative correlation with stress and significant positive with academic performance. The regression analysis showed that social support accounts for positively predicting academic performance whereas stress accounted for predicting academic performance negatively. Moreover, mediation analysis revealed direct effect of stress on academic performance is significant positive and an indirect effect of stress through social support is significant negative on academic performance. This means that social support significantly partially mediates the relationship between stress and academic performance. Therefore, the first major question is supported by the findings of the study. Studies reveal that social support plays its buffering role by redefining the stress situation and ultimately changing the relationship between stress and wellbeing (Cabanach et al., 2010). It facilitates coping and buffers against negative influence of stress (Strom & Egede, 2012).

The second major research question formulated was whether social support render any interaction effect on relationship between life satisfaction and academic performance. This question was also addressed with the help of various statistical analyses. The correlation analysis revealed that life satisfaction has significant positive relationship with academic performance. The regression analyses revealed that life satisfaction accounted for positively predicting academic performance. The social support as noted above accounted for academic performance thus positively predicting academic performance of students. The moderation analysis demonstrated that at the mean value of life satisfaction, a significant positive relationship exists between life satisfaction and academic performance. Similarly, at the mean value of the social support, significant positive relationship exists between social support and academic performance

Moreover, significant interaction between life satisfaction and social support was found in predicting academic performance. This means that the relationship between life satisfaction and social support is contingent upon social support. The findings therefore, supported the second major question and echoed with existing literature. These findings are relatable to studies which demonstrate that social support moderate between life satisfaction and other positive psychological constructs such as well-being, happiness, and success (Cao et al., 2020; Guay et al., 2013; Seiffge-Krenke & Pakalniskiene, 2011). Research showed that the higher the level of perceived social support, lower will be the risks for negative mental health outcomes such as anxiety, depression and social pressure and thus life satisfaction of people perceiving more social support tends to be higher (McDougall

et al., 2016). Summing up, the objectives of the present study were successfully achieved with research questions being adequately addressed and sufficiently supported by the findings.

Limitations and Suggestions

The methodological issues and time constraints may be seen as limitations of the present study. The participant included in the study belonged to particular age range, religion and region of Pakistan facilitating greater homogeneity in the sample. Moreover, the differences in practicum schedule, course requirements and nature of pressures among various semester might have influenced the responses of students. The participants from initial 4 semesters were less as compared to those in last 4 semesters. In future, research would benefit from equal representation from all semesters with demographic depth may offer more information about the study variables. Future research can explore potential influence of body dysmorphic disorder on life satisfaction or machine algorithms can be used to uncover the relationship between academic performance and life satisfaction. Moreover, the other positive psychological constructs can be explored in their mediating or moderating roles which may serve to improve academic outcomes for students.

Implications

The educationists, researchers and mental health professionals may intervene to further investigate and establish relevant stress concerns and well-being indicators among students. This will consequently facilitate the development and implementation of more generalized student-focused academic programs making it possible for students to reach their potentials fully.

Conclusion

The present study concluded that stress creates negative impact on life satisfaction and academic performance of the students. Given the strength and consistency of findings, it follows that devising stress reduction academic programs would be benefiting for educational institutions.

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the early twenties. *American Psychologist*, 55(5), 469-480. <https://doi.org/10.1037/0003-066X.55.5.469>

- Bask, M., & Salmela-Aro, K. (2013). Burned out to drop out: Exploring the relationship between school burnout and school dropout. *European Journal of Psychology of Education, 28*(2), 511-528. <https://doi.org/10.1007/s10212-012-0126-5>
- Bernard, C. (1957). *An introduction to the study of experimental medicine* (Vol. 400). Courier Corporation.
- Boren, J. P. (2013). The relationships between co-rumination, social support, stress, and burnout among working adults. *Management Communication Quarterly, 28*(1), 3-25. <https://doi.org/10.1177/0893318913509283>
- Bourassa, K. J., Sbarra, D. A., & Whisman, M. A. (2015). Women in very low quality marriages gain life satisfaction following divorce. *Journal of Family Psychology, 29*, 490-499. <https://doi.org/10.1037/fam0000075>
- Cabanach, R. G., Cervantes, R. F., Doniz, L. G., & Rodríguez, C. F. (2010). Estresores académicos percibidos por estudiantes universitarios de ciencias de la salud. *Fisioterapia, 32*(4), 151-158. <https://doi.org/10.1016/j.ft.2010.01.005>
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., et al. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Res. https://doi.org/10.1016/j.psychres.2020.112934*
- Ceyhan, A. A. (2008). Predictors of problematic internet use on Turkish university students. *Cyber Psychology and Behavior, 11*(3), 363-366.
- Ceyhan, A., & Ceyhan, E. (2011). Investigation of university students' self-acceptance and learned resourcefulness: A longitudinal study. *Higher Education, 61*(6), 649-661. <https://link.springer.com/article/10.1007/s10734-010-9354-2>
- Cheung, F., & Lucas, R. E. (2015). When does money matter most? Examining the association between income and life satisfaction over the life course. *Psychology and Aging, 30*(1), 120-135. <https://doi.org/10.1037/a0038682>
- Dahlin, M., Joneborg, N., & Runeson, B. (2005). Stress and depression among medical students: A cross-sectional study. *Medical Education, 39*(6), 594-604. <https://doi.org/10.1111/j.1365-2929.2005.02176.x>
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71-75. http://www.10.1207/s15327752jpa4901_13
- Doğan, U., & Çelik, E. (2014). Examining the factors contributing to students' life satisfaction. *Educational Sciences: Theory and Practice, 14*(6). <https://files.eric.ed.gov/fulltext/EJ1050499.pdf>
- Gini, G., Carli, G., & Pozzoli, T. (2009). Social support, peer victimization, and somatic complaints: A mediational analysis. *Journal of Pediatrics and Child Health, 45*(6), 358-363. <https://doi.org/10.1111/j.1440-1754.2009.01501.x>
- Glass, D., & Singer, J. (1972). *Urban stress: Experiments on noise and social stressors*. Academic Press.

- Guay, F., Ratelle, C., Larose, S., Vallerand, R. J., & Vitaro, F. (2013). The number of autonomy-supportive relationships: Are more relationships better for motivation, perceived competence, and achievement? *Contemp. Educational Psychology*, *38*, 375-382. <https://doi.org/10.1016/j.cedpsych.2013.07.005>
- Haber, M. G., Cohen, J. L., Lucas, T., & Baltes, B. B. (2007). The relationship between self-reported received and perceived social support: A meta-analytic review. *American Journal of Community Psychology*, *39*, 133-144.
- Jovanović, V., & Gavrilov-Jerković, V. (2016). The structure of adolescent affective well-being: The case of the PANAS among Serbian adolescents. *Journal of Happiness and Studies*, *17*, 2097-117. <https://doi.org/10.1007/s10902-015-9687-8>
- Kumar, H., Shaheen, A., & Rasool, I., & Shafi M. (2016) Psychological Distress and Life Satisfaction among University Students. *Journal of Psychological Clinical and Psychiatry*, *5*(3), 1-7.
- Leamson, R. N. (1999). *Thinking about teaching and learning: Developing habits of learning with first year college and university students*. Stylus Publishing, LLC. <https://doi.org/10.4324/9781003448174>
- Lepp, A., Barkley, J. E., & Karpinski, A. C. (2014). The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students. *Computers in Human Behavior*, *31*, 343-350.
- Lindsey, M. A., Joe, S., & Nebbitt, V. (2010). Family matters: The role of mental health stigma and social support on depressive symptoms and subsequent help seeking among African American boys. *Journal of Black Psychology*, *36*(4), 458-482. <https://doi.org/10.1177/0095798409355796>
- Luhmann, M., Weiss, P., Hosoya, G., & Eid, M. (2014). Honey, I got fired! A longitudinal dyadic analysis of the effect of unemployment on life satisfaction in couples. *Journal of Personality and Social Psychology*, *107*, 163-180. <https://doi.org/10.1037/a0036394>
- McDougall, M. A., Walsh, M., Wattier, K., Knigge, R., Miller, L., Stevermer, M., & Fogas, B. S. (2016). The effect of social networking sites on the relationship between perceived social support and depression. *Psychiatry Research*, *246*, 223-229. <https://doi.org/10.1016/j.psychres.2016.09.018>
- Malinauskas, R., Dumciene, A., & Lapeniene, D. (2014). Social skills and life satisfaction of Lithuanian first-and senior-year university students. *Social Behaviour and Personality: An International Journal*, *42*(2), 285-294. <https://doi.org/10.2224/sbp.2014.42.2.285>
- Marcinkus, W. C., Whelan-Berry, K. S., & Gordon, J. R. (2007). The relationship of social support to the work-family balance and work outcomes of midlife women. *Women in Management Review*, *22*(2), 86-111. <https://www.emerald.com/insight/content/doi/10.1108/09649420710732060/full/html?fullSc=1>

- Moksnes, U. K., & Espnes, G. A. (2013). Self-esteem and life satisfaction in adolescents-gender and age as potential moderators. *Quality of Life Research*, 22, 2921-2928. <https://doi.org/10.1007/s11136-013-0427-4>
- Ng, W., Diener, E., Aurora, R., Harter, J., Affluence, feelings of stress, and well-being (2009). *Social Indicators Research*, 94, 257-271.
- Perdan, S., Azapagic, A., & Clift, R. (2000). Teaching sustainable development to engineering students. *International Journal of Sustainability in Higher Education*, 1(3), 267-279. <https://doi.org/10.1108/14676370010378176>
- Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, 36, 94-120. <https://doi.org/10.1177/0149206309352110>
- Purdie, N., Hattie, J., & Douglas, G. (1996). Student conceptions of learning and their use of self-regulated learning strategies: A cross-cultural comparison. *Journal of Educational Psychology*, 88(1), 87. <https://doi.org/10.1037/0022-0663.88.1.87>
- Rueger, S. Y., Malecki, C. K., & Demaray, M. K. (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. *Journal of Youth and Adolescence*, 39(1), 47-61. <https://link.springer.com/article/10.1007/s10964-008-9368-6>
- Saipanish, R. (2003). Stress among medical students in a Thai medical school. *Medical Teacher*, 25(5), 502-506. <https://doi.org/10.1080/0142159031000136716>
- Samaha, M., & Hawi, N. S. (2016). Relationships among smartphone addiction, stress, academic performance, and satisfaction with life. *Computers in Human Behavior*, 57, 321-5. <https://doi.org/10.1016/j.chb.2015.12.045>
- Santilli, S., Nota, L., Ginevra, M. C., & Soresi, S. (2014). Career adaptability, hope and life satisfaction in workers with intellectual disability. *Journal of Vocational Behavior*, 85(1), 67-74. <https://doi.org/10.1016/j.jvb.2014.02.011>
- Seiffge-Krenke, I., & Pakalniskiene, V. (2011). Who shapes whom in the family: Reciprocal links between autonomy support in the family and parents' and adolescents' coping behaviors. *Journal of Youth and Adolescence*, 40, 983-995. <https://doi.org/10.1007/s10964-010-9603-9>
- Sirgy, M. J., Grzeskowiak, S., & Rahtz, D. (2007). Quality of college life (QCL) of students: Developing and validating a measure of well-being. *Social Indicators Research*, 80(2), 343-360. <https://link.springer.com/article/10.1007/s11205-005-5921-9>
- Stallman, H. M., & Hurst, C. P. (2016). The University Stress Scale: Measuring domains and extent of stress in university students. *Australian Psychologist*, 51(2), 128-134. <https://doi.org/10.1111/ap.12127>

- Strom, J. L., & Egede, L. E. (2012). The impact of social support on outcomes in adult patients with type 2 diabetes: A systematic review. *Current Diabetes Reports, 12*, 769-781.
- Tavassoli, T., & Sune, A. (2018). A national study on the antecedents and outcomes of work-life balance in Iran. *People: International Journal of Social Sciences, 3*(3) 1616-1636. <http://hdl.handle.net/2117/114636>
- Varsha, V. D., & Arjun, A. S. (2024). Mindfulness, Resilience and Academic performance among College Students. *International Journal of Indian Psychology, 12*(2). <https://ijip.in/wp-content/uploads/2024/05/18.01.133.20241202.pdf>
- Yap, S. T., & Baharudin, R. (2016). The relationship between adolescents' perceived parental involvement, self-efficacy beliefs, and subjective well-being: A multiple mediator model. *Social Indicators Research, 126*, 257-278.
- Zhao, C. M., Kuh, G. D., & Carini, R. M. (2005). A comparison of international student and American student engagement in effective educational practices. *The Journal of Higher Education, 76*(2), 209-231. <https://doi.org/10.1080/00221546.2005.11778911>
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment, 52*, 30-41. https://doi.org/10.1207/s15327752jpa5201_2

Received 28 August 2023
Revision received 26 May 2024