



Research Article

Agricultural Students' Hope for Employment: Exploring Factors That Matter

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Abstract | Hope drives an individual to succeed, even in adverse circumstances. High-hope students have multiple pathways to attain desired educational goals and being able to achieve a good job. However, challenges such as the quality of teaching, outdated syllabi limited facilities, and institutional inefficiencies contribute to graduate unemployment in Pakistan. Considering it a research question, the researcher aims to investigate hope of university (Sindh Agriculture University, Tandojam) students, including some possible predictors to address a significant research gap. For the purpose, a survey was staged in Sindh Agriculture University, Tandojam considering multi-stage cluster sampling method and 400 respondents were contacted to record their perceptions on a reliable and valid scale. Finally, the data was consulted with SPSS for descriptive analysis, where inferential (regression) analysis was done using AMOS software. The results revealed that little lower than two third (64.3%) majority of the respondents/students at Sindh Agriculture University, Tandojam had average hope level, indicating somehow a good sign under the situation. To identify the possible factors of hope among students a regression/path analysis was performed and found age ($\beta = -0.435$; $p = 0.000$), CGPA ($\beta = 0.296$; $p = 0.000$) and faculty choice ($\beta = 0.197$; $p = 0.000$) significant, where family income was found non-significant. This suggest that younger students, performing well academically, and studying in their preferred faculty are more hopeful about employment. It is recommended that the entrepreneurial skills should be developed with more practical work and academic calendar must be strictly followed to make students graduate on time.

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Introduction

In Pakistan, graduate unemployment remains a growing concern despite increasing university

enrolment. According to the [Pakistan Bureau of Statistics \(2021\)](#), a significant number of university graduates, particularly from public-sector institutions, struggle to find jobs that match their academic

qualifications ([Ahsan and Khan, 2023](#)). The mismatch between higher education outputs and labour market needs is particularly pronounced in specialized institutions such as agricultural universities. Sindh Agriculture University (SAU), a leading institution in the field of agricultural education, is producing a growing number of graduates each year. However, many of these students face uncertainty regarding their future careers due to limited exposure to industry trends, weak career counselling services, and a lack of practical job-market readiness programs ([Nwakanma, 2024](#)). Education remains vital for development and is widely recognized as a key pathway to employment and social mobility ([Chukwu, 2023](#)). In fact, education has broader social and economic benefits for individuals, families, and societies ([Karimullah, 2023](#)), which functions to reduce illiteracy and generate employment to the people. Similarly, hope is also an important psychological resource for academic achievement, career development, and job performance plays a predictive role in overall well-being ([Yotsidi, et al., 2018](#)). In this study, hope is specifically conceptualized as employment related psychological hope, referring to students beliefs in their ability to achieve academic and career goals ([Ewing et al., 2023](#)). Hopeful students become psychologically strong and dedicated to being successful for getting job. However, students having lower hope level perceive themselves as un-established and may become jobless in future.

Hope helps a person to achieve a successful life even when he/she faces adverse surroundings; therefore, it is needed to have sufficient hope level, despite of prevailing contaminated environments. [Vazard \(2024\)](#) defined hope as the degree to which an individual normally supposes positive understandings about the future, which helps to live confidently even in tough situation or assuming uncertain future. It contributes to optimal human development ([Bogin, 2023](#)), psychologically healthier than their peers, increase psychologically strengths, coping cancer, life satisfaction, well-being ([Ho et al., 2021](#)) and also recovery from depressive symptoms. Such positive emotions, typically lead to constructive attitudes and behaviors, focusing on what is obtainable, having faith that good rather than bad effects occur and planful things.

It is articulated that hope involves two interconnected mechanisms: pathways and agency cognitions ([Corrigan and Schutte, 2023](#)). In other words,

hope reflects confidence that one knows both ways (pathways) to reach his or her goals and has the will (agency) to do so. Hope includes a belief that one knows how to reach one's goals ([Jiang and Liu, 2024](#)) and a belief that one has the motivation to use those pathways to reach one's goals. Those with higher level of hope perform better, clever in learning and challenging surroundings, problem-focused and coping mental health issues. On the other hand, lesser the hope level may lead to depression, anxiety and augment the possibilities of suicide.

Previous literature is evident that to become hopeful students for getting job, some contributing factors are significant to share as [TenHouten \(2023\)](#) suggested that hopefulness may result from a unique pattern of thoughts and evaluations about a situation. [Fraser et al. \(2021\)](#) described that increasing age lowers the hope and hopefulness looks at peak in lower age of students. Similarly, [Möller et al. \(2022\)](#) explored that students' hopeful thinking is associated with four major themes; pathways, goal orientation, academic/parental support and institutional experience. [Yotsidi et al. \(2018\)](#) expressed that being in the selected field increases the hope of student for the job in related field. Whereas family income or parental support also leave impacts on students' education and their perception of hope for getting job as well as for better future.

Despite this literature, the selection of predictors for this study (age, CGPA, faculty choice and family income) is justified by their established theoretical and empirical links to hope and employability. Age is included as psychological research indicates that hope can diminish with age due to accumulated setbacks and a more realistic appraisal of the job market ([Fraser et al., 2021](#)). CGPA is a direct indicator of academic success, which is a primary source of self-efficacy and pathways thinking for students. Faculty choice represents goal congruence; studying in a preferred field enhances agency and motivation. Finally, family income is a key socioeconomic factor that can influence access to resources and opportunities, through its effects in specialized educational contexts like agriculture requires empirical testing. This study aims to address the gap in empirical evidence on how these specific factors operate for employment hope in agricultural higher education settings in Pakistan ([Zaremohzzabieh et al., 2022](#)).

Materials and Methods

Quantitative (descriptive) research study was staged involving survey for data collection and considered multi-stage cluster sampling method (Sheikh *et al.*, 2016). The study was conducted in Sindh Agriculture University Tandojam, where 400 respondents were selected at 95 percent confidence and ± 4 percent margin of error from the targeted population (1190 final year students). The sampling process involved three stages (Figure 1): (1) all faculties and institutions (Faculty of Crop Production, Faculty of Crop Protection, Faculty of Agricultural Engineering, Faculty of Animal Husbandry and Veterinary Sciences, Faculty of Agricultural Social Sciences, Information Technology Centre and Institution of Food Science and Technology); (2) departments of the faculties; (3) final year students of every faculty and institution and respondents were randomly selected. The cross-sectional information was collected on primary basis from the respondents through interviewing method (Maier *et al.*, 2023). The question adopted a 10-point Likert scale ranging from 1 ("strongly disagree") to 10 ("strongly agree") ensuring a wide range of response option (Wang *et al.*, 2024). The hope scale was adapted from Snyder *et al.* (1991) and modified to align with the cultural context of rural Sindh. For example, wording of some items was simplified for clarity, and examples relevant to agricultural education were added. Ethical approval was obtained from the relevant university committee, and informed consent was secured from all participants prior to data collection.

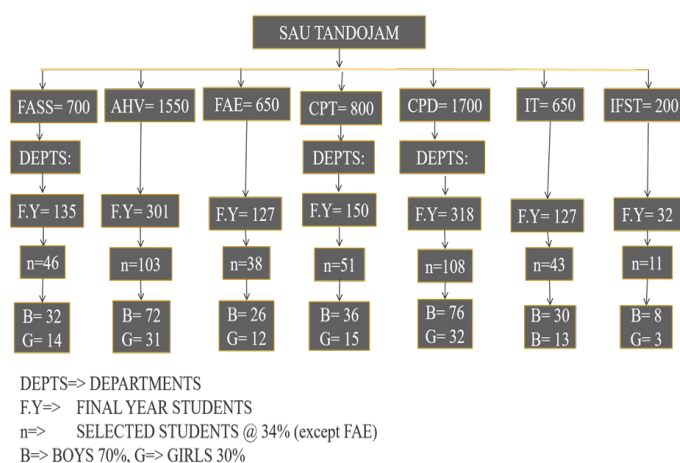


Figure 1: Sampling frame.

Reliability

Reliability refers to the consistency of measure or extent to which the outcomes are consistent when

the experiment is repeated more than once. A questionnaire on hope was adopted and modified according to local culture of study area; further Cronbach's alpha technique was performed to ensure reliability of the constructs (Izah *et al.*, 2023).

The analysis (Cronbach's alpha) was applied to ensure the consistency of scale and shared in Table 1, containing satisfactory reliability score (≥ 0.70) of selected items (Izah *et al.*, 2023).

Table 1: Reliability test.

Reliability (Cronbach's alpha)			
Pre-test (n=30)	Final test (n=400)	No. of items	Remarks
0.702	0.710	10	Acceptable

Validity

Validity is the practice to ensure the accuracy of constructs used in questionnaire for data collection. A valid hope scale developed by Snyder *et al.* (1991) was adopted and modified. Additionally, to ensure convergent validity of constructs, researchers performed Confirmatory Factor Analysis (CFA) using AMOS software (Yusof *et al.*, 2020). However, from total 10 items used in scale, items that meets the cut-off point of 0.4 or more as moderate values for correlation (Al-Qerem *et al.*, 2023) are shown in Figure 2. The CFA demonstrated good fit: $\chi^2/df = 1.85$, CFI = 0.96, TLI = 0.94, RMSEA = 0.046. All factors' loadings were significant and exceeded the 0.4 threshold, confirming the one dimensionality of the hope construct. Convergent validity was established as the Average Variance Extracted (AVE) was 0.51, and Composite Reliability (CR) was 0.88, both meeting the recommended criteria (AVE > 0.5, CR > 0.7).

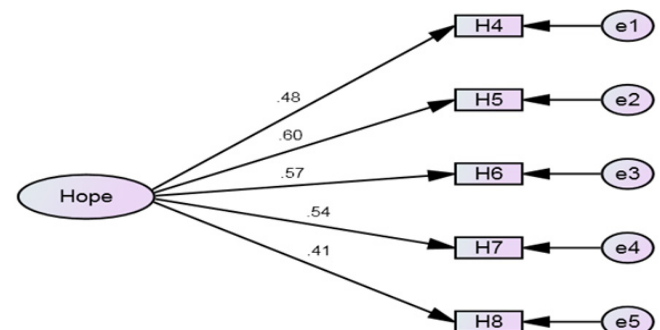


Figure 2: CFA (Confirmatory Factor Analysis)

Normality test

Normality test is a procedure to assure that samples are normal distributed in population and to get goodness

of fit for model (Khatun, 2021). Two techniques (skewness and kurtosis) were performed to check the normality of data set (Table 2) along with Q-Q Plot of hope (Figure 3). However, the results of skewness and kurtosis tests were falling under recommended values of skewness (-2 to +2) and kurtosis (-3 to +3).

Table 2: Normality test.

Statistics	
Hope	
Number of respondents	400
Skewness	0.794
Std. Error of Skewness	0.122
Kurtosis	-0.056
Std. Error of Kurtosis	0.243

Data analysis

To obtain the results from collected data, descriptive analysis of age, gender and socio-economic condition of the respondents was carried out using Statistical Package for Social Scientists (SPSS). However, to identify the factors of hope, path analysis within a Structural Equation Modeling (SEM) framework was performed through AMOS software to ascertain the causal effect of one variable upon another. In this study 'hope' was taken as 'dependent' variable, where family income, faculty choice, academic success and age of the respondents were selected as independent variables. Categorical variable such as faculty choice, were dummy coded before being entered into the regression model to perform regression/path analysis through formula of multiple linear regression analysis equation:

$$y = B_0 + B_1X_1 + \dots B_nX_n + e$$

y= the foretold value of the dependent variable; B_0 = the y-intercept (value of y when all other constraints are set to 0); B_1X_1 = the regression quantity (B_1) of the first independent variable (X_1); = do the same for still many independent variables you are testing; B_nX_n = the regression coefficient of the last independent variable; e = model fault (a.k.a. how much difference there is in our guess of y).

Prior to analysis, assumptions of linear regression/ SEM were tested. The Durbin-Watson statistic (1.92) indicated independence of residuals. Variance Inflation Factors (VIFs) for all predictors were blow 2.0, confirming no multicollinearity. The scatterplot of

standardized residuals versus predicted values showed a random pattern, supporting homoscedasticity and linearity.

Results and Discussion

Descriptive analysis was carried out by using SPSS software to describe the background of the respondents, age, gender and socio-economic condition of the respondents as shown in following Table 3.

Table 3: Background of the respondents.

Background of the respondents	Respondents
Age	Ranges from 20 to 26
Gender	Male= 280 => 70% Female= 120=> 30%
Socio-economic condition	Poor=82 => 20.5% Average= 228 => 57% Satisfactory= 90 => 22.5%
Residence	Own house= 367=> 91.75% Rent= 33 => 8.25%
Accommodation	Hostlers= 205 => 51.25% Non-hostlers= 195=> 48.75%
Remoteness	Rural= 301 => 75.25% Urban= 99 => 24.75
Father occupation	First majority Govt. jobs= 165 =>41.25%
Mother tongue	Most of them were Sindhi= 308 => 77%

Table 3 shows the background of the respondents, which reveals that the respondents studying in final year of bachelor's degree were having the age from 20 to 26 years. Both genders were interviewed with 70% of male respondents and 30% female, where majority of the respondents belong to average socio-economic condition according to their own perception. However, students from rural areas (75.25%) and Sindhi native speakers (77%) were in most numbers.

Hope level of the respondents

Hope plays an important role for achieving higher goal/aims of the life. It indicates about the satisfaction and happiness level, ensures successful life including getting a good job. Initially, researchers wanted to find the hope of the SAU undergraduate students from the collected data. In this regard, the data was categorized into three {Low (1-3.33) medium (3.34-6.66) and high (6.67-10)} sets to make it comprehensible and presented in following Table 4. This categorization has interpretive clarity and aligns with common practices

in psychological research to translate continuous scores into meaningful categorical profiles (e.g., low, medium, high) for a broader audience.

Table 4: *Hope levels of the respondents.*

Hope level	Frequency	Percentage
High	51	12.8
Average	257	64.3
Low	92	23.0
Total	400	100.0

Hope is supposed to a chief indicator that may influence one's thoughts and perception, and functions to ensure prospects at upper level. In this regard, the hope was categorized into three levels to make the results more comprehensive and logical. The findings of the study as shown in Table 4 that slight lower than two third (64.3%) majority of the respondents/students at Sindh Agriculture University, Tandojam had average hope level, indicating somehow a good sign under the situation where majority of the students/respondents were gaining knowledge with the hope that they will able to get a suitable related job after the completion of their degrees. Tailed by, the second popular, slight less than one fourth (23%) majority of the students were experiencing lesser hope to get a job in related field therefore totally discouraged about their future that can lead to depression and mental illness as mentioned by previous scholars (Arenas et al., 2022). Hopelessness is the barrier to self-determination, anxiety (Cohen-Chen and Pliskin, 2025). However, almost every eighth (12.8%) respondent was happy and hopeful at the higher level for getting a suitable job that may fulfill his/her basic needs and a well settled life in future.

Factors causing the variation in hope

For identifying hope factors the researchers performed regression/path, which requires prior to achieve appropriate goodness of fit indices to develop a model. Previous studies recommended values for goodness of fit of a model are discussed as; Chi-square/df <3 value is good and <5 is permissible, CFI at >0.95 as great and >0.80 as permissible, NFI ranges >0.95 as great and >0.80 as permissible, while RMSEA at <0.05 as good and >0.10 as bad (Kotta et al., 2022). Results attained ideally fit as goodness of fit indices (Table 5); Chi-square/df =1.024, RMSEA =0.01, CFI =0.999, NFI =0.970 and p-value =0.000.

Results of regression/path model as revealed in Table 6 that age ($\beta=-0.435$; $p=0.000$) of the respondents has strong negative relationship with hope, which suggests that higher the age lower the hope of student or lower the age higher the hope of student for getting job. The results of age for hope are supported by (Kim et al., 2021) and reported in a study that age has negative correlation with hope. In a similar study (Fraser et al., 2021) shared almost same results that age has inverse proportion where increasing age may decrease the hope level. Similarly, Abdollahi (2020) discovered in his study that increasing age of the respondents decreases their hope for future.

Table 5: *Goodness of fit indices.*

Index	Value	Criteria
Chi-square/Df	1.024	<3.0 to <5.0
RMSEA	0.01	<0.05 to 0.10
CFI	0.999	0 to <1
NFI	0.970	0 to <1
p-Value	0.000	<0.05
R-Square	0.64	>0.5

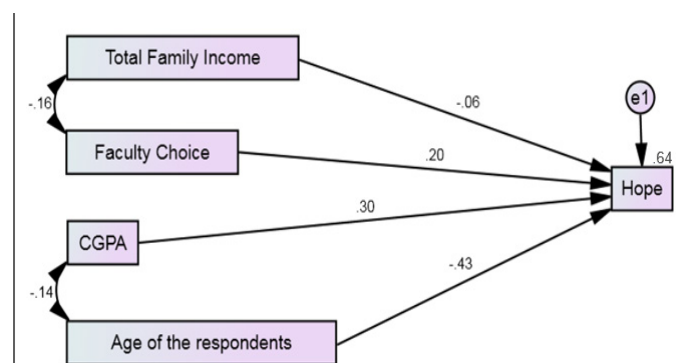


Figure 3: *Regression/Path model.*

Table 6: *Regression weights.*

Factors	Estimate	S.E.	C.R.	P-Value
Family income	-0.063	0.017	-1.262	0.207 (ns)
Faculty choice	0.197	0.025	3.92	***
Academic success/CGPA	0.296	0.131	5.907	***
Age of the respondent	-0.435	0.032	-8.677	***

Note: ***= $p < 0.001$, ns = non-significance

Education is the basic need of our lives and an important indicator for human beings for being hopeful to get job and live life as a responsible citizen. Based on results of the regression/path analysis of this study, second most contributing factor for remaining hopeful is charming academic grades/CGPA. Result reveals in similar fashion about the relationship of

CGPA/grades ($\beta = 0.296$; $p = 0.000$) with hopefulness, ensuring that the higher the CGPA, higher the hope level and vice versa. Results of education revealed that better grades in previous course work increases the hope of students, as Wu *et al.* (2023) reported that the hope has significant relationship with academic success. Students with high grades had high hope as compared to those have low grades (Seirup and Rose, 2011). Similarly, Moltafet (2020) articulates that being a successful student in academic carrier results in high hope for better future. In this study, results of the model reveal that faculty choice ($\beta = 0.197$; $p = 0.000$) of respondent found significant and has positive relationship with hope. Faculty choice refers students' goal-oriented about a profession/field for future and results of this study favors the finding of Ozçelik *et al.* (2014) that being in the selected/choice field may increase the hope of student. Kim *et al.* (2021) reported in a study while using Employment Hope Scale (EHS) that age and education are predictors of hope and (Ozçelik *et al.*, 2014) disclosed impact of choosing profession on hope.

Interesting, family income was found to be non-significant. This is sociologically noteworthy because it suggests that, within the context of agricultural higher education, merit-based perceptions outweigh economic background. Students' hope for employment appears to be driven more by academic and institutional factors than by family resources. This may reflect an underlying belief that effort, grades, and discipline choice matter more than wealth when it comes to securing jobs, especially in the context of competitive labor markets.

Limitations

This study has several limitations. First, the cross-sectional design restricts causal inference, as relationships between predictors and hope cannot be generalised over time. Second, reliance on self-reported data introduces the possibility of response bias, as students may overestimate their optimism. Third, the findings are limited to one agricultural university in Sindh, Pakistan, which may affect generalizability. Fourth, the use of a self-reported questionnaire introduces the potential for common method bias, which may inflate the relationships between variables. Fifth, while the hope scale was adapted, some items may not have fully captured the cultural nuances of hope in rural Sindh, potentially affecting validity. Sixth, the use of cluster sampling

may introduce cluster effects, where students within same faculty are more similar to each other than to students in other faculties, potentially biasing the standard errors; this was not accounted for in the analysis. Future studies could adopt longitudinal designs, incorporate multiple universities, and explore qualitative dimensions of hope to enrich understanding.

Conclusions and Recommendations

Finally, it was concluded that students of SAU in young age within a favorite field and having excellent academic records are hopeful to achieve an employment opportunity in future. It is recommended that the entrepreneurial skills should be developed with more practical work and academic calendar must be strictly followed to make students graduate on time. Overall, the findings are encouraged, indicating that students retain a moderate level of hope for employment despite structural challenges. For policymakers and university administrations, these insights are valuable. Institutions should strength career counseling services, enhance faculty-student engagement, and technical skills. Curriculum designers should align academic content with industry demands, ensuring graduates are not only knowledgeable but also practically prepared for the labour market. In addition, universities should strengthen career counseling services to help students especially older ones, develop realistic pathways to employment. Specific support programs, such as tutoring and academic success workshops should be implemented for students for with low CGPAs to boost their academic performance and consequently their hope. Furthermore, expanding internship and industry placement opportunities is crucial to provide students with practical experience and strengthen the link between academic choice and employment outcomes.

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Novelty Statement

This study uniquely integrates psychological hope theory with employability factors to explore agricultural students' hope for employment in Pakistan. It introduces a culturally adapted version of Snyder's Hope Scale for rural Sindh and applies

Structural Equation Modeling to identify key predictors of employment hope. The findings reveal that academic success and faculty choice significantly enhance hope, while age reduces it and family income shows no effect. This work extends hope theory to agricultural education and offers actionable insights for improving students' career optimism in developing contexts.

Author's Contribution

FKM has developed the main idea of the study. MA and FKM collected the primary data from the respondents. FKM and MJS analyzed the data on SPSS and AMOS software and interpreted the data. MAS prepared the manuscript. All the authors critically revised the manuscript and approved the final version.

Generative AI and AI-assisted technology statement

In accordance with ethical publishing practices, the authors declare that no generative artificial intelligence (AI) or AI-assisted technologies were utilized in the conception, design, data collection, analysis, or interpretation of this research. The authors take full responsibility for the content of the manuscript, including the integrity, accuracy, and originality of all ideas, analyses, and conclusions presented herein.

Conflict of interest

The authors have declared no conflict of interest.

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