

THE RELATIONSHIP BETWEEN ADJUSTMENT AND NEGATIVE EMOTIONAL STATES AMONG FIRST YEAR MEDICAL STUDENTS

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ABSTRACT

Adjustment problems and negative emotional states such as depression, anxiety and stress are prevalent among university students. Previous studies have not identified the relationship between academic, social, personal emotional and attachment to university adjustment problems with depression, anxiety and stress among first year medical students. This study explored gender differences and relationships between adjustment problems and negative emotional states. In this study, 42 male and 57 female medical students completed the Student Adaptation to College Questionnaire and the Depression Anxiety Stress Scale. Results indicated a moderate adjustment level and no significant gender differences among medical students. Significant gender differences were found in stress and anxiety but not in depression. There were significant negative correlations between various adjustment and depression, anxiety, and stress. Overall, in this study female students were more stressed and anxious compared to male students. Therefore, the university should carry out prevention programs to address these issues.

Keywords: Adjustment Problems, Medical Student, Negative Emotions

INTRODUCTION

The transition from high school to university is an exciting experience for some students but it is an overwhelming and stressful experience for others (Sennett, Finchilescu, Gibson, & Strauss, 2003). Enrolling into medical school is entering a stressful environment that often leads to poor academic performance, psychological, physical and adjustment problems (Sherina, Rampal, & Kaneson, 2013). Medical students exhibit highest levels of adjustment problems compared to students from the human sciences and paramedical sciences (Ahmadi, Fathi-Ashtiani, Ghaffari, & Hossein-Abadi, 2009). Maladjustment is a major problem that leads students to discontinue their university programs in most countries (Toews & Yazedjian, 2007). Students commonly face the most distress during their first year of medical school and consequently medical school attrition is usually highest during the first year (Smith, Peterson, Degenhardt, & Johnson, 2007). The prevalence of student's attrition ranges from 9.9% in Scotland (The Scotsman, 2010), 33% in Australia (Hinde, 2008) and 40% in South Africa (Macgregor, 2007).

Maladjustment to the university may result in adjustment problems leading to the students exhibiting the negative emotional symptoms of depression, anxiety, and stress (Landow, 2006). Medical students are more prone to depression, anxiety and stress at university. Medical students are more prone to depression than students in other courses (Rosenthal & Okie, 2005). The prevalence of depression, anxiety and stress is higher among females compared to males (Inam & Elam, 2003). However, Smith et al. (2002) have reported no gender difference in prevalence of depression. Therefore, in order for students to enjoy their

tertiary education they have to adjust well and manage their negative emotions in the new environment.

Halonen and Santrock (1997) define adjustment as the psychological processes used to adapt, cope and manage the problems faced in daily life. For university students, adjustment is a multi-faceted aspect that can be divided into four different parts which are academic, social, personal-emotional adjustment and attachment to the university (Baker & Siryk, 1999). Academic adjustment is how well a student copes with the various educational demands such as exams and assignments. Social adjustment is how well a student copes with the interpersonal and societal demands that are inherent in the university environment. On the other hand, personal emotional adjustment is the extent to which a student experiences psychological distress and somatic problems. Therefore, personal emotional adjustment includes the physical and psychological wellbeing of the student. Finally, attachment to the university is the degree of satisfaction with the university experience in general and the particular university that the student is attending.

Gender Differences in Adjustment and Negative Emotions

Even though all students have to adjust to the new university environment, some students adjust better than others. Abdullah, Elias, Mahyddin, and Uli (2009) found out male students had higher overall adjustment to university life than female students. Some studies have reported that female students exhibit low social adjustment compared to male students in educational, and personal -psychological adjustments (Enochs & Roland, 2006). However, Kaur (2012) identified no gender differences in adjustment problems among College students. However these findings are not among first year medical students. Therefore, there is a gap in research regarding gender differences in adjustment problems among first year medical students.

Depression, anxiety, and stress affect male and female university students differently. Female students exhibit higher level of anxiety in Turkey (Ozen, Ercan, Irgil, & Sigirli, 2010), anxiety and depression and stress in Brunei (Mundia, 2010) and depression in UK (Baldassin, Alves, Andrade, & Martins 2008). However, contrary to these findings Smith et al. (2007) found no significant differences on depression and anxiety between the male and the female participants among first year medical students.

Relationship between Adjustment and Negative Emotions

There is a strong relationship that has been found between adjustment and negative emotions (Kaur, 2012). Maladjustment to university leads to negative emotional states such as depression, stress and anxiety (Landow, 2006). Low level of social adjustment leads to depression (Yau, Sun, & Cheng, 2012) while low level of adjustment leads to anxiety (Shashi, 2013). However, these studies have not identified the relationship between various adjustment problems such as academic, social, personal emotional and attachment to university and depression, anxiety and stress among medical students. Therefore, this study aims to identify these issues among first year medical students.

Among a sample of medical students attending a private medical university in Malaysia, the present study's aims were to identify:

- a. Prevalence of adjustment problems among male and female students.
- b. Prevalence of depression, anxiety and stress among male and female students
- c. The gender differences in adjustment problems which are academic, social, personal emotional and attachment to the university

- d. The gender differences in negative emotional states, which are depression, stress, and anxiety
- e. The relationship between adjustment problems and negative emotional states

METHOD

Participants

In this cross sectional study, a total of 99 semester two medical students from a private medical university participated in this study. There were 42 (42.4%) male and 57 (57.6%) female participants between the age of 17 to 25 years ($M = 20.43$, $SD = 1.08$). In terms of ethnicity there were 55 Chinese (55.6%), 27 Malays (27.3%), 10 Indians (10.1%), 4 International Students (4%) and 3 others (3%).

Materials

Socio-Demographic Questionnaire

The socio-demographic questionnaire collected data related to the participants' age, gender, the Malaysian State which is their hometown, religion and ethnicity.

Student Adaptation to College Questionnaire (SACQ)

This questionnaire was developed by Baker and Siryk (1999) and consists of 67-items and has four subscales. The subscales of this questionnaire are: Academic Adjustment, Personal-Emotional Adjustment, Social Adjustment and Attachment to the university. Responses are provided on a 9-point Likert scale indicating the degree to which an item applies to the respondent ("1" = Applies very closely to me to "9" = Doesn't apply to me at all) and it takes 15 to 20 minutes to complete. The scores are then divided into high, average and low according to the guidelines that are stated in the manual (Baker & Siryk, 1999). The higher scores on this scale indicate that the person is well adjusted, while the low scores indicate adjustment problems. The original alpha reliability estimates for the full-scale score range between 0.91 and 0.95 and it is 0.91 in the Malaysian population (Abdullah et al., 2009)

Depression, Stress and Anxiety Scale (DASS)

This scale was developed by Lovibond and Lovibond (1995). The scale has 42 items and three subscales which are depression, anxiety, and stress. Each of the scales contains 14 items which are rated on four point Likert scale rating the extent to which the participant experienced the symptoms stated in the items over the past week. The scores are then added to get the total scores for the three subscales. The cut off scores indicate normal, mild, moderate, severe and extremely severe levels of depression, stress and anxiety. This scale has been validated for the Malaysian population and the coefficient alphas for depression, anxiety, stress subscales and full Scale were .88, .85, .86, and .95 respectively, (Imam, 2008) and the original coefficient alphas for the different subscales are .91 for depression, .84 for anxiety .90 for stress (Lovibond & Lovibond, 1995).

PROCEDURE

After the researchers received approval from the University's Research and Ethics committee, the researchers approached the first year medical students towards conclusion of one of the lecture, explained about the aim of the study and after obtaining written consent from the participants, researchers asked the participants to complete the three questionnaires which were the socio demographic questionnaire, SACQ and DASS.

RESULTS

Data was analysed using the Predictive Analytics SoftWare (PASW) version 18.0. The descriptive statistic of frequency was used to determine the prevalence of the different types of adjustment.

Table 1. Prevalence of types of adjustment

	<i>Academic Adjustment</i>		<i>Social Adjustment</i>		<i>Personal Emotional Adjustment</i>		<i>Attachment to the University</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
High %	35.7	22.8	28.6	38.6	35.7	36.8	31.0	24.6
Moderate %	61.9	71.9	69.0	61.4	54.8	57.9	66.7	73.7
Low %	2.4	5.3	2.4	0	9.5	5.3	2.3	1.7

The findings in Table 1 show that less than 10% of the male and female students were experiencing adjustment problems. It also indicates that about 90% of them had high to moderate adjustment in all the different types of adjustment. No females were experiencing social adjustment problems. However, male students were experiencing personal emotional adjustment problems and attachment to university problems 9.5% and 2.3 % respectively. Whereas 5.3 % females exhibited academic adjustment problems compared to males.

The descriptive statistic of frequency was also used to show the prevalence of depression, stress and anxiety. These results are displayed in Table 2.

Table 2. Prevalence of Depression Anxiety and Stress

	<i>Depression</i>		<i>Anxiety</i>		<i>Stress</i>	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
Normal %	73.8	73.7	52.4	24.6	73.8	54.4
Mild %	9.5	17.5	11.9	7.0	7.1	21.0
Moderate %	9.5	1.75	16.7	36.8	14.3	19.3
Severe %	2.4	7.0	16.7	24.6	4.8	3.5
Extremely severe %	4.8	0	9.5	7.0	0	1.8

The findings in Table 2 reveal that the depression and stress symptoms experienced by more than 50% of the male and female students are within the normal range. There are some differences in depression and the largest difference is in the mild category with only 9.5% of males and 17.5 % females in this category. There are 36.8% female students in the moderate category for anxiety symptoms and 24.6% of anxiety symptoms in the severe category. Therefore, in total 61.4% of female students are experiencing anxiety symptoms in the moderate and severe categories. However, for the males only 16.7% are in the moderate category and 16.7 % in the severe category and therefore, a total of 33.4 % males are experiencing anxiety symptoms in the moderate and severe category. There is also a large difference in the stress category with 21% of the females experiencing mild stress, while only 7.1% of the males are experiencing mild stress.

The first hypothesis was tested using the independent samples *t* test to analyse the gender differences in adjustment problems (academic, social, personal emotional, and attachment to the university). In this study 42 males and 57 females participated. Table 3 displays the results.

Table 3. Gender differences in adjustment problems

	Male		Female		<i>t</i> (97)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Overall	380.35	61.12	387.45	59.85	-.58	.57
Academic	131.23	23.14	138.68	20.49	-1.73	.09
Social	113.92	22.18	109.85	22.35	.898	.37
Personal-Emotional	82.71	22.54	79.49	20.0	.751	.46
Attachment	90.33	17.86	95.36	16.18	-1.46	.15

The results in Table 3 show that there was no significant differences in the overall adjustment between male (*M* = 380.35, *SD* = 61.12) and female students (*M* = 387.45, *SD* = 59.85), *t*(97)= -.58, *p* = 0.57. There are also no significant differences across all subscales.

To test the second hypothesis in this study, the independent samples *t* test was used to analyse the gender differences in depression, anxiety and stress. Table 4 displays the results.

Table 4. Gender differences in depression stress and anxiety

	Male		Female		<i>t</i> (97)	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Depression	7.38	8.49	6.84	5.95	.37	.71
Anxiety	8.85	6.60	11.40	5.76	-2.04	.04**
Stress	11.35	7.69	14.54	7.35	-2.09	.03**

Note: ***p*<0.05

There were significant differences in anxiety between female students (*M* =11.40, *SD* = 5.76) and male students (*M* = 8.85, *SD* = 6.60) *t*(97) = -2.04, *p* =.04. There were also significant differences in stress between female (*M* = 14.54, *SD* =7.35) and male (*M* = 11.35, *SD* =7.69), *t* (97) = -2.09, *p* = 0.03) students. However, no significant differences were found in depression.

To test the third hypothesis, the Pearson product moment correlation was used to examine the relationship between the different types of adjustment and the negative emotional states of depression, stress and anxiety. The correlations are shown in Table 5.

Table 5. Correlations among types of adjustment, depression, anxiety and stress

	Depression	Anxiety	Stress	Overall	Academic	Social	Personal Emotional	Attachment to the
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Depression	1							
Anxiety	.579**	1						
Stress	.660**	.830**	1					
Overall	-.574**	-.502	-.562	1				
Academic	-.426**	-.360**	-.387**	.867**	1			
Social	-.551**	-.402**	-.481**	.792**	.554**	1		
Personal Emotional	-.479**	-.564**	-.597**	.759**	.606**	.427**	1	
Attachment	-.451**	-.275**	-.274**	.765**	.581**	.769**	.390**	1

Note. **.Correlation is significant at the 0.01 level (2-tailed)

Table 5 shows that there were significant correlations among the different types of adjustment, and depression, stress and anxiety. The lowest correlation was between stress and attachment ($r = -.274, p = .001$) and the highest correlation was between stress and personal emotional adjustment ($r = -.597, p = .001$).

DISCUSSION

The results of this study revealed that more than 90 % of the participants had either moderate or high level of adjustment in all the different types of adjustment. Regarding the social adjustment 2.4 % of the males had low adjustment and 100 % of the females had either high or moderate adjustment. This finding is inconsistent with the findings of Enochs and Roland (2006) that female student’s exhibit low social adjustment compared to male. According to Baker and Siryk (1999), the high or moderate category in the social adjustment subscale indicates that the students are successful in coping with the interpersonal-societal demands that they experience at university (Baker & Siryk, 1999).

High levels of attachment to the university have been associated with better academic grades, competence scholastically, higher self-worth and a low tendency of externalizing problems (Pittman & Richmond, 2007). Personal –emotional adjustment problems lead to psychological problems. In this study the prevalence of personal-emotional and attachment to university adjustment problems is higher among males compared to females. Abdullah et al. (2009) identified that male students have better adjustment compared to female students. This indicates male students have more personal-emotional adjustment and are able to settle well in the university.

In this study the cumulative prevalence of mild to extremely severe level of stress, depression and anxiety are found to be high among females compared to male students. This is consistent with the previous findings that females exhibit more depression, anxiety and stress compared to male students (Baldassin et al., 2008; Mundia, 2010; Ozen et al., 2010).

The first hypothesis of this study was that there will be a significant difference between male and female student’s adjustment problems. However, this hypothesis was not supported by the results of this study as no significant difference could be found between male and female student’s adjustment. This is contrary to other research findings that indicate that males have

significantly higher levels of overall university adjustment compared to females (Abdullah et al., 2009). However, this study's results are consistent with the previous study by Leong and Bonz (1997) who found no significant gender differences in overall adjustment.

In this study, it was hypothesised that female students would have more depression, stress and anxiety compared to the male students. The results of this study shows there were significant gender differences in anxiety and stress but not in depression. Therefore, the second hypothesis was partially supported. Smith et al. (2007) found no gender differences in depression symptoms among medical students. This study's results are consistent with the previous research that female medical students reported more anxiety than the males (Hojat, Glaser, Xu, Veloski, & Christian, 1999).

Some studies on anxiety found no gender differences in anxiety (Mundia, 2010; Smith et al., 2007). The significant gender differences in stress are consistent with the findings of (Dahlin, Joneborg & Runeson, 2005). The reasons given by Inam and Elam (2003) for these differences are that females are more likely to report concerns about the volume and complexity of the academic material they have to cover, they are more likely to report stress due to self-expectation, feelings of lack of competence and tendency for women to over report medical and psychological symptoms. These reasons could be applicable in this study.

The third hypothesis of this study was supported by the results as there was a negative correlation between adjustment and negative emotions. This means that the more adjusted a person is in the different areas of adjustment (academic, social, personal- emotional and attachment) then the less likely the person will have stress, depression, or anxiety. People who have more social adjustment are less vulnerable for depression (Morriss, Yang, Chopra, Bentall, Paykel, & Scott, 2013).

Furthermore, higher levels of academic adjustment lead to decreased anxiety (Shashi, 2013). In this study medical students had moderate to high levels of adjustment in the university. This is more likely due to the conducive atmosphere, provision of adequate information about the university rules, regulation and aims, awareness about the psychological problems, mentor and mentee system during Open Day and small group discussions. Universities have to focus on students adjustment problems because there is a strong relationship that exists between adjustment problems and negative emotions (Toews & Yazedjian, 2007).

LIMITATIONS AND FURTHER RESEARCH

The major limitation of this study is sample size. This is a limitation because the results may not be generalisable to the rest of the first year medical students.

Future research will be conduct similarly with a larger sample consisting of both semester one and semester two students. Relationships between adjustment problems and negative emotional states comparative studies could also be conducted with other programs, such as Pharmacy, Psychology and Dentistry. Another area of further research could be to explore other reasons why medical students are highly anxious and stressed other than adjustment problems.

CONCLUSION

The first year medical students in this sample have moderate to high adjustment. This means that they seldom face problems in their academic, social, personal emotional, and attachment to the university adjustments. However, the students in this study do face the negative emotional states of depression, stress and anxiety. Even though there are no gender differences in depression, female students were found to be more stressed and anxious.

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