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## Impact of social interdependence on emotional well-being of medical students

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### Abstract

**Objective:** To observe the effect of social interdependence on emotional well-being in medical students.

**Methods:** This cross-sectional study was conducted in Karachi from June 2013 to January 2014 and comprised first-year medical students of 5 private and 3 public-sector colleges. Students of both genders aged 19-24 years were included. Quantitative aspects of social and emotional wellness were evaluated using a structured questionnaire from the wellness wheel on a four-point Likert's scale (score ranging from 0 to 3). Two focus group discussions were conducted in each medical college from the qualitative aspect.

**Results:** Of the 736 participants, 526(71.47%) were females and 210(28.53%) were males. Males reported significantly less inclination towards exhibiting fairness, solving problems, teaching batch fellows and attending group discussion ( $p < 0.05$ ). They were significantly least anxious with less frequency of helping others during emotional outbursts ( $p < 0.05$ ). Females had higher frequency of close friends and self-improvement ( $p < 0.05$ ). The scores of social wellness were significantly better in females compared to males ( $p < 0.001$ ) while there was no significant difference in emotional wellness on the basis of gender ( $p > 0.05$ ). Social communication and help was highly positively correlated with self-content in students ( $p < 0.05$ ).

**Conclusion:** The medical students of Karachi had good social and emotional well-being.

**Keywords:** Wellness, Emotional wellness, Social wellness, Medical students, Wellness wheel. (JPMA 67: 992; 2017)

### Introduction

Wellness is a fairly alien concept in developing countries in comparison to the advanced world, and it comprises the balance between its components, i.e. physical, emotional, spiritual, intellectual, social, financial and environmental well-being. The dynamics of wellness exist in the interactions so that a modification in any one of these serves to influence other components, and hence, an effect on one of the components serves to disturb the balance of wellness wheel.<sup>1</sup>

Social wellness (SW) permits a person to survive in the society via interactions with friends, family, colleagues and the entire community.<sup>2,3</sup> In this regard, the main objectives of SW include positive and effective communication skills, developing mutual respect amongst community members and enjoying a positive interdependent relationship with all concerned.<sup>3,4</sup> The awareness about SW is important for medical students as they are the future professionals who take an oath to treat the patients efficaciously. For this, they need strong interpersonal skills to communicate with patients, their family, staff and peers without

forgetting their own families.<sup>5</sup>

Emotional wellness (EW) means having an awareness of individual's positive feelings, its expression in a healthy manner, stability of mood, sense of well-being, positive attitude toward others and having stress-coping abilities at rough and tough times of life.<sup>1,2</sup> Emotional health is important for an individual, as this is also dependent upon self respect, self-confidence and one's individual dignity, which in turn also plays a role in performance.<sup>6</sup> According to the definition by the Mental Health Foundation, emotional well-being is "a positive sense of well-being which enables an individual to be able to function normally in society and meet the demands of everyday life; people in good mental health have the ability to recover effectively from illness, change, or misfortune".<sup>1</sup>

Medical students are known to face academic challenges during their studies and at the same time have to explore their own desires in terms of future plans, learn about self-discipline and importance of time management, so that they should learn not only to survive but also excel in their careers.<sup>3,4</sup> Recent studies have showed that medical students' perception of the educational environment has a significant impact on their behaviour, academic progress and sense of well-being.<sup>7</sup>

Wellness issues may get compromised during medical students' academic careers due to multiple societal,

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health and career challenges and an imbalance amongst these would lead to unrest, effecting their learning ability and subsequent academic performance.<sup>8</sup> At the same time, the evolving modern trend to look after the patients is not only demanding but complex and needs knowledge, skills and positive attitude towards changing intricacies of life. In this regard, medical students should learn to cope with their stresses and understand the importance of teamwork and leadership to improve their academic performance and move forward in life.<sup>6,8</sup> As gender has been established as one of the core influencers of responses to wellness, different characteristics/indicators of wellness need to be explored and compared in both genders.<sup>9,10</sup> The current study was planned to compare EW and SW awareness and determine the impact of social interdependence on emotional well-being in male and female medical students.

### Subjects and Methods

This cross-sectional study was conducted in Karachi from June 2013 till January 2014, and comprised first-year medical students of all ethnic groups regardless of gender and aged 19-24 years studying at 5 private and 3 public-sector colleges. Ethical approval was acquired from the ethics review committee (ERC) of Bahria University Medical and Dental College, Karachi. Informed written consent was obtained from all participants. Information was acquired about awareness of sSW and EW on a four-point Likert scale (0-3). This dimension contained nine items pertaining to: i) having a network of friends, ii) fairness and justice while dealing with people, iii) try to solve problems of fellows, iv) no hesitation to communicate, v) attend group discussion without hesitation, vi) teach batch fellows without hesitation, vii) enjoy leading a students' group, viii) sense of belonging to the community, and ix) contribute resources to community projects. Twelve items were included in the dimension to study EW of students. These items were: i) feeling cheerful and happy, ii) value self-exploration and improvement, iii) needed and valued by acquaintances, iv) recognise and cope stressors, v) suffer mood swings and anxiety attack, vi) outbursts occur before exam, vii) capable of overcoming anxiety, viii) take help from friends, ix) seek advice from mentor, x) consult family for help, xi) need psychiatrists, and xii) help people during emotional outbursts.

Two focus group discussions (FGDs) were conducted in each medical college with 1015 students after taking informed consent. The FGD lasted for 20-30 minutes, was audio-recorded and anonymity and confidentiality of students were maintained throughout the process.

Results of quantitative aspects of EW and SW were acquired from work done previously<sup>9,11</sup> using a structured questionnaire adapted from the wellness wheel,<sup>12</sup> pretested and validated on a group of 50 students. The reliability of the questionnaire was identified by Cronbach's alpha (81%) which showed good consistency in the responses received from students. All variables were judged on the basis of four-point Likert type scale (i.e. rarely ever, sometimes, most of the time, and always) with a score range of 0-3 (lowest to highest).

Open-ended questions were preferred to explore association of SW with EW, use of social support to prevent emotional outbursts and importance of group discussions to withstand stress of examination [Appendix].

Descriptive measures were expressed in terms of frequency and percentages for individual items of each dimension while scores were presented as mean  $\pm$  standard deviation and median (interquartile range [IQR]). Chi-square trend test was executed to check association between gender and individual wellness items. Mann-Whitney U test was run to compare wellness scores between males and females.  $P < 0.05$  was considered significant. Correlation of SW and EW using Spearman's correlation was considered weak, with value of correlation coefficient less than 0.3, moderate from 0.3 to 0.5 and more than 0.5 as good correlation between the two scores.

To explore common SW from these nine items, we used factor analysis using principal-factor method. The detail of the application is given in a previous publication.<sup>3</sup> Briefly, two factors were extracted from the application of factor analysis. Items v, vi, iv, vii and ix produced the highest correlation with the first factor and hence given the name of "social communication" whereas items iii, ii, i and viii produced the highest correlation with factor and hence given the name of "social help". The respective items in both factors were summed-up and two new variables were formed under the dimension of SW. Total SW was formed while adding up responses of all nine items.

The exploration of common emotional well-being was

#### Appendix: Open-ended questions.

1. Do you think social networking can help you to prevent emotional outbursts?
2. Do you think combined studies give you confidence to overcome fear of viva voce examination?
3. Do you think your support from friends and family is required for emotional well being?
4. Do you think talking to a friend and sharing the problem gives you consolation?
5. What is your opinion about social support system?

assessed by factor analysis as defined in our previous article.<sup>1</sup> Four emotional factors were extracted out. The first factor was named as "self-content" after looking for the highest correlations with items iv, i, ii, iii, xii and vii. The second factor showed highest correlation with ix, viii and x and hence we named it as "dependent". The third factor showed positive correlation with item vi and negative correlation with vii and hence given the name of "anxious". The last factor was named as "moody" as it imparted positive correlation with item v and negative correlation with item i. The total score and factor scores were obtained by the same method as done for social wellness total and factor scores.

## Results

Of the 736 participants, 526(71.47%) were females and 210(28.53%) were males. Females were accustomed significantly more to have close network of friends ( $p<0.001$ ), exhibit fairness while dealing with people ( $p=0.001$ ), solve problems ( $p=0.002$ ), no hesitation to communicate with people ( $p=0.007$ ), attend group

discussion without hesitation ( $p=0.001$ ), teach batch fellows without any hesitation ( $p=0.003$ ) and feel sense of belonging to doctor's community ( $p=0.021$ ). The items which were not significantly associated with any gender were leading a group of students and contributing time and money to social and community projects. Most of the items of emotional wellness did not produce significantly different trend in either gender. Albeit, feeling cheerful and hopeful was nearly similar in males and females ( $p=0.051$ ). The frequency of always exploring and improving the self was found more in female ( $p=0.035$ ). Male had significantly less frequency of anxiety or outburst during exam ( $p<0.0001$ ). On the other hand, helping other people during emotional outbursts was reported more by female students ( $p=0.009$ ) (Table-1).

Females acquired significantly higher score in communication wellness ( $p=0.002$ ). Social help was also found significantly higher among female medical students ( $p<0.0001$ ). Overall SW was significantly better among females. Observing the outcome of EW, the

**Table-1:** Association of social and emotional wellness items with gender.

Attributes	Male (n = 210)				Female (n = 526)				P Value for trend
	No	Sometimes	Usually	Always	No	Sometimes	Usually	Always	
<b>Social Wellness</b>									
I have a network of close friends and family	15 (7.1%)	22 (10.5%)	18 (8.6%)	155 (73.8%)	17 (3.2%)	18 (3.4%)	48 (9.1%)	443 (84.2%)	<0.001
I exhibit fairness and justice in dealing with people	3 (1.4%)	26 (12.4%)	62 (29.5%)	119 (56.7%)	5 (1.0%)	27 (5.1%)	146 (27.8%)	348 (66.2%)	0.001
I try to solve problems of my friends/class fellows	7 (3.3%)	30 (14.3%)	68 (32.4%)	105 (50.0%)	10 (1.9%)	53 (10.1%)	135 (25.7%)	328 (62.4%)	0.002
I have no hesitation to communicate with people	25 (11.9%)	56 (26.7%)	57 (27.1%)	72 (34.3%)	36 (6.8%)	118 (22.4%)	154 (29.3%)	218 (41.4%)	0.007
I don't hesitate to attend group discussions	24 (11.4%)	44 (21.0%)	60 (28.6%)	82 (39.0%)	40 (7.6%)	89 (16.9%)	114 (21.7%)	283 (53.8%)	0.001
I never hesitate to teach my batch fellows	21 (10.0%)	35 (16.7%)	61 (29.0%)	93 (44.3%)	32 (6.1%)	75 (14.3%)	118 (22.4%)	301 (57.2%)	0.003
I enjoy to lead a group of students	39 (18.6%)	41 (19.5%)	36 (17.1%)	94 (44.8%)	80 (15.2%)	101 (19.2%)	100 (19.0%)	245 (46.6%)	0.341
I feel a sense of belonging to doctor's community.	14 (6.7%)	30 (14.3%)	48 (22.9%)	118 (56.2%)	29 (5.5%)	61 (11.6%)	76 (14.4%)	360 (68.4%)	0.021
I contribute time and money to social and community projects.	38 (18.1%)	84 (40.0%)	47 (22.4%)	41 (19.5%)	110 (20.9%)	195 (37.1%)	114 (21.7%)	107 (20.3%)	0.821
<b>Emotional Wellness</b>									
I feel cheerful and hopeful	9 (4.3%)	48 (22.9%)	68 (32.4%)	85 (40.5%)	19 (3.6%)	80 (15.2%)	190 (36.1%)	237 (45.1%)	0.051
I value self-exploration and self-improvement.	4 (1.9%)	19 (9.0%)	60 (28.6%)	127 (60.5%)	4 (0.8%)	41 (7.8%)	119 (22.6%)	362 (68.8%)	0.035
I feel that I am needed and valued by my family and friends.	12 (5.7%)	22 (10.5%)	35 (16.7%)	141 (67.1%)	17 (3.2%)	51 (9.7%)	85 (16.2%)	373 (70.9%)	0.159
I can recognize and cope with stressors in my life.	14 (6.7%)	32 (15.2%)	75 (35.7%)	89 (42.4%)	27 (5.1%)	101 (19.2%)	201 (38.2%)	197 (37.5%)	0.42
I suffer frequent mood swings and attacks of anxiety	59 (28.1%)	80 (38.1%)	42 (20.0%)	29 (13.8%)	126 (24.0%)	217 (41.3%)	101 (19.2%)	82 (15.6%)	0.396
The outbursts(Anxiety attacks) occur before a test/exam	73 (34.8%)	62 (29.5%)	38 (18.1%)	37 (17.6%)	114 (21.7%)	167 (31.7%)	95 (18.1%)	150 (28.5%)	<0.0001
I am capable to overcome them	11 (5.2%)	32 (15.2%)	80 (38.1%)	87 (41.4%)	37 (7.0%)	102 (19.4%)	153 (29.1%)	234 (44.5%)	0.537
I have to take help from my friends	37 (17.6%)	84 (40.0%)	48 (22.9%)	41 (19.5%)	97 (18.4%)	227 (43.2%)	120 (22.8%)	82 (15.6%)	0.269
I have to seek advice from my mentor	66 (31.4%)	60 (28.6%)	49 (23.3%)	35 (16.7%)	195 (37.1%)	162 (30.8%)	76 (14.4%)	93 (17.7%)	0.161
I have to consult and take help from parents/family members	38 (18.1%)	56 (26.7%)	42 (20.0%)	74 (35.2%)	71 (13.5%)	139 (26.4%)	101 (19.2%)	215 (40.9%)	0.095
I need my psychiatrist /psychologist to take me out of these spells	164 (78.1%)	16 (7.6%)	16 (7.6%)	14 (6.7%)	461 (87.6%)	32 (6.1%)	7 (1.3%)	26 (4.9%)	0.002
I am the one who helps people during emotional outbursts.	19 (9.0%)	58 (27.6%)	62 (29.5%)	71 (33.8%)	28 (5.3%)	126 (24.0%)	146 (27.8%)	226 (43.0%)	0.009

**Table-2:** Comparison of social and emotional wellness scores between male and female medical students of Karachi.

Attributes	Male		Female		P Value
	Mean $\pm$ SD	Median (IQR)	Mean $\pm$ SD	Median (IQR)	
Social Communication	9.18 $\pm$ 3.18	9 (5)	9.96 $\pm$ 3.43	11 (5)	0.002
Social Help	9.48 $\pm$ 2.35	10 (3)	10.28 $\pm$ 1.89	11 (3)	<0.0001
Total Social Wellness Score	19 $\pm$ 5	19 (6)	20 $\pm$ 4	21 (7)	<0.0001
Self-Content	13.2 $\pm$ 3.19	14 (4)	13.64 $\pm$ 2.99	14 (4)	0.101
Dependent	4.42 $\pm$ 2.4	4 (3)	4.36 $\pm$ 2.35	4 (3)	0.696
Anxious	3.34 $\pm$ 1.29	3 (1)	3.64 $\pm$ 3.64	4 (1)	0.002
Moody	3.29 $\pm$ 1.19	3 (1)	3.49 $\pm$ 1.11	3 (3)	0.056
Total Emotional Wellness Score	20 $\pm$ 5	21 (5)	21 $\pm$ 4	21 (6)	0.237

SD: Standard deviation

IQR: Interquartile range.

**Table-3:** Correlation of social wellness with emotional wellness among students.

	Social wellness	Social communication	Social help
Emotional wellness	0.364**	0.300**	0.349**
Self-content	0.511**	0.444**	0.435**
Dependent	0.104**	0.065	0.145**
Anxious	0.149**	0.096**	0.198**
Moody	0.125**	0.123**	0.075*

\*\*: P value &lt; 0.0001, \*: P value &lt; 0.05.

anxiety factor was found significantly less among males as compared to females ( $p=0.002$ ). Mood factor was nearby significantly higher among females ( $p=0.056$ ). Content attitude and feeling of dependency were similar in both genders ( $p>0.05$ ). Overall EW score was found insignificantly different between male and female medical students (Table-2).

Considering the above defined cut-off for delineating output of correlation of SW with EW, it was observed that overall EW exhibited moderate positive correlation with SW, communication and social help. With the increase of the score of the factor self-content there was significant increase in SW ( $r=0.511$ ), communication ( $r=0.444$ ) and social help ( $r=0.435$ ). Dependency showed insignificant positive correlation with social communication while significant but weak correlation with SW and help. The other two factors of EW anxious and moody had positive but weak relationship with SW and social help (Table-3).

The following four themes emerged from focused group discussions: 1) help of social networking in emotional outbursts; 2) confidence to overcome stress; 3) support from friends and family is required for emotional well-being; and 4) communication for the sake of emotional well-being.

In the first theme, students responded, "Positive

interactions with comfort provides relaxed environment during work". They had the opinion that SW involved developing and building close bonds with commitment to compassion and active listening, caring for others, and letting others care for one other. One of the participants responded: "SW develops emotional intelligence and makes us acceptable for the society by control on emotions and developing EW". A female student responded: "SW involves developing and building close friendships and intimacy, practising empathy and effective listening, caring for others and their common good, and allowing others to care for us". We have observed that people who maintain their social network and support systems do better under stress. This was a frequent response. The awareness can help to improve our world by reassuring a strong and introducing improved communication with those around you was the recommendation given by the students.

In the second theme, students said: "A discussion during studies, especially during viva voce examination, develops good communication skills and creates confidence to appear better in the examination and overcome stress." At the same time they responded that socialisation identified the need for leisure, refreshment and scheduling of activities which overcame stress and tension. SW helped to get along comfortably with others by expression of feelings, needs, and opinions which helped in interaction with the social environment. This was an aggregate response from 4 to 5 students.

In the third theme, we received the replies, "Good friends exert a positive impact on the mental and physical health of an individual". "True friends can help in academic learning, personality development and grooming which develops an ability to cope with stress". SW helps in development of a positive interdependent relationship that leads to healthy behaviours and determines successful existence. The social interactions confirmed

better learning outcome that can be made possible by conversation, discussion and maximum utilisation of resources with the batch fellows.

The students thought that strong social network within family, friends, and community helped them to enjoy better health. SW, as one of the spokes of wellness wheel, enables an individual to survive in the society by interaction with friends, seniors, juniors and the entire community.

In the fourth theme, students identified that the importance of interchange of arguments, verdicts and sentiments permitted to share interpretations and understand wishes, apprehensions and common welfares of other students. It allows wilful choices to augment personal interactions and cultivate important bonding with community, surroundings and eventually the entire world. This communication helps to improve support system, which gives strength to the family, reinforces one's ability to work, bestows respect to others and develops meaningful relationship with people.

## Discussion

The medical profession by virtue of its academics develops multitasking abilities in an individual and these are the qualities needed for leadership.<sup>8</sup> Studies have been done to demonstrate association of EW with cognitive health.<sup>13</sup> However, the current study was aimed at investigating the concept of wellness in terms of emotional well-being in association with SW, as attributes needed to become a role model for any society.

The importance of emotional well-being of undergraduate medical students is highlighted from the plethora of difficulties faced by them due to the extensive medical curriculum.<sup>14</sup> To list a few, medical education is deemed to be demanding, different and stressful, entailing numerous lectures, tutorials, laboratory sessions and assignment submissions. Alongside, lack of facilities in hostel, homesickness, high expectations from peers / parents and fear of failure exacerbate students' problems. Concealed beneath all these issues is the stress factor, which piles up, inflicting damage on physical, emotional and mental health presented by digestive symptoms, headaches, sleeplessness, hypertension, anxiety and anger, etc.<sup>14,15</sup>

A negative change in behaviour of a student perturbs learning, deteriorates social ties and as a consequence reduces the performance. Past studies suggest that nearly 80% of diseases may be triggered due to anxiety, stress, absence of imaginative and entertaining events.<sup>10,11</sup> From here, a chain reaction begins where the performance in

class and self-esteem takes a downhill twirl, resulting in more stress. This aggravates the situation of medical students further worsening class performances and other aspects of students' lives. In our study, nearly 39% of the students felt that they were capable of coping with stressors in life. The value of coping resides under the umbrella of awareness of stresses in life. This particular finding is coherent with the explanations offered by other studies. Zhang et al. stated that positivity to life with pro-social behaviours acts as a coping strategy and is linked to negativity towards depression.<sup>16</sup>

SW has an association with emotions, which in turn is also responsible reflecting behaviour of a person via effecting moods, thoughts, attitudes, day-to-day activities and all that is associated with it. In our study, self-content was improved with SW, social communication and social help, hence, the phenomenon of being socially sound for medical students acts as a significant factor in contributing towards emotional stability, reducing the stress levels which can further add in the treatment of unhealthy patients. Female medical students, however, were able to take care of themselves with emotional stability and positivity better than the males.

The idea of being associated with others is a universally inherent trait of human beings, emphasising the significance of social support from different individuals. This, in part, can be hugely attributed to the support tendered to a large number of students by their friends and family members; similar findings have been echoed in other studies.<sup>4</sup> Similarly, a few students approached mentors, psychiatrists and psychologists to tend to their issues; facets that are tied to enhancing EW. Studies lay claim to the fact that in the absence of social support, a person may contract depression and other symptoms.<sup>17,18</sup> This may also have been because a large number of students valued the need for self-exploration, a value that can expand facets of the entire wellness wheel.<sup>12</sup> The importance of SW awareness is highlighted by Supe et al. who observed more anxiety attacks during comprehending the subject or examination in students who were distanced from their relatives.<sup>19</sup>

The association of EW with SW perceived in our study has been observed by other researchers. A higher score on emotional competencies has been associated with different indicators of social adaptation, whereas inability to recognise emotions and to use them to facilitate thought was reflected in negative outcomes, including drug and alcohol abuse.<sup>20</sup> Weng et al. found that the emotional competency of doctors was positively correlated to patient's trust, which in turn had a positive

impact on better patient follow-up and a higher satisfaction of the patient with the doctor and hospital.<sup>21</sup> Medical students who secured the factor self-content had enhanced SW, social communication and social help. This can be explained by the fact that a sound emotional understanding may involve the ability to listen to tirades by an overworked and a frustrated colleague or trying to be focused on what is best for the patient rather than focusing on 'who is right'.<sup>22</sup>

This study did not examine the correlation between localities of students and anxiety attacks or its effects on other forms of wellness, an area that can be investigated in the future. Nonetheless, it points towards incorporating wellness programmes into university curriculums and hiring trained counsellors and mentors to assist students if required. Furthermore, we also expect this study to open new avenues for other budding researchers belonging to dentistry, nursing, physiotherapy and pharmacy to uplift their respective professions in Pakistan.

## Conclusion

The medical students of Karachi had good social and emotional well-being. The self-contentment of medical students was associated with SW, social communication and social help. Social networking helped the students in overcoming stress and emotional outbursts.

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