

Psychological Resilience and Coping Strategies in Stressful Situations among Undergraduate Students in Walaga University, Ethiopia

Bikila Regassa, Jimma University,
Adugna Bersissa, (PhD) Wallaga University
and
Bayie Biru, Jimma University

Abstract

Studying in a university has multifaceted challenges: the stage of development, academic requirements, and social relationships demand a strong psychological resilience and coping strategies. In Ethiopia, psychological resilience and coping strategies in stressful situations among the university students has not been studied. Therefore, the current study aims to examine the psychological resilience and coping strategies in stressful situations among undergraduate students in Wallaga University. Institution-based cross-sectional study was employed from April 01- 30, 2022. Stratified random sampling technique was used to select 398 study participants. Data was collected by structured and self-administered questionnaire using resilience resource scale (RSS) and Coping Inventory for Stressful Situations (CISS-21). Data was entered in to Epidata software version 3.1 and exported to SPSS version 26 for cleaning and analysis. Pearson's correlation and multivariate linear regression were employed to explore the correlation between the predictors and the outcome variable. P-value <0.05 with 95% confidence interval was used to declare the statistical significance. A total of 381 undergraduate students were included in the analysis with response rate of 95.73%. The mean age of the study participants was 21.87 (standard deviation ± 1.62) years. The total score on the RRS and CISS ranged from 16 to 60 with the mean score of 49.12 (SD ± 7.06); 95% CI: 48.41-49.83 and from 41 to 105 with the mean score of 76.62 (SD ± 11.22); 95% CI: 75.44-77.81. Resilience has a positive correlation with coping strategy score and its components. Being rural resident ($\beta = -2.042$; 95% CI; -3.395 to -0.688), first year ($\beta = -7.032$; 95% CI; -10.918 to -3.145), second year ($\beta = -3.082$; 95% CI; -4.971 to -1.193), task-oriented coping ($\beta = 1.046$, 95 CI; 0.455-1.636), emotion-oriented coping ($\beta = 1.936$; 95 % CI: 1.335-2.537) and avoidance coping ($\beta = 2.881$; 95% CI: 2.286-3.477) were predictors that were independently correlated with psychological resilience among undergraduate students. The study generally showed a considerable level of psychological resilience and coping strategies among undergraduate students. Psychological resilience and coping strategies were positively correlated. Rural residence and being in junior classes (1st and 2nd years) were negatively correlated while the three components of coping strategies were positively correlated with the psychological resilience of the students. Considering the level of psychological resilience and coping strategies of the junior and rural coming students were strongly recommended.

Keywords: Resilience, coping style, university, undergraduate

Introduction

The transition to university, and indeed simply studying in higher education, can influence the psychological outlooks of young adults in many different ways that can stimulate stressful situations and contributes to psychological distress (Bracaglia, 2017; Wu et al., 2020).

In addition to the demands in academic fields, university students also experience other stressors, including identity development, financial pressures, emotions, new housings, formation of new social networks as well as adaptation to new social roles (Gomez, Zayas, Ruiz & Guil, 2018; Pidgeon & Pickett, 2017). Knowing how young adults successfully transition this stage while overcoming adversity is critical (Anasuri & Anthony, 2018). How the students respond to these stressful conditions is essentially linked with how they will perform academically, and also numerous of other social and psychological factors (Anasuri, et al., 2018).

Transitions are a source of stress where individuals leave the familiar network behind, entering into an unfamiliar territory. Besides, the academic pressure that the university students are exposed to can have a negative effect on their mental health (Pidgeon & Pickett, 2017; Wu et al., 2020). Literatures indicated that psychological distress increases as the university students pass from first year to second year (Gomez, Zayas, Ruiz & Guil, 2018). One factor that has been shown to mediate this adversity is ‘resilience’ (Robbins, Kaye and Catling, 2018).

Even though there is no single definition given, resilience for the university students is defined as capacity to rebound or bounce back from adversity, conflict and failure, or even positive events, progress and increased responsibility. It explains why some students bounce back and successfully progress and while others succumb to the challenges and stressful experiences they face in the course of their studies (Backmann, Weiss, Schippers & Hoegl, 2019; Gomez, et al., 2018). Richardson’s (2002) metatheory of resilience explained the educational experience of identifying and exploring resilience allows students to contemplate who they are and how their body, mind, and spirit function in relation to transpersonal sources of strength. Resilience as a driving force is experienced simplistically yet with profound impact as one’s childlike, moral, intuitive, and noble natures (Richardson, 2002).

Coping is thoughts and behaviors that people use to manage the internal and external demands of situations that are appraised as stressful. There is no gold standard for the measurement of coping. The measurement of coping is probably as much art as it is science. The art comes in selecting the approach that is most appropriate and useful to the researcher’s question. Sometimes the best solution may involve several approaches (Folkman & Moskowitz, 2004).

Coping strategies refer to the cognitive and behavioral changes that result from the management of an individual’s specific external/internal stressors (Chen, 2016; Wu et al., 2020). Researchers have proposed three distinct types of coping strategies: problem-focused coping, emotion-focused coping and avoidance coping (Chen, 2016; Folkman & Moskowitz, 2004; Wu et al., 2020). Problem-focused coping is a task-oriented coping strategy that attempts to alter stressful situations

with active efforts to solve the problem or reduce its negative impact. Emotion-focused coping aims to diminish stressful events through emotional responses such as self-blaming, anger or self-preoccupation. Avoidance coping involves attempts to avoid stressful situations via social distraction or escape from the situation rather than actively facing and dealing with it. Psychological problems are affected by coping methods.

Resilience and coping are related but different constructs with respect to their impact on behavioral changes. Coping refers to cognitive and behavioral strategies to handle and manage stressful events or negative psychological and physical outcomes while resilience refers to the adaptive capacity to recover from stressful situations in the face of adversity (Wu et al., 2020). Researches have been conducted on resilience and coping strategies in other countries than Ethiopia among university students (Bracaglia, 2017; Wu et al., 2020). The findings of the studies highlighted that the higher the level of psychological well-being, the lower the psychological distress among undergraduate students.

Moreover, the studies conducted in Ethiopia in this regard have assessed the resilience in general population focused on certain circumstances like diseases, disabilities, trauma and other behavioral problems (Birhanu, Ambelu, Berhanu, Tefsaye & Woldemichael, 2017; Crivello, Tiumelissan & Heissler, 2021; Seid, 2014; Zegeye, 2020). Even though, currently psychological resilience is becoming very important for differences in performance in the achievement of educational, social life and regaining ones' positive life style in stressful situations, up to date there is lack of empirical publications that claim a relationship of psychological resilience and coping strategies of university students in Ethiopia.

To the best knowledge of the researchers, there is no accessible study claiming on psychological resilience and coping strategies in stressful situations among undergraduate students in Ethiopia, in general, and Wallaga University, in particular. Therefore, the current study aims to investigate the level of psychological resilience and coping strategies in stressful situations and its associated factors among undergraduate students in Wallaga University, Ethiopia. To this effect, the study attempted to provide answers for the following four research questions:

1. What is the level of psychological resilience of undergraduate students in Wallaga university?
2. What is the level of coping strategies of undergraduate students in Wallaga university?
3. Are the levels of psychological resilience and coping strategies differing in gender, residence, year of study, and field of study?
4. What are the factors contributing to psychological resilience among undergraduate students in Wallaga University?

Methods

Research Design, Participants and Procedures

Institution-based correlational research design was used. A random sample of 381 undergraduate students with mean age of 21.87 years ($SD \pm 1.62$) participated in this study from April 01-30, 2022. Males were nearly double (66.1%) the proportion of female participants.

Stratified random sampling technique was utilized. First, the students were stratified based on their respective streams. Their respective colleges/faculties were selected randomly using simple random sampling. Again, the respective departments and year of studies of the students were selected randomly using simple random sampling method. The study unit was also selected using simple random sampling based on the proportionally allocated number of study sample in the selected section.

Measures

Psychological Resilience of Undergraduate Students

Psychological resilience was measured by the resilience resource scale (RRS) containing 12-items having a five Likert scale of 1 strongly disagree to 5 strongly agree. The constructs represented in the scale's 12 items are self-esteem (2 items), mastery (2 items), dispositional optimism (2 items), familism (1 item), spirituality and religiosity (2 items), purpose in life (1 item), and social support seeking skills (2 items). The total score was calculated by summing the item scores, with a possible range from 12 to 60. Higher scores reflected greater resilience (Julian et al., 2020).

Measuring Coping Strategies of Undergraduate University Students

Coping strategies was measured by the Coping Inventory for Stressful Situations: short form CISS-21 which is categorized under three theoretical infrastructures, namely task-oriented coping, emotion-oriented coping and avoidance (Boysan, 2012; Richard S. Lazarus, 1984). Each item has a five-scale Likert type question with 3 sub-scales consisting of 7 items each. The scale was measured on 5-point Likert scale, with possible range from 21 to 105. In this study, CISS above mean indicate those who positively cope with their situation.

Reliability of the Instruments

The reliability of the instruments was checked by Cronbach's alpha coefficient. Accordingly, the Resilience Resource Scale (RRS) and Coping Inventory for Stressful Situations (CISS) showed acceptable internal consistency reliability: 0.798 for RRS and 0.813 for the CISS. The Cronbach alpha for task-oriented coping, emotion-oriented coping and avoidance coping was 0.835, 0.835 and 0.839 respectively.

Validity of the Instruments

The instruments were validated before the actual data collection. The face validity was reviewed by the two subject matter experts from the Department of Psychology. They were selected based

on their subject area expertise and their experiences on the area. Some adjustments were made based on the experts' feedback.

Statistical Analysis

The collected data was checked for its completeness, and coded manually. Data entry was done by Epi-Data software version 3.1 and exported to statistical package for social sciences (SPSS) version 26 for cleaning and analysis. Mean scores of the psychological resilience and coping strategy scales were calculated, summarized and presented in tables along with the demographic characteristics of the students. Three components of CISS were generated by principal

component analysis (PCA) and the rotated component matrix was presented in table (Supplemental tables 1 &2). Eigen value of greater than 1.6 was considered on fixing the extracted factors to three.

For analysis purpose, dummy variables (for k categories, k-1 dummy variables) were created for categorical variables which had more than two categories Alkharusi, (2012) (in this study, residence and year of study). Rural was taken as reference variable and coded as (1=rural,0= non-rural; 1=urban, 0=non-urban and 1=semi-urban, 0=non-semi urban). For the year of study, fifth year was taken as reference variable and coded as (1=first year, 0= others; 1=second year,0=others; 1=third year, 0=others; 1=fourth year, 0=others and 1=fifth year, 0=others).

Descriptive statistics was used to display the sociodemographic variables of the undergraduate students using frequency and percentage and explained using texts, graphs and charts for categorical variables. Mean and standard deviation was used to present self-reported resilience and coping strategy scores by the socio-demographic variables. The reliability of resilience resource scales and Coping Inventory for Stressful Situations: short form CISS-21 was checked for its internal consistency using Cronbach's alpha. To compare differences in resilience and coping between groups by the students' socio demographic, independent sample t-test and one-way Analysis of Variance (ANOVA) were used. For those variables having more than two groups, post hoc test using Tukey HSD test was checked to detect the difference across the groups.

Unstandardized beta (β -coefficient) was used to interpret the strength of predictors of psychological resilience. The degree of correlation between pairs of the variables was measured by Pearson's correlation coefficient (r). Multiple linear regression analysis was performed and the independent variables at $P < 0.05$ were considered as statistically significant.

Results

Socio-Demographic Characteristics of the Study Participants

A total of 381 study participants were involved in the analysis with the response rate of 95.73%. The mean age of the study participants was 21.87 with the standard deviation (SD) of ± 1.62 years. Males were nearly double (66.1%) to the proportion of female participants. First year, 11 (2.9%) to fifth year, 64 (16.8%) batch students were included in the study from five colleges/institutes

with 1: 2.5 ratio of social science stream to the natural science stream. Regarding their place of residence before joining the campus, about half (49.6%), 138 (36.2%) and 54 (14.2%) were rural, urban and semi-urban respectively. Majority of the study participants were single (91.1%). Table 1 illustrated the detail.

Table 1: Socio-demographic Characteristic of Undergraduate Wallaga University Students, 2022

Variables and categories		Frequency	Percentage
Sex	Male	252	66.1
	Female	129	33.9
Mean age		21.78± 1.62	
Residence before joining the university	Rural	138	36.2
	Urban	189	49.6
	Semi urban	54	14.2
Religion	Protestant	204	53.5
	Orthodox	120	31.5
	Muslim	33	8.7
	<i>Waaqeffataa</i>	6	1.6
	Others*	18	4.7
Marital status	Single	347	91.1
	Married	27	7.1
	Others**	7	1.8
Field of study	Natural science stream	274	71.9
	Social science stream	107	28.1
Year of study	Year I	11	2.9
	Year II	157	41.2
	Year III	98	25.7
	Year IV	51	13.4
	Year V	64	16.8
Median monthly pocket money (ETB)		500, with IQR 700	

Keys: *: Catholic, Adventist, Jehova; **: Divorced, widowed; **ETB:** Ethiopian Birr; **IQR:** Interquartile range.

Psychological Resilience and Coping Strategies of the Study Participants

Table 2 shows the difference in the mean score of psychological difference and positive coping strategies among subgroups of the students by their gender, residence, field of study and year of study. The total score on the Resilience Resource Scale ranged from 16 to 60 with the mean score of 49.12 (95% CI: 48.41-49.83), (SD \pm 7.06) and the total score on the Coping Inventory for Successful Situations (CISS) ranged from 41 to 105 with the mean score of 76.62 (95% CI: 75.44-77.81), (SD \pm 11.22).

No significant difference in the resilience level between male and female students (P=0.061) was observed, but in the coping scales (p=0.047). Social science students scored significantly lower than the natural science stream students on RRS (mean score: 49.48 for natural sciences and 47.46 for social science stream students' (p=0.001). There was no significant difference in coping strategies among residence and field of study (p=0.077 and 0.233 respectively). There is a significant difference in resilience (p=0.001) and coping (p=0.001) among 1st, 2nd, 3rd, 4th and 5th year students. As their year of study increases, their resilience and coping strategies also increased.

Table 2: Mean scores of Resilience Resource Scale and Coping Inventory for Stressful Situations by the Undergraduate Students' Characteristics

Characteristics		RRS			CISS		
		Mean (SD)	t	P-value	Mean (SD)	T	P-value
Sex	Male	49.23	0.42	0.061	76.5	-0.29	0.047
	Female	48.89			76.88		
Residence	Rural	47.87	1.87	0.03	75.64	1.61	0.077
	Urban	49.93			77.95		
	Semi-urban	49.48			74.52		
Field of study	Natural science	49.77	2.33	0.001	77.59	2.54	0.233
	Social science	47.46			74.14		
Year of study	1 st year	39.73	3.64	0.001	61.09	3.38	0.001
	2 nd year	47.55			75.79		
	3 rd Year	49.28			74.47		
	4 th Year	51.73			82.37		
	5 th Year	52.27			80.06		

Only seven (1.8%) and 3(0.8%) students scored lower, 71 (18.6%) and 206 (54.1%) scored medium and 303 (79.5%) and 172 (45.1%) scored higher in RRS and CISS respectively. Nearly half (55.1%) of the students were resilient and 192 (50.4%) had good coping strategy in the stressful situations. Explained in Fig.1 below

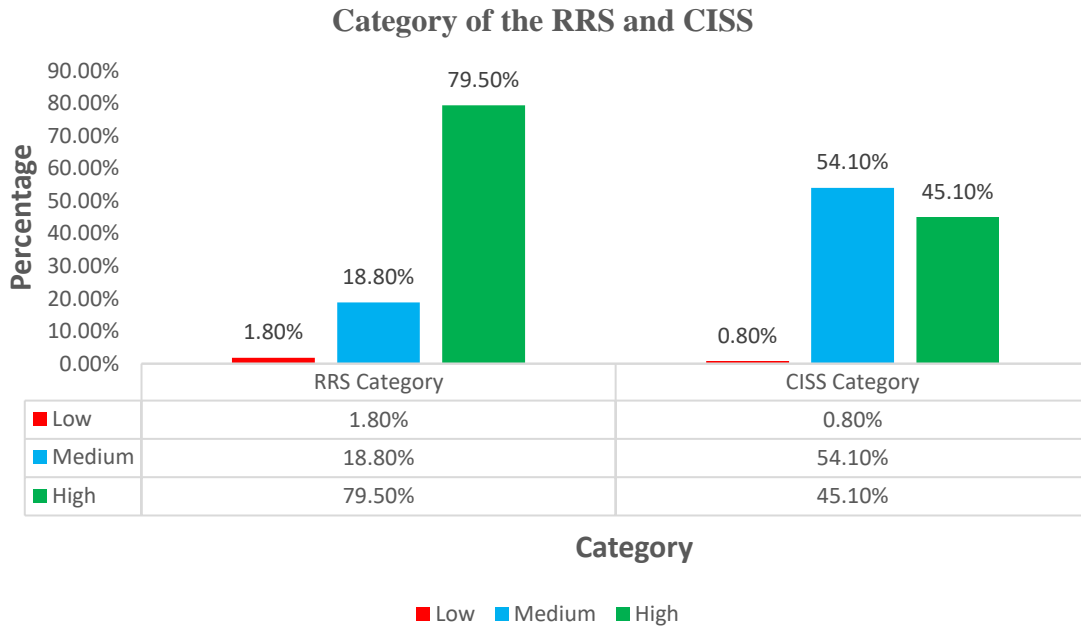


Figure 1: RRS and CISS category among undergraduate students in Wallaga University, 2022.

Correlation between the Psychological Resilience, Coping Strategies and the Students' Demographic Characteristics

The correlations between the psychological resilience of the students and other factors were presented in table 3 below. The correlation analysis showed that, there is a highly significant positive association between the students' psychological resilience and the total coping strategies, the three positive coping components and their demographic characteristics including age, residence, field of study and year of study.

There is no significant correlation between sex and the coping strategies and the three components of the coping of the students. Task-oriented coping had no association with the students' demographic characteristics, while total coping score was poorly associated with field of study and strongly associated with year of study of the students.

Table 3: Correlation between Psychological Resilience of the Students and Other Factors

	Age	Sex	Residence	Pocket money	Field of study	Year of study	Task oriented	Emotion oriented	Avoidance	Total coping
Resilience score	0.106*	0.023	0.112*	0.011	-0.143**	0.319**	0.175**	0.289**	0.458****	0.568**
Age	1.000	-0.221**	0.073	0.055	-0.073	0.302**	0.003	0.118*	0.055	0.107*
Sex		1.000	0.021	0.124*	0.084	0.110*	0.022	-0.008	-0.012	0.015
Residence			1.000	0.144*	0.014	0.030	-0.006	0.022	-0.009	0.007
Pocket money				1.000	0.046	0.086	-0.027	0.106*	0.004	0.061
Field of study					1.000	-0.339**	-0.045	-0.002	-0.141**	-0.121*
Year of study						1.000	0.076	0.131*	0.219****	0.234**
Task oriented							1.000	0.001	0.001	0.591**
Emotion oriented								1.000	0.001	0.586**
Avoidance									1.000	0.471**
Total coping										1.000

*p<0.05; **p<0.01; ***p<0.001

Multiple Linear Regression Analysis of Psychological Resilience, Coping Strategies, and Demographic Characteristics of the Students

Overall, the model showed significant association between the independent variables and psychological resilience (, R squared= 0.379, F=17.231, P<0.05). A higher level of resilience was related to higher coping strategy scores and its components.

Multivariate linear regression analysis showed that, there is a statistically significant positive correlation between the psychological resilience of the students and their previous residence and the three components of coping (task-oriented coping, emotion-oriented coping and avoidance coping) while significant negative association with the year of the study (first and second year).

In this study, students whose residence was rural were about two units less psychologically resilient when compared to those who came from urban areas (β =-2.042, 95% CI, -3.39 to -0.68; p=0.003).

As the students' year of study (seniority) increased, their psychological resilience level improved. For instance, first year students and second year students had about seven units and three units less psychologically resilient when compared to the fifth-year students ($\beta=-7.032$, 95% CI, -10.918 to -3.145, $p<0.001$ and $\beta=-3.082$, 95% CI, -4.971 to -1.193, $p=0.001$) respectively.

The three coping components were positively correlated with the psychological resilience of the undergraduate students. Psychological resilience of the students increases by 1.046, 1.936 and 2.881 units in a unit increase in task-oriented coping ($\beta=1.046$, 95% CI, 0.455-1.636, $P=0.001$), emotion-oriented coping ($\beta=1.936$, 95% CI, 1.335-2.537, $P<0.001$) and avoidance coping ($\beta=2.881$, 95% CI, 2.286-3.477, $p<0.001$) respectively.

Age, sex, field of study and pocket money were not statistically significant with the psychological resilience of the undergraduate students. Table 4 illustrated the multivariate linear regression analysis findings.

Table 4: Multivariate Linear Regression Analysis Result for the Association between Psychological Resilience, Demographic Characteristics and Coping Strategy among Undergraduate Students in Wallaga University, 2022

Variables	Unstandardized coefficients (B)	(SE)	Standardized coefficient (β)	P	95% CI	Collinearity stat. (VIF)
Constant	51.623	4.825		0.001	42.135-61.111	
Age	-0.054	0.206	-0.012	0.795	-0.459-0.352	1.319
Sex						
Male	1	1	1	1	1	
Female	-0.773	0.679	-0.052	0.256	-2.109-0.562	1.226
Residence						
Urban	1	1	1	1	1	
Rural	-2.042	0.688	-0.145	0.003	-3.395 to -0.688	1.299
Semi-urban	-1.939	0.918	-0.005	0.911	-1.910-1.705	1.220
Field of study						
Natural science	1	1	1	1	1	
Social science	0.052	0.703	0.003	0.941	-1.331-1.434	1.185

Year of study						
First year	-7.032	1.977	-0.167	0.001	-10.918 to -3.145	1.301
Second year	-3.082	0.960	-0.215	0.001	-4.971 to -1.193	2.653
Third year	-1.121	0.981	-0.069	0.254	-3.050-0.808	2.182
Fourth year	-1.086	1.092	-0.052	0.321	-3.233-1.061	1.641
Fifth year	1	1	1	1	1	
Pocket money	-0.001	0.001	-0.055	0.214	-0.002-0.001	1.142
Task oriented coping	1.046	0.300	0.148	0.001	0.455-1.636	1.067
Emotion oriented coping	1.936	0.306	0.274	0.001	1.335-2.537	1.105
Avoidance coping	2.881	0.303	0.408	0.001	2.286-3.477	1.086

Discussion

The present study examined the relationship between psychological resilience, demographic characteristics and coping strategies in sample undergraduate students in Wallaga University. The relationship has not been reported previously in Ethiopia; furthermore, it opens the door to suggest the linear association between the psychological resilience, coping strategies and other characteristics of the students in university.

The present study indicated that undergraduate students scored moderate level psychological resilience (49.12 ± 7.06) and substantial level coping strategies (76.62 ± 11.22) in stressful conditions in their campus life. The finding was substantially lower than the findings reported from China (70.41% for resilience) (Wu et al., 2020), university of Free State (84.6% for resilience) (van der Merwe et al., 2020), colleges in USA (Anasuri et al., 2018) but slight higher than the findings reported from other study in (43.2%)(Julian et al., 2020). The possible explanation for the differences could be due to the differences in sample population, the sample size, and the difference in scale of resilience measurement used. For instance, the study from China used Asian Resilience score (ARS) which contained 19 items and that of Free State university used the Connor-Davidson Resilience Scale which contains 25 items. The study participants were also limited to single college (health sciences). However, in the present study, different students (all

batches) from different colleges were included which might contribute to the lower score of the resilience scale.

Moreover, the education policy of the Chinese government supported and maintained the sound mental health college education, provides free psychological counselling services and elective and compulsory mental health courses (Wu et al., 2020). This might, in turn, contribute to the greater resilience scores. In Ethiopia, in spite of the promising policy for inclusion in the education system, there is neither practical nor comprehensive psychological counseling services included in their courses, except for curricular purpose.

The study revealed that undergraduate students with a higher total resilience score experienced more coping strategies. Strong correlations were observed between the students' psychological resilience and task-oriented, emotion-oriented and avoidance coping. The finding of the study was supported by previous studies in China (Wu et al., 2020), Free Syate University (van der Merwe et al., 2020),(de la Fuente et al., 2021). This is because, resilient students are more likely to be competent, self-controlled, tolerant of negative affect, and tends to accept changes with attitude when compared to non-resilient students. Therefore, when encountering difficulties and adversities, they are more likely to alter the situations and/or take actions to solve the problem (i.e., task-oriented coping strategy), rather than to blame themselves for being too emotional, become tense or daydream (i.e., emotion-oriented coping strategy) and tend to avoid the stressful conditions through social diversion or off-putting themselves with other situations or tasks (Chen, 2016).

In this study, junior students (first year and second year) were less psychologically resilient compared to their senior students (third and fourth year). There is an inverse association between the resilience resource scale and first- and second-year studies and the association was highly significant. Though not statistically significant, the third- and fourth-year students were also less resilient (marginal) when compared to the fifth-year students. This indicates that as the duration of the students in the campus lengthened, their level of psychological resilience also escalates or improved and the reverse also holds true. This is supported by other findings (van der Merwe et al., 2020). This might be due to the improvement of personal development as the students progressed in their studies. Again, the more they stay in campus, the more they adapt to the challenges aroused from academic stress and complex social relationships. However, in one of the universities in China, year of study was not statistically associated with the resilience score. This might be due to the supportive guidelines and policy of the education system of the country in which all the students had equal chance to be included in the policy-supported free psychological counseling services and the inclusion of the psychological resilience courses to their education system. According to the interventional study in China, the mental health education has a potential to link the content of education as the purpose and essence of education to help college students improve the health psychological basis and spiritual concepts including the scientific and objective ideological understanding, moral cultivation, ideal and belief (Li et al., 2022).

Moreover, there is a statistically significant association between the psychological resilience and the students' previous residency. In comparison to urban resident students, those who came to the university from rural areas were less psychologically resilient. Other study findings supported the evidence. This is because of the fact that rural resident students are less likely to seek positive psychological help seeking attitude and feels higher sense of well-being. On the other hand, the rural residents underutilize or fear to utilize the psychological help seeking due to social norms, stigma and absence of anonymity. According to the findings, transition for rural area to the urban university, per se universally endorsed as stressor and induce perceived cultural gaps (Bitz, 2011).

In this study there was not statistically significant association between psychological resilience and age, sex, pocket money, field of study, among others.

Limitations

The result of the findings should be taken in to account by considering the limitations when using for further references. First, due to the cross-sectional nature of the study design, the study cannot establish the causal relationship between the psychological resilience, coping strategies and other predictors. A prospective longitudinal and experimental study design is needed to set the causal relationship. Second, the data was sampled from a single university, where the proportion of the same ethnic group was too high; it is not promising to generalize for the rest of the undergraduate students in other universities in the country. Third, even though high reliability and validity of the measurement scales were observed, it not possible to conclude that the findings ruled out recall bias due to the subjective (self-reported) questionnaire.

Despite these limitations, the current study advances our understanding of how much the level of the psychological resilience and coping strategies and their relations is among undergraduate students in Ethiopia.

Disclosure Statement

The authors report no conflict of interest.

Ethical Standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

Additional Information

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sections.

Author Notes

Bikila Regassa Feyisa, MPH, MA, Ph. D. student in Epidemiology at Jimma University, Ethiopia. He is an epidemiologist and developmental psychologist at Wallaga University, Ethiopia. His research focuses on chronic diseases, communicable and non-communicable diseases, maternal, and child health, and positive psychology.

Adugna Bersissa Merdassa, Ph.D., is a developmental psychologist at Wallaga University, Ethiopia. He is the directorate director of the testing and assessment at the UAuniversity.

Bayie Biru, MSc, Ph.D student at Jimma University, Ethiopia. She is a nutritionist at Wallaga University. Her research focuses on malnutrition and its effects on the psychological makeup of children, adolescents and women.

References

- Alkharusi, H. (2012). Categorical Variables in Regression Analysis: A Comparison of Dummy and Effect Coding. *International Journal of Education*, 4(2), 202–210. <https://doi.org/10.5296/ije.v4i2.1962>
- Anasuri, S., Ph, D., & Anthony, K. (2018). Resilience levels among college students: A comparative study from two southern states in the USA. *IOSR Journal of Humanities and Social Science*, 23(1), 52–73. <https://doi.org/10.9790/0837-2301035273>
- Backmann, J., Weiss, M., Schippers, M. C., & Hoegl, M. (2019). Personality factors, student resiliency, and the moderating role of achievement values in study progress. *Learning and Individual Differences*, 72(April 2018), 39–48. <https://doi.org/10.1016/j.lindif.2019.04.004>
- Birhanu, Z., Ambelu, A., Berhanu, N., Tesfaye, A., & Woldemichael, K. (2017). Understanding resilience dimensions and adaptive strategies to the impact of recurrent droughts in Borana Zone, Oromia Region, Ethiopia: A grounded theory approach. *International Journal of Environmental Research and Public Health*, 14(2), 1–18. <https://doi.org/10.3390/ijerph14020118>
- Bitz, A. L. (2011). Does being rural matter?: The roles of rurality, social support, and social self-efficacy in first-year college student adjustment. In *ProQuest Dissertations and Theses*.
- Boysan, M. (2012). Validity of the coping inventory for stressful situations - Short form (CISS-21) in a non-clinical Turkish sample. *Dusunen Adam*, 25(2), 101–107. <https://doi.org/10.5350/DAJPN2012250201>
- Bracaglia. (2017). Psychopathological Symptoms and Psychological Wellbeing in Mexican Undergraduate Students. *Physiology & Behavior*, 176(3), 139–148. <https://doi.org/10.11114/ijsss.v5i6.2287.Psychopathological>

- Chen, C. (2016). The Role of Resilience and Coping Styles in Subjective Well-Being Among Chinese University Students. *Asia-Pacific Education Researcher*, 25(3), 377–387. <https://doi.org/10.1007/s40299-016-0274-5>
- Crivello, G., Tiumelissan, A., & Heissler, K. (2021). “The Challenges Made Me Stronger”: What Contributes to Young People’s Resilience in Ethiopia? (Issue April).
- de la Fuente, J., Santos, F. H., Garzón-Umerenkova, A., Fadda, S., Solinas, G., & Pignata, S. (2021). Cross-Sectional Study of Resilience, Positivity and Coping Strategies as Predictors of Engagement-Burnout in Undergraduate Students: Implications for Prevention and Treatment in Mental Well-Being. *Frontiers in Psychiatry*, 12(February), 1–16. <https://doi.org/10.3389/fpsy.2021.596453>
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–774. <https://doi.org/10.1146/annurev.psych.55.090902.141456>
- Gomez MR; Zayas A; Ruiz GP; Guil, R. (2018). Optimism and Resilience Among University Students. *International Journal of Developmental and Educational Psychology*, 1(1).
- Julian, M., Cheadle, A. C. D., Knudsen, K. S., Bilder, R. M., & Dunkel Schetter, C. (2020). Resilience Resources Scale: A brief resilience measure validated with undergraduate students. *Journal of American College Health*, 0(0), 1–10. <https://doi.org/10.1080/07448481.2020.1802283>
- Li, X., Gao, Y., & Jia, Y. (2022). Positive Guidance Effect of Ideological and Political Education Integrated With Mental Health Education on the Negative Emotions of College Students. *Frontiers in Psychology*, 12(January), 1–10. <https://doi.org/10.3389/fpsyg.2021.742129>
- Pidgeon, A. M., & Pickett, L. (2017). Examining the differences between university students’ levels of resilience on mindfulness, psychological distress and coping strategies. *European Scientific Journal*, 5(1), 103–113.
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology*, 58(3), 307–321. <https://doi.org/10.1002/jclp.10020>
- Robbins, A., Kaye, E., & Catling, J. (2018). Predictors of Student Resilience in Higher Education. *Psychology Teaching Review*, 24(1), 44–52.
- Van der Merwe, L. J., Botha, A., & Joubert, G. (2020). Resilience and coping strategies of undergraduate medical students at the university of the free state. *South African Journal of Psychiatry*, 26, 1–8. <https://doi.org/10.4102/sajpsy.2020.1471>
- Wu, Y., Yu, W., Wu, X., Wan, H., Wang, Y., & Lu, G. (2020). Psychological resilience and positive coping styles among Chinese undergraduate students: A cross-sectional study. *BMC Psychology*, 8(1), 1–11. <https://doi.org/10.1186/s40359-020-00444-y>