Pakistan Journal of Psychology, June 2021, 52, 1, 3-18

RELATIONSHIP OF LEARNED HELPLESSNESS AND SOCIAL INCLUSION WITH PSYCHOLOGICAL DISTRESS IN MEDICAL STUDENTS OF PAKISTAN

**Mirba Naz, Mariyum Khanum*
Dania Mufassir, Tasmia Rizvi
&
Rabia Muzaffar**
Institute of Professional Psychology
Bahria University Karachi Campus, Karachi-Pakistan

ABSTRACT

The aim of the present study was two-folded: First is to explore the relationship of learned helplessness with psychological distress in medical students. Second is to explore the relationship of social inclusion with psychological distress in medical students. The sample consisted of 315 medical students aged between 18-24 years (M= 21.4, SD=1.88) recruited through purposive sampling technique from private and public medical colleges. To measure the variables, Learned Helplessness Scale (Quinless & McDermott-Nelson, 1988), Social Inclusion Scale (Secker et al., 2009) and Depression, Anxiety and Stress Scale (Lovibond & Lovibond, 1995) were used. The results reveal significant association and contribution of learned helplessness and social inclusion on psychological distress. These findings signify that learned helplessness in medical students can increase psychological distress and that students who are more socially connected has lower levels of psychological distress. These findings have clinical and research implications.

Keywords: Learned Helplessness, Social Inclusion, Medical Students, Psychological Distress

* Correspondence Address: Maryum Khanum; Institute of Professional Psychology, Bahria University Karachi Campus, Karachi-Pakistan. Email: maryumkhanum@gmail.com

INTRODUCTION

Medical students in particular, are exposed to multiple factors during their academic and clinical study and they face additional challenges like large workload, busy schedule, family pressure, personal trauma, Patient's sufferings (MacLeod, 2003), lack of sleep (Azad, et al., 2015) that have been shown to contribute to high levels of psychological distress such as depression, anxiety and stress. In addition, academic material flow, examinations, chances of failure, relationships with peers and career choices are also the factors causing distress (Sani, et al., 2012). A study by (Yusoff et al., 2012) investigated the impact of medical education on psychological health of students and found the prevalence of unfavourable stress, depression and anxiety after the onset of medical training. The aforementioned factors not only affect the academic performance but also lead towards isolation. One of the theories illuminates that social support can prevent the negative effect of stress on students (Roy, 2011). Frese (1999) suggested in the study that those who have little or no social support have more psychological distress however these effects will be reduced or removed for those with stronger support systems. Another research pinpointed that stress among medical students has been linked to poor academic performance, while supportive social relationships have been associated with the alleviation of psychological distress (Rospenda, et al., 1994). We can say that diminished social integration plays a vital role in psychological distress among medical students. The study conducted by Shaikh et al. (2004) in which they found out that considerable amount of stress is prevalent among medical students in Pakistan and sports, music, hanging out with friends, sleeping or going into isolation are various coping mechanisms.

Social inclusion can be described as availability of opportunities for individual to take part in social, financial and cultural aspects and enjoy life along with mental well-bieng (Commission of European Communities, 2000). Social inclusion can be understood in three aspects of life including, friendship experiences, and degree of hopefulness by experiencing meaningful activities. (Davidson, et al., 2001). Social inclusion in this research targets a student's sense of belongingness within their community, family and friends. Misra, and his coworkers reported in their study that in medical students' high levels of academic stressor and life stressors are due to low social support (Misra,et al., 2003) It is showed that low social support has found as predominant among psychologically distressed students therefore, students sense more distant from society (Kawachi & Berkman, 2001). Social relation is positively associated with life satisfaction therefore, it has direct correlation with psychological wellbeing. On the contrary, if

individuals experience social rejection this can influence people negatively and tends to increase various types of negative emotions. Morover refusal may cause high level or distress, temper tantrums and envy factors (Leary, 2010).

Learned helplessness is an uncomfortable way of cycling among students; those who believe they can't achieve it will not put a lot of effort into it, leading to even less motivation, less success and effort. (Catapano, n.d.). Learned helplessness is a result of three different phenomenon (a). motivational deficits, inability to initiate instrumental effort to eliminate further challenges (b). a cognitive deficit, inability to learn that responding would produce outcomes (c).an emotional deficit, apparent under reactivity to painful event (Seligman,1967). Due to learned helplessness, students are not able to apply cognitive flexibility and logical thought to the process of learning which will eventually result in inescapable failure and depression. Depression also caused by an emotional deficit. Depressed students incline to experience that learning, regardless of their efforts, is unable to produce any useful results. All these shortcomings are mainly due to the lack of learning among students (Feldman & Huang 2005). Similarly, when medical students constantly expose to non-escapable stressing situation, it may lead to inability of individuals to use any coping option that might be available which, ultimately, can become a prime reason of psychological distress. In this study, Learned Helplessness is mainly focusing on the tendency to give up when the situation is out of their control. For example, Witkowski and Stienmeier-Pelster (1998) stated in their study that the type of situation could have an influence on how people react to difficult tasks. Factors such as anxiety influence performance if someone is forced to perform in public.

For medical students where exams become the part of their life, many students experience test anxiety which is considered as one of the major difficulties among students which may leads to failure in academic performance, reduces motivation and aggravates psychological distress (Rafiq, et al., 2007). Moreover, Anxiety and depression have been linked to medical students' vulnerability to stress. (Bunevicius, et al., 2008). It has also noticed that few people are able to cater stress in more professional manner as compare to others; though, It has been supported by several studies that there is an higher stress level in medical university life (Kim, 2016; Shim, et al., 2016). Briefly, dimensions of stress, depression and anxiety tap a more common factor known as psychological distress (Crawford & Henry, 2005), which have been broadly explored in present study. Various previous studies on medical students concluded that medical students have repeatedly shown to have higher levels of psychological distress (Waqas, et al.,

2015; Aboalshamat, et al., 2015; Saxena, et al., 2014; & Aktekin, et al., 2001). Recently Rehmani et al. (2018) studied that circumstances which are stressful can cause higher anxiety and depression and it is very usual for students study in medical universities.

Social rejection may decrease level of self-esteem, reported feeling bad, having less control, and losing a sense of belonging (Williams et al., 2000). These feelings of self-worth and low self-esteem directly leads to high levels of learned helplessness in people, which is perception that person has no control over the situation (Seifert& Sutton, 2011). Moreover, various researches show direct relationship of learned helplessness and psychological distress among students (Miller, et al., 1975). According to Cullen and Boersma sometimes learned-helplessness is influenced by the actions of parents and teachers, when they constantly remind students about their incompetence and failure (Cullen & Boersma, 1982).

Scales and colleagues (2006) noticed that students who experience learned-helplessness are afraid to try which increases the risk of failure, due to which the beliefs of students become more rigid that they are incapable. Correspondingly, some findings support the framework of learned helplessness and depression which demonstrate the association between learned helplessness and depression (Miller & Seligman, 1975). Concisely, it's very understandable that how Learned Helplessness can lead to anxiety distress and hopelessness (Sherman, 2013).

This study aims to identify the relationship of learned helplessness and social integration with psychological distress in medical students. Research aims to narrow down the wide research gap, it is important to study the leading factors of distress among medical students. While there are several studies on learned helplessness and psychological well-being or by linking social inclusion to psychological distress independently, the literature review revealed that these constructs had not been studied together, pointing to an open field for investigation. The establishment of the link between learned helplessness and social inclusion with psychological distress helps to determine specific requirements of medical students. Pakistan is one of the country in which suicide rates of medical students are rising much more rapidly, where many of the researches explored the levels of distress in medical students, none of the reported studies have explored the role of learned helplessness and social inclusion in Psychological distress of Pakistani Medical students. Therefore, it is important to investigate the factors behind psychological distress of medical students in Pakistan, which leads towards suicide,

social isolation and learned helplessness. The results are presumed to be important for both research and counselling practice as obtained knowledge may be incorporated in making effective strategies for the students. Moreover, it can help counsellors or mental health practitioners to have a better understanding of more recent student life's problems, which ultimately, helps in reducing the rate of psychological distress among these students.

Contemplating the literature review, following were the hypothesis:

1. There will be an association and contribution of learned helplessness on psychological distress in medical students.

2. There will be an association and contribution of social inclusion on psychological distress in medical students.

METHOD

Participants

The sample of the present study consisted of 315 medical students (92 males and 223 females) of all 5 years of MBBS from various private and public medical universities in Karachi ranging from 18 to 24 years of age. Purposive sampling technique was used in this research. Student who have been enrolled in MBBS for at least two months and belonged to Pakistan were included in the research. However, students who have been in medical studies for less than 2 months were excluded. Foreign nationals were also excluded from the research.

Measures

Demographic Information Sheet

Details about participant's family, student life and personal life were acquired through a demographic form. The items focused on obtaining information about age, gender, marital status, family income, residence status, affordability of medical education, parent's profession, interaction with the family members. Elements related to the studies were their year of education, total time spent in university, the type of medical college, their satisfaction with medical college, if they have ever failed any course, heath and psychological problems.

Learned Helplessness Scale

The Learned Helplessness Scale (LHS) was developed by Quinless and McDermott-Nelson in 1988. The measure comprises 20 items ranging from 1 to 4 on a 4-point Likert scale: 1 represented 'strongly disagreement' and 4 represented 'strong consent.' The value for this scale of Cronbach's alpha was .77, indicating good internal coherence.

Depression, Anxiety and Stress Scales-21

The Depression, Anxiety and Stress Scales-21was developed by Lovibond and Lovibond (1995) to measure psychological distress. The DASS-21 consisted of 21 items (7 per scale), including depression, anxiety and stress, evaluating three constructs. The answer to all the items is 4-point Likert scale, where 0 was "Did not apply to me at all" and 3 was "Applies very much or mostly" and the respondent was marked as their answer from 0-3. Mean to calculate scores on the scale has been identified. The alphas in three subscales of Cronbach were .91, .80, and .84. The internal consistency was good.

Social Inclusion Scale

The Scale for Social Inclusion (SIS) developed by Secker et al. (2009) assessed social integration. Scale includes three subscales (social isolation, social relations and social acceptance) with a total of 22 items. Response set of this instrument is the 4-point Likert scale in which the respondent selects an option that described the relationship of the respondent to people over the past month between "not at all" and "not particularly," "yes a bit" and "yes definite." Mean for calculating the items in the scale was identified. For this scale, the Cronbach value for this scale was 0.80.

Procedure

A formal letter of approval for the research to be conducted in the private and public health universities as planned was issued by the Institute of Professional Psychology, the Bahria University Karachi Campus (IPP-BUKC). There have been visits to several public and private medical universities in Karachi's various regions. First, consent forms were submitted to the participants. Their privacy was guaranteed and no ethical considerations were fragmented and the names of participants, universities and other related information kept anonymous. Every

participant was entitled to waive without any consequences. The participants were educated about the research aim prior to administration and that their data is used only for studies and is kept confidential. The Learned Helplessness Scale is attached first, then DASS-21 and then Social Inclusion Scale. In the questionnaire battery. All three measures were taken for nearly 10-15 minutes. During the collection of forms the authority for the permission and the students for participating in the research were expressed gratitude.

Statistical Analysis

To test the hypotheses of the present study, linear regression analysis was computed using Statistical Package for Social Sciences (SPSS 21).

RESULTS

Table 1
Descriptive Statistics for the Study Variables

Variables	*M*	*SD*	*α*
Learned Helplessness	46.17	6.12	.77
Social Inclusion	44.35	7.99	.81
Social Isolation	12.68	2.77	.68
Social Relations	21.78	4.64	.57
Social Acceptance	16.18	3.57	.78
Psychological Distress	21	12.39	.92
Depression	7	4.91	.86
Anxiety	7	4.06	.75
Stress	7	4.74	.82

Table 2
Demographic Characteristics of the Sample (Frequencies & Percentages)

Characteristics	*f*	%
Gender		
Male	92	29.2
Female	223	70.8
Marital Status		
Single	272	86.3
In a relationship/ Committed	33	10.5
Married	*5*	1.6
Separated/ Divorced/ Widow	2	0.6
Year of Medical Education		
1st	36	11.4
2nd	66	21.0
3rd	82	26.0
4th	92	29.2
5th	39	12.4
	M	*SD*
Age	21.5	1.88

Table 3
Linear Regression Analysis with Learned Helplessness as Predictor of Psychological Distress

Predictor	*B*	*SE*	*β*	R^2	*F*	*Sig.*
Learned Helplessness	.14	.01	.30	.09	15.57	.01*

*$p < .05$

Table 4
Linear Regression Analysis with Social Inclusion as Predictor of Psychological Distress

Predictor	*B*	*SE*	*β*	R^2	*F*	*Sig.*
Social Inclusion	-.22	.00	-.30	.09	25.06	.00*

*p <.05

DISCUSSION

Medical studies have always been viewed as highly stressful and persistent stress on students increases stress that can affect the mental health of students. Plenty of literature has helped to understand medical students' prevalence and sources of psychological distress. This study investigated the association and contribution of learned helplessness and social inclusion on psychological distress of medical students.

As per our first hypothesis, the results (Table 3) demonstrate that learned helplessness explained 9% variation in the scores of psychological distress and the model is significant. Hence, suggesting the predictive role of learned helplessness on psychological distress. These results imply that if learned helplessness increases, psychological distress also increases. The reason behind the findings may be that medical students are exposed to many factors in their university life, including academic workloads, hectic schedules, clinical rotations and lack of sleep, family and patient suffering that may lead them to feel that they have no control over the situation and nobody can lessen the pain and discomfort. This universal learned helplessness leads to a psychological distress, depression and stress in particular. This result is also supported by Abramson et al. (1978), who have found those who feel that they are universally helpless and therefore incline to find outside reasons for their problems. Thus, it leads to psychological distress.

The results regarding hypothesis '2' (Table 4) demonstrate that social inclusion also explained 9% variation in the scores of psychological distress and the model is significant. Thus, social inclusion significantly predicted psychological distress. These results imply that when social inclusion increases, psychological distress decreases. The probable explanation for findings regarding

second hypothesis may be as such that those, who believe that others could find a solution to their problems are likely to seek help from their social surroundings. It can therefore be assumed that students with higher levels of social inclusion may be correlated with fewer symptoms of psychological distress due to increased social support chances in times of adversity. Social contact with friends has been shown to help mental health (Hefner & Eisenberg, 2009). Thus, supportive environment can promote better mental health.

In conclusion, the study shows that there is a link between learned helplessness and psychological distress among medical students. The higher the degree of learned helplessness, the greater the psychological pressure, and vice versa, because this provides a theoretical basis for the current research, but it is also clear from this research and previous literature on the subject that social support can play an important role in eliminating the psychological pressure of students. In the early stages of their education, they can better include themselves into society by participating in courses and extracurricular projects and joining various support groups at the university, which will lead to better mental health and reduce students' stress levels. Students' willingness to choose a medical major and their dissatisfaction with their stress levels have a certain impact. Therefore, it is important to understand that in order to improve mental health at a higher level, we encourage parents and teachers to allow students to voluntarily choose their careers.

This research has provided insight into the potential for psychological distress due to lack of social inclusion. This awareness can be applied in medical university intervention-based programs to reduce prevalence of depression, stress and anxiety among students at universities of medicine. It would assist psychologists/counselors to work on institutional strategies and interventions to reduce medical students' psychological distress. It is therefore recommended that these studies extend across the region and include other Pakistani medical universities in order to obtain more varied information for improved generalization. Further analysis of additional factors such as socioeconomic status, parental affordability, etc. could be done separately in private and public universities. Besides, would also be helpful in identifying reasons why medical students are distressed, in addition to learned helplessness and social inclusion. The current study emphasizes finding the impact of learned helplessness in medical students on psychological distress.

REFERENCES

Aboalshamat, K., Hou, X. Y., & Strodl, E. (2015). Psychological Well-Being Status among Medical and Dental Students in Makkah, Saudi Arabia: *A Cross-Sectional Study. Medical Teacher, 37*, S75-S81. https://doi.org/10.3109/0142159X.2015.1006612

Abramson, L. Y., Seligman, M. E., & Teasdale, J. D. (1978). Learned helplessness in humans: Critique and reformulation. *Journal of Abnormal Psychology, 87*(1), 49-74.

Aktekin, M., Karaman, T., Senol,Y.Y., Erdem, S., Erengin, H., &Akaydin, M. (2001) Anxiety, depression and stressful life events among medical students: A prospective study in Antalya, Turkey. *Medical Education, 35*(1), 12-17.

Amati, V., Meggiolaro, S., Rivellini, G., & Zaccarin, S. (2018). Social relations and life satisfaction: the role of friends. *Genus, 74*(1), 1-18.

Asif, A., & Saim, S. (2018). *Trust and Marital Satisfaction among Single and Dual Career Couples.* Dubai: MedCrave Group LLC.

Azad, M.C., Fraser, K., Rumana, N., Abdullah, A.F., Shahana, N., Hanly, P. J. , & Turin, T.C.(2015) . Sleep disturbances among medical students: a global perspective. *Journal of Clinical Sleep Medicine, 11*(1), 69-74.

Bunevicius, A., Katkute, A., & Bunevicius, R. (2008). Symptoms of anxiety and depression in medical students and in humanities students: relationship with big-five personality dimensions and vulnerability to stress. *International Journal of Social Psychiatry*, *54*(6), 494-501.doi.org/10.1177/0020764008090843

Catapano, J. (n.d.). Learned helplessness, and how we can overcome it. *Teach HUB Hot Tips & Topics.* Retrieved from http://www.teachhub.com/learned-helplessness-and-how-we-can-overcome-it

Commission of the European Communities. (2000). *Report on Competition Policy* (Vol. 30). Commission of the European Communities.

Cullen, J. L., & Boersma, F. J. (1982). The influence of coping strategies on the manifestation of learned helplessness. *Contemporary Educational Psychology*, *7*(4), 346-356.https://doi.org/10.1016/0361-476X(82)90019-4

Davidson, L., Stayner, D. A., Nickou, C., Styron, T. H., Rowe, M., & Chinman, M. L. (2001). " Simply to be let in": inclusion as a basis for recovery. *Psychiatric Rehabilitation Journal*, *24*(4), 375. https://doi.org/10.1037/h0095067

Durkheim, E. (1951). *Suicide: A Study in Sociology.*, The University of Michigan, USA

Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian medical students. *Academic Medicine, 81*(4), 354-73. DOI: 10.1097/00001888-200604000-00009

Feldman, R. S., & Huang, X. (2005). *Understanding psychology* (7th ed.). McGraw-Hill.

Frese, M. (1999). Social support as a moderator of the relationship between work stressors and psychological dysfunctioning: a longitudinal study with objective measures. *Journal of Occupational Health Psychology*, *4*(3), 179. DOI: 10.1037//1076-8998.4.3.179

Hefner, J., & Eisenberg, D. (2009). Social support and mental health among college students. *American Journal of Orthopsychiatry*, *79*(4), 491-499. https://doi.org/10.1037/a0016918

Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal Of Clinical Psychology*, *44*(2), 227-239. DOI: 10.1348/014466505X29657

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health*, *78*(3), 458-467. https://doi.org/10.1093/jurban/78.3.458

Kelly, B., Nair, B., & Bore, M. (2016). Potential predictors of psychological distress and well-being in medical students: A cross-sectional pilot study. *Advances in Medical Education and Practice*, *7*, 125-135.

Kim, K. J. (2016). Factors associated with medical student test anxiety in objective structured clinical examination: a preliminary study. *International Journal of Medical Education*, *7*, 424-427.

Leary, M. R. (1991). Social anxiety, shyness, and related constructs. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of social psychological attitudes* (Vol. 1, pp. 161-194). San Diego, CA, US: Academic Press.

Lovibond, S. H., & Lovibond, P. F. (1995*). Manual for the Depression Anxiety Stress Scales* (2nd ed.). Sydney: Psychology Foundation of Australia

MacLeod, R. D., Parkin, C., Pullon, S., & Robertson, G. (2003). Early clinical exposure to people who are dying: learning to care at the end of life. *Medical Education*, *37*(1), 51-58. https://doi.org/10.1046/j.1365-2923.2003.01412.x

Miller, W. R., & Seligman, M. E. (1975). Depression and learned helplessness in man. *Journal of Abnormal Psychology*, *84*(3), 228-238. https://doi.org/10.1037/h0076720

Miller, W. R., Seligman, M. E., & Kurlander, H. M. (1975). Learned helplessness, depression, and anxiety. *The Journal of Nervous and Mental Disease*, *161*(5), 347-357. https://doi.org/10.1037/h0076720

Misra, R., Crist, M., & Burant, C. J. (2003). Relationships among life stress, social support, academic stressors, and reactions to stressors of international students in the United States. *International Journal of Stress Management*, *10*(2), 137-157. https://doi.org/10.1037/1072-5245.10.2.137

Neighmond, P. (2011). Depression on the rise in college students. *NPR, January*, *17*, 2011. https://www.npr.org/2011/01/17/132934543/depression-on-the-rise-in-college-students

Quinless, F.W., McDermott-Nelson., & Anne, M. (1988). Development of a Measure of Learned Helplessness. *Nursing Research, 37*(1), 11-15.

Rafiq, R., Ghazal, S., & Farooqi, Y. N. (2007). Test anxiety in students: semester's vs. annual system. *Journal of Behavioural Sciences*, *17*(1/2), 79.

Rehmani, N., Khan, Q. A., & Fatima, S.S. (2018). Stress, anxiety and depression in students of a private medical school in Karachi, Pakistan. *Pakistan Journal of Medical Sciences, 34*(3), 696-701. doi: 10.12669/pjms.343.14664

Rospenda, K. M., Halpert, J., & Richman, J. A. (1994). Effects of social support on medical students' performances. *Academic Medicine: Journal of The Association of American Medical Colleges*, *69*(6), 496-500 doi: 10.1097/00001888-199406000-00018

Roy, R. (2011). *Social Support, Health, and Illness: A Complicated Relationship*. University of Toronto Press, Canada.

Sani, M., Mahfouz, M. S., Bani, I., Alsomily, A. H., Alagi, D., Alsomily, N. Y., & Asiri, S. (2012). Prevalence of stress among medical students in Jizan University, Kingdom of Saudi Arabia. *Gulf Medical Journal*, *1*(1), 19-25. https://www.researchgate.net/publication/335950804

Saxena, Y., Shrivastava, A., & Singh, P. (2014). Medical education gender correlation of stress levels and sources of stress among first year students in a medical college. *Indian Journal of Physiology and Pharmacology*, *58*(2), 147-151.

Scales, P. C., Benson, P. L., Roehlkepartain, E. C., Sesma Jr, A., & van Dulmen, M. (2006). The role of developmental assets in predicting academic achievement: A longitudinal study. *Journal of Adolescence*, *29*(5), 691-708.

Secker, J., Hacking, S., Kent, L., Shenton, J., & Spandler, H. (2009) Development of a measure of social inclusion for arts and mental health project participants, *Journal of Mental Health, 18*(1), 65-72, doi: 10.1080/09638230701677803

Seifert, K., & Sutton, R. (2019). Student diversity. *Educational Psychology*. ISBN-13 978-1616101541

Seligman, M. E., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of experimental psychology*, *74*(1), 1. https://doi.org/10.1037/h0024514

Shaikh, B., Kahloon, A., Kazmi, M., Khalid, H., Nawaz, K., Khan, N., & Khan, S. (2004). Students, stress and coping strategies: a case of Pakistani medical school. *Education for Health*, *17*(3), 346-353.

Sherman, L. E., Payton, A. A., Hernandez, L. M., Greenfield, P. M., & Dapretto, M. (2016). The power of the like in adolescence: effects of peer influence on neural and behavioural responses to social media. *Psychological Science*, *27*(7), 1027-1035. https://doi.org/10.1177/095679761664 5673

Shim, E.J., Jeon, H.J., Kim, H., Jung, D., Noh, H.L., et al. (2016) Measuring stress in medical education: validation of the Korean version of the higher education stress inventory with medical students. *BMC Medical Education, 16*, 302.

Waqas, A., Khan, S., Sharif, Q., Khalid,U., & Ali,A. (2015). Association of academic stress with sleeping difficulties in medical students of a Pakistani medical school: A cross sectional survey. *Peer Journal, 12*(3), e840. doi: 10.7717/peerj.840

Williams, K. D., Cheung, C. K. T., & Choi, W. (2000). Cyberostracism: Effects of being ignored over the Internet. *Journal of Personality and Social Psychology, 79*(5), 748–762. https://doi.org/10.1037/0022-3514.79.5.748.

Witkowski, T., & Stiensmeier-Pelster, J. (1998). Performance deficits following failure: Learned helplessness or self-esteem protection. *British Journal of Social Psychology, 37*, 59-71

Wolf, T. M., Scurria, P. L., & Webster, M. G. (1998). A four-year study of anxiety, depression, loneliness, social support, and perceived mistreatment in medical students. *Journal of Health Psychology*, *3*(1),125-136. https://doi.org/10.1177/135910539800300110

Yousuf, M.S.B., Fuad A., Rahim, A., Baba, A.A., Ismail,S.B., Mat Pa,M.N. & Esa, A.R. (2013). The impact of medical education on psychological health of students: a cohort study**.** *Psycholology, Health and Medicine, 18*(4), 420-30. doi: 10.1080/13548506.2012.740162.