

Evaluating Psychological Experiences of Saudi Students in Distance-Learning

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Abstract

The Ministry of Education in Saudi Arabia encourages Saudi students to continue their education at Saudi universities or abroad. Currently, an estimated 1,282,140 Saudi students are studying at Saudi universities. The extent of the research so far has not focused on Saudi student experiences, but it has shown that even a single negative event can dramatically reduce the chances of a student completing a degree. Thus, more research is necessary to identify and describe the context and obstacles (environmental and psychological) that Saudi students face. The evaluation was multifaceted to capture not only performance outcomes, but also other factors that have been suggested by research as influential to students' ability, such as the environmental, cultural, and psychological risks for graduation that Saudi students self-report. A single group pretest (survey) design was used in this study. Findings suggest depression stress and college stress predict stress levels, while subjective happiness predicts levels of scientific participations of the sample. Moreover, depression stress shows more consistency with hours spent on the internet for study purposes. These results should be considered in study support programs both institutionally and geopolitically by universities and governments.

Key words:

Assessing; Evaluating; Students Experiences; Environmental, Psychological; Saudi Universities

1. Introduction

Studying at the university level comes with many diverse challenges. Students face difficulties regardless of being graduates or undergraduates, and they come from overlapping academic and sociocultural backgrounds. Moreover, some students' cohorts are impacted harder than others due to greater psychological risks brought on by the differences between their native and host cities[1].

The Ministry of Education in Saudi Arabia encourages all high school students to continue their education, and the government provides a free education at all education levels in the country. Additionally, they offer a monthly payment for all domestic and international students. Currently, an estimated 1,282,140 Saudi students are studying at Saudi universities (Ministry of Education, 2017). Due to these large numbers, the costs and challenges these students face as they relocate, and initiate degree studies warrants developing a more complete understanding of the environmental, academic, and psychological challenges. The extent of the

research so far has not focused on Saudi student experiences, but it has shown that even a single negative event can dramatically reduce the chances of completing a degree[2].

Students who are relocating can possibly experience negative stress that can dramatically decrease their ability and academic achievement. However, early intervention programs that include mental health may help students overcome those obstacles.

College time is usually one of positive growth, but for many students, school-related stress is part of the college experience and one of the most stressful periods in their life, especially for freshmen. Students can face problems like staying organized and managing their time properly. They could also be stressed to join activities in their new academic life. When students relocate, the move can be the most stressful factor particularly for students from different cultures and different backgrounds. Many researchers revealed that when students had been diagnosed with or treated for depression, then that negatively affected academic achievement[3]–[11].

A huge environmental difference exists between the high school and university level that might cause the stress. These sources vary in college students' experiences, such as college admissions, test scores, and grades. Evaluating students' participation is one of the most important sources of school-related stress. The main factor of students' stress is sociality, and this could be due to students relocating and coming from different cultures and backgrounds. Many reasons can explain the rise of stress levels for college students: academic overtasks, course difficulty, and low encouragement. However, most colleges address this obstacle by establishing counseling programs for academic support where students can find tutors and learn necessary skills like time management[12], [13].

Many of learners are successful and have enjoyable lived experiences, definitely not all of them and some have significant issues that can go far beyond solitude and experimenting with new traditions. While reasons are unknown, a dramatic gap exists between the numbers of Saudi student initiating post-secondary education and the number of students graduating. Thus, describing and understanding some the challenges experienced by Saudi students and how these challenges affect the students' ability to complete their

degree goals was the focus of this study. Moreover, Saudi students in Saudi universities haven't been widely discussed. This study, however, is intended to explain both the positive and negative aspects of Saudi students' environmental and psychological experiences[14]–[16].

2. Theoretical Consideration

A student's experience helps create an awareness of domestic and international perspectives and prepares them for a global workforce. Creating an effective study experience locally or abroad requires strong collaboration and the active involvement of local institutions. Research has shown that understanding environmental and psychological obstacles are risk factors for graduation across most student demographics[17], [18].

The college years could be the best period for students with a healthy lifestyle. On the other hand, these critical years can be overwhelming and stressful. Disorders emerge for some students when pressures exceed their perceived ability to cope. Consequently, those students can be more careless with college. However, a more positive view of stress might actually be helpful because, with the right amount of stress, students can be motivated to study more or work harder[19].

Stress levels are an important consideration of university students' lives. Pressure can be described as psychological or emotional tension or pressure arising from conflicting or difficult times (Oxford online dictionary, 2014). Many students reported that anxiety and depression, respectively, have affected their academic performance. It is likely that a great many people have encountered stress or tension sooner or later in their lives, particularly college students, due to the effort and time they spend on academic duties[20], [21].

Students' classifications (e.g., gender, marital status, and other demographic information) as well as their general psychological traits, have not received enough attention compared to other fields. However, interest in demographic information differences on psychological traits have increased noticeably in the last few years. To date, a number of studies in different comparisons have shown differences in knowledge tests in favor of men. Moreover, females would express more stress than males on math tasks. These studies also showed that males perform better than females in general knowledge and in most specific knowledge domains. This raises the question whether these differences are related to the measured ability or due to other factors such as measurement error[22], [23].

There is more than one reason that can cause students to drop out or affect their abilities to complete their degree. Homesickness can be a factor when students feel college is a new world apart from their normal life. Geographically, Saudi Arabia is Asia's fifth largest government and the second largest in the Arab world. The country contains about 13 main regions with each one divided into governorates and

the region capital. These diverse places come with regional specialties such as the style of dialogue, practice of behaviors, attitude, lifestyle, etc. When students move from region to region or border to border, they might start to feel homesick. Academic unpreparedness during the high school years can be another factor, and students should get the minimum of supported skills to succeed in their post-secondary years. However, the students do not sometime receive the appropriate preparedness for various reasons such as lack of working forces, facilities, or the carelessness of students or their parents. To overcome this obstacle, the Ministry of Education in Saudi Arabia established a unit of counseling in each school for each level of education. Nevertheless, students at the college level still face the difficulties of integrating into university life. Education burnout can emerge when some students are surprised at the workload of a university schedule and the high demands or expectations of their work output. They then start to feel things are too challenging and become too exhausted to continue[24]–[28].

The gap between the annual numbers of students enrolled for bachelor's degree programs and the number of students who actually graduate is huge. For example, take Umm Al-Qura University (UQU) as a selected case of Saudi universities. With five years as the average period of study plans in most of UQU colleges, the proportion of male students who completed their degree in a perfect time ranged between 48% to 60%. However, female students showed more commitment to completion of study plan periods with a range between 74% to 90%.

3. Methods

The methodology used in this study was a single group pretest (survey) only design. Multiple survey instruments as described below were administered via an online survey. The study complied with all regulations after the human subject and the institutional review board approved the protocol (HSIRB) at umm al-qura university.

The study was conducted at one state university. The sample was selected using the convenience sampling technique, with UQU chosen to represent a sample of Saudi universities. Participants were randomly selected and contacted from UQU's e-mail list and directed to a survey-hosting site (Survey Monkey). The site was open for 10 weeks during the fall semester 2017. A total of 410 participants responded. There were no major deviations from histogram, however, in scatterplot there were 14 cases extreme values larger or lower than most of cases, so might these values have influence points, but after conducted analysis of Leverage, Jackknife, to see that influence. I found that 14 cases greater than cut off for the leverage method (0.0195) and the standardized residuals greater than -3. and deemed multivariate outliers then were removed from analysis leaving 396 cases as described in Table 1.

Table 1. Demographics of Study Sample

Demographic Variables		N	Percentage
Gender	Male	105	26.52%
	Female	291	73.48%
Marital status	Single	320	80.80%
	Married and living with you	53	13.38%
	Married but living a part	13	3.28%
	Divorced	9	2.27%
	Widowed	0	0.00%
Highest degree obtained	High school	136	34.34
	Bachelor	216	54.55
	Master	38	9.60
	PhD	6	1.52
Major	Social science	300	81.31
	Applied science	96	24.24
Primary sources	Government	46	11.62%
	University	247	62.37%
	Personal/family	103	26.01%
Scientific products	Published article	13	3.28%
	Conference participation	43	10.86%
	Both article and conference	16	4.04%
Computer use	Other	324	81.82%
	Personal computer	299	75.51%
	University lab	7	1.77%
	Don't use computer	30	7.58%
Hours spent on internet for study purposes	Other than that	60	15.15%
	Less than one hour	60	15.15%
	1 to 3 hours	138	34.85%
	4 to 6 hours	119	30.05%
	More than 6 hours	79	19.95%

To control for order effects, instrument administration was initially randomly ordered, and all the participations remain anonymous. In additional, to maximize statistical power, a larger sample size was recruited to provides more information about the population and, thus, increase power analysis. Missing data analysis was initiated to determine the nature of messiness (MCAR, MAR, NMAR). The missingness mechanism of 14 cases was found as NMAR, thus, the imputation to fill-in the missing items responses were impossible. More precautions were performed to increase power; a diversity of primary statistical analysis was used to investigate the variance in different ways and minimizing a random error, so as to replicate study findings.

Content validity and constructs validity was examined ensure if the content of test matches the instructional objectives and the assessments corresponds to other variables, as predicted by some rationale or theory. Confirmatory factor analysis (CFA) was used as a statistical technique to test

power of constructs validity by studding variance within a group to understand variance and covariance of the observed indicators variables and test the number of hypothesized factors underlying variances in a set of measured indicators variables.

3.1 Measures

Participants completed a set of standardized measures that have been extensively used in earlier studies and have shown adequate psychometric properties. More details about each measure and model testing validity and reliability are displayed in Tables 2-5. Models were examined in pooled data without any demographic classification.

Demographic questionnaire. For determining the respondents' demographic information, a short statistical survey was used to gathering a background characteristic on gender, marital status, highest degree obtained, current study degree, current study major, Hours spent on internet for study purposes, and scientific productions.

Depression. A short (7-item) depression measure was used in this study. The response scale was modified by increasing the time frame from the past week to the past month, and the response options were as follows: (a) at no days; (b) from one to 10 days a month; (c) from 11 to 20 days a month; (d) almost every day in the last month. The authors used this depression measure to study reported internal consistency reliability estimates of $\alpha = 0.770$ indicating this measure is applicable in research settings. In the present study, the confirmatory factor analysis (CFA) model related the construct, Depression symptoms were tested, and the model as described in Table 2. The one-factor model shows a good fit in the present sample: $\chi^2 = 146.678$, $p\text{-value} < .0001$, $RMSEA = 0.15$, $CFI = 0.83$, and $GFI = 0.66$. These findings indicate that the one-factor model fits the present set of data and, hence, provided further support for the unidimensionality of the depression scale. Cronbach's alpha coefficient for this model was > 0.81 .

Table 2. Standardized factor loadings of the depression symptoms scale pooled over all data

Items	Single-factor model	Single-factor loading model
In the past month, on how many days did you have any of these feelings:		
1	Lack of enthusiasm for doing anything?	0.5748
2	Feel bored or have a little interest in things?	0.7019
3	Cry easily or feel like crying?	0.4823
4	Feel downhearted or blue?	0.7239
5	Feel slowed down or low in energy?	0.7378
6	Blame yourself for everything that goes wrong?	0.5162
7	Have your feelings hurt easily?	0.4636

Subjective Happiness. A short (4-item) subjective happiness measure was used in this study. The responses scale format

was recorded on a 7-point Likert scale. The authors reported internal consistency reliability estimates of $\alpha = 0.860$ indicating this measure is applicable in research settings. The CFA mode related the construct, happiness measure symptoms was tested, and the model as described in Table 3. The one-factor model shows a good fit in the present sample: $\chi^2 = 146.678$, $p\text{-value} = <.0001$, $RMSEA = 0.15$, $CFI = 0.83$, and $GFI = 0.66$. Cronbach's alpha coefficient for this model was > 0.51 .

Table 3. Standardized factor loadings of the subjective happiness symptoms scale pooled over all data

Items	Single-factor model	Single factor loading model
In the past month, on how many days did you have any of these feelings:		
1	In general, I consider myself:	0.8010
2	Compared with most of my peers, I consider myself:	0.8407
3	Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?	0.5941
4	Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?	-0.2151

However, the analysis of single-factor loading model revealed that Item 4 was not associated to the main factor ($\lambda = -0.215$) that might be revealed to the complexity of the Item 4, or it was not clear for the participants due to it is a negative item. After Item 4 was deleted, the analysis showed a sufficient result Table 4. $\chi^2 = 371.1789$, $p\text{-value} = <.0001$, $RMSEA = 0.00$, $CFI = 0.99$, and $GFI = 0.99$. These findings indicate that the one-factor model fits the present set of data and, hence, provided further support for the unidimensionality of the depression scale. Cronbach's alpha coefficient for this model was > 0.80 .

Table 4. Standardized factor loadings of the subjective happiness symptoms scale pooled over all data

Items	Single-factor model	Single factor loading model
In the past month, on how many days did you have any of these feelings:		
1	In general, I consider myself:	0.8100
2	Compared with most of my peers, I consider myself:	0.8445
3	Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?	0.6017

College Student Stress. A short (11-item) college student stress measure was used in this study. The responses scale

format was recorded on a 5-point scale in which students indicated how frequently they were distressed or anxious, or questioned their ability: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = very often. The author reported the overall score was highly correlated with another indicator of perceived tension. The key components study of varimax rotation revealed two possible factors that clarified 55% of the variability. Nonetheless, given the small number of elements and the second factor shows low internal consistency ($\alpha = .60$), that use of overall score is advised. That indicates this measure is applicable in research settings. The CFA mode that related the construct was tested, and the model is described in Table 5. The one-factor model shows a good fit in the present sample: $\chi^2 = 227.985$, $p\text{-value} = <.0001$, $RMSEA = 0.09$, $CFI = 0.86$, and $GFI = 0.71$. These findings indicate that the one-factor model fits the present set of data and, hence, provided further support for the unidimensionality of the college stress scale. Cronbach's alpha coefficient for this model was > 0.83 .

Table 5. Standardized factor loadings of the college stress symptoms scale pooled over all data

Items	Single-factor model	Single-factor loading model
In the past month, on how many days did you have any of these feelings:		
1	Felt anxious or distressed about personal relationships	0.4469
2	Felt anxious or distressed about family matters	0.5476
3	Felt anxious or distressed about financial matters	0.4123
4	Felt anxious or distressed about academic matters	0.4199
5	Felt anxious or distressed about housing matters	0.2810
6	Felt anxious or distressed about being away from home	0.1918
7	Questioned your ability to handle difficulties in your life	0.7096
8	Questioned your ability to attain your personal goals	0.6951
9	Felt anxious or distressed because events were not going as planned	0.7314
10	Felt as though you were NO longer in control of your life	0.8174
11	Felt overwhelmed by difficulties in your life	0.7846

4. Result

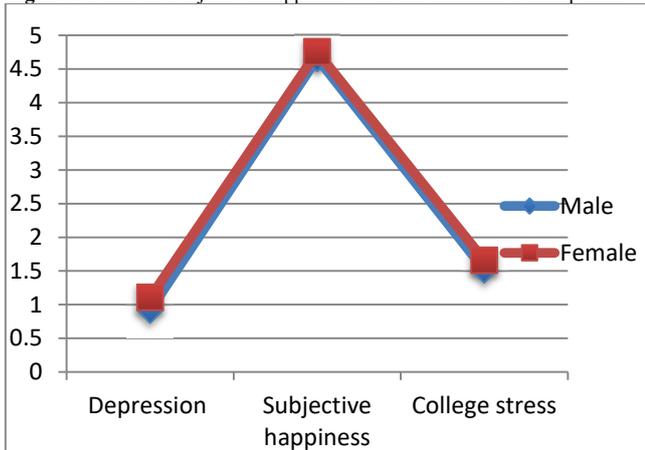
Table 6 presents bivariate correlation among the variables for males and females separately. As can be seen from this table, the bivariate correlations are consistent with expectation in both direction and magnitude. For example, self-reported depression and college stress for males and females show a robust positive relationship whereas self-reported college stress and depression with happiness reveals a statistically significant modest negative correlation.

Table 6. Correlation Matrix of Three Variables for Male students

Males	Depression	Subjective Happiness	College Stress
Depression	1.000		
Subjective Happiness	-0.4686*	1.000	
College Stress	0.5391*	-0.4309*	1.000
Correlation Matrix of Three Variables for Female students			
Depression	1.000		
Subjective Happiness	-0.5092*	1.000	
College Stress	0.5966*	-0.4133*	1.000
*P < .05			

Comparing means of the male and female test was used to examine the students' perceived depression, subjective happiness, and college stress. Figure 3 indicates female students reported overall depression stress higher than male (P= 0.0059) whereas there were no differences in subjective happiness and college stress.

Figure 3. Mean of Subjective Happiness Over the Scientific Participations

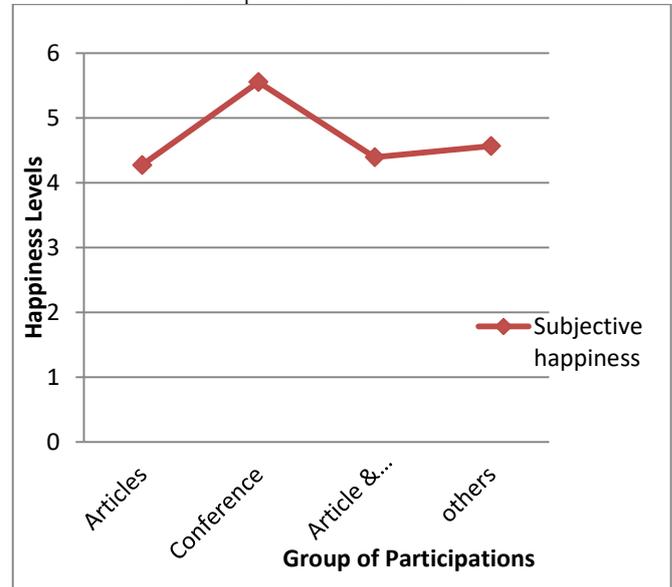


ANOVA: Subjective= scientific participations only male

Analysis of the individual group variance for scientific participations for male and female students has been conducted. Female students showed no differences in subjective happiness levels based on the types of scientific participation. In contrast, Figure 4 shows male students showed a different pattern between types of scientific participation, with students who participated in conferences perceiving more happiness compared with students who participated in other types of scientific participation. Differences in happiness were only statistically significant resulting from group of participating in conference obligations at; participating in article (P= 0.0318); participating in article and conference (P= 0.0401), and

participating in other types of scientific participations (P= 0.0003).

Figure 4. Mean of Subjective Happiness Over Types of Scientific Participations for Male Students



ANOVA Model: Depression= daily hours spent on the internet for study purpose only male

More investigation analysis of the individual group variance for daily hours spent on the internet for study purposes, and female students showed no difference in depression levels between groups. However, Figure 5 shows a different pattern between male students groups. Students who used the internet for study purposes more than six hours daily showed the greatest depression levels when compared with students who spent less than one hour daily (P= 0.0443).

To explore the contrast of differences in depression, subjective happiness, and college stress more thoroughly, a detailed analysis was conducted. Model 1 examined if there was a mean difference between male and female students at depression levels (Model 1– P= <0.0001). The difference of gender and levels of happiness and college stress explained 41% of the variation in depression levels. This gender difference was after adjusting happiness levels and the stress resulting from college at the individual level. Model 2 investigated if the mean of subjective happiness difference between groups of scientific participants (Model 2– P= <0.0001), about 26% of the variation in subjective happiness was explained by the difference of scientific participation groups and levels of depression and college stress. These differences in scientific participation groups were after controlling for the related stressors of depression and college stress. Model 3 investigated if the mean of college stress difference after controlling for the stress and happiness experienced at the previous models (Model 3– P= <0.0001),

about 34% of variation in college stress was explained by depression levels and subjective happiness (see Table 7).

Figure 5. Mean of Depression Over Daily Hours Spent on the Internet for Study Purposes for Male students

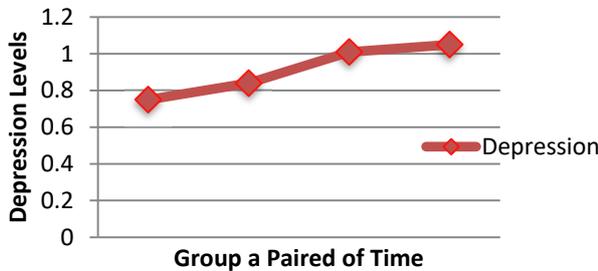


Table 7. Multiple Linear Regression Model

Effect	Parameter Estimate	Type 2 Partial2	t-value	P-value
Model 1 (R ² = 0.4067, F= 84.18, DF= 3)				
Gender	-0.169	0.0536	-3.15	<0.0001
Subjective Happiness	-0.133	0.0198	-6.73	0.0019
College Stress	0.359	0.0356	10.10	<0.0001
Model 2 (R ² = 0.2644, F=51.59, DF=3)				
Scientific Participations	-0.183	0.0701	-2.62	0.0092
Depression	-0.732	0.1131	-6.47	<0.0001
College Stress	-0.421	0.0929	-4.53	<0.0001
Model 3 (R ² = 0.3424, F= 103.83, DF= 2)				
Depression	0.565	0.0562	10.05	<.0001
Subjective Happiness	-0.114	0.0259	-4.40	<.0001

A statistically significant female perception of depression was shown more than male students $P = <0.0001$ after controlling the other instrumental variables (IV). In other words, controlling for other two IV (subjective happiness and college stress), there is a difference in mean depression for female students. Further, on average, female students are depressed at a 0.169 point higher rate than male students. Model 2 shows a statistically significant male student who participated in conferences perceived more happiness than male students who participated in other kinds of scientific participations $P = 0.0092$ after controlling the other IV. In other words, for a one-unit increase in conference participation, on average, the level of happiness for male students increased by 0.183 units. Model 3 shows a statistically significant positive linear relationship between the level of college stress and depression, on the average of a one-unit increase in college stress level, the depression of students slightly increased by 0.565. In contrast, for each unit

increase in college stress level, the level of subjective happiness decreased by 0.114.

Among the limited number of studies on Saudi students in Saudi universities, this study was founded to describe and understand some of the challenges experienced by Saudi students and how these challenges affect the student’s ability to complete their degree goals in an appropriate amount of time[29]–[31].

Drawing on general models of multiple linear regressions for each dependent variable, this study examined the association between depression, subjective happiness, college stress, and other demographic information among Saudi students in UQU. The study findings provided some of the rationality patterns. As expected, depression stress was associated with poorer college stress. Both depression stress and college stress were contrary to higher subjective happiness functioning among Saudi students, although college students are assumed to be more social than the general population. The result of this study and those from the small body of research indicate that many college students are highly depressed and stressed. In this study, the Saudi students from UQU showed sufficient variability of depression across gender, although the association with other demographic information such as scientific participation and using the internet for study purposes was lost in the regressions model when controlled for other variables. These results are keeping with the previous studies linking demographic variables to poor psychological functioning. The distinction between depression stress and college stress may prove important for understanding the effects of stress on academic performance among Saudi college students. Comparing these findings to those of previous studies shows that depression stress has major effects on students’ ability[32]–[35].

The findings of the subjective happiness model differed in that the effect of scientific participation was more robust for subjective happiness than for depression stress or college stress, and some moderating effects were found only for college stress. Previous research has shown more consistent associations between depression and academic performance than between subjective happiness and academic performance. The relations among depression stress, college stress, and subjective happiness, and academic performance need more study. However, the available evidence suggests that depression stress and college stress may have differential effects on Saudi college students’ academic performance[36]–[38].

The evaluating college students experience of environmental and psychological stress can be used as a formative and summative assessment to build a framework of future plan for colleges to support students in avoiding obstacles that might affect their ability to a gain their aims. Moreover, college administrators can draw inferences about

students' current status so that they can take instructional action to advance their ability learning. Administrators can also prepare a good academic environment for freshman students and senior students too by tending to campus facilities, academic activities, entertainments, etc. It is the most difficult part of the Ministry of Education and administrators of universities to combine education and entertainment in their organizations. However, the success of the accomplishment is somewhat partially [4], [7], [8], [39], [40].

Based on the small differences between the regions and communities in Saudi Arabia, people share almost the same religion, attitudes, habits, traditional, and family oriented. The sample of the present study confidently represents the diversity characteristics of Saudi students in Saudi universities such as, sociocultural backgrounds, personality faces, and academic qualities. However, the sample size it might be not large enough to generalize and widespread confidently findings out of this study to all Saudi students in Saudi universities [41], [42].

5. Conclusion

This study was attended to define and explain the context and obstacles (environmental and psychological) Saudi students face during their study and how these obstacles relate to the students' self-reported academic achievement. The significance of this project comes from describing and understanding the challenges experienced by Saudi students and how these challenges affect their ability to complete degree goals. The results of this study confirm much of the extent of the research that has shown the shift to level of university or college can be an innovative new perception for many learners. However, many students fail to make the transition and it can worsen pre-existing memory and concentration issues, cause new mental and physical symptoms and sometimes contribute to school leaving

This research positively supports and is associated with Saudi Vision 2030, and it may positively affect the Ministry of Education in Saudi Arabia by helping the organization avoid some of the obstacles identified in this study by sending students to the initial training program before starting their academic year. Also, the universities' host partner institutions in Saudi Arabia would be able to utilize this information to better serve their students with a solid educational foundation. Moreover, this study's findings can serve the needs of the university's study program specifically in relation to Saudi students but possibly to other international student groups as well.

This study contributed the growth research of theoretical knowledge in psychology. The current study's results support the assumptions of several approaches of theoretical

frameworks. Current study described that a good students' experiences growing with years studied in university levels, and growing students' knowledge impact their personality traits where subjective happiness of students strongly correlated with scientific participations.

Additionally, current study's results described some of the main features of Selye's General Adaptation Syndrome that divided stress into three stages: alarm, resistance and exhaustion. Present study exposed that depression stress, which most be caused by students' overtiredness more opposite with hours spent in study purposes.

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