Effect of Emotional Intelligence on Performance in Healthcare

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Abstract—This paper aims to analyze the effect of emotional intelligence on performance of healthcare personals through a cross sectional study on medical and nursing final and pre final year students. It also tries to analyse the trends between the difference in emotional intelligence of male and female professionals and difference in their performance. The results from the study show that female healthcare professionals possess greater emotional intelligence and they also perform better in clinical duties.In EI tests, average score of male participants was 57.15 whereas average score of female participants was 60.59 and overall the average score was 59.31. Correlation between EI scores and performance scores of female participants was found to be 0.71 while correlation between EI scores and performance scores of male participants was found to be 0.62 and overall correlation value between EI scores and performance scores was 0.68.

Index Terms—Emotional Intelligence, Doctors' performance, Nurses' performance, EI of doctors, EI of nurses

I. INTRODUCTION

Intelligence is not only limited to knowing the facts and thinking with sound logic. It also includes to recognise our emotions and that of others and controlling our emotions. People who are able to differentiate between various feelings and manage their emotions in a good manner are said to be having a good emotional intelligence and emotional intelligence is measured in Emotional Quotient [15]. Emotional intelligence has a very fundamental role in healthcare.It has a fundamental influence on the cognitive processes in humans, including perception, attention, learning and reasoning. Front line healthcare labourers have to labour in emotionally charged environments and have to form and maintain relationships with co labourers, patients and their families. Clinical decisions are often taken in chaotic environments and are simultaneously bound by professional ethics and codes of practice [12]. Emotions affect the healthcare professionals at an interpersonal level and influence professional relationships and impact patient care decisions. In healthcare, the impact of environment and emotions of the persons there can lead to problems for the professionals. They may get affected too much from the environment around them or it may also occur that they become emotionally very passive if they keep denying the emotions of the people around them. So, across the academic disciplines, there is a common acceptance that understanding of emotion is essential [9] . Emotional labour has been largely commandeered by nursing and studies haven't been done in relation to the doctors but there is a need of emotional skills required for all the health professionals to improve treatment outcomes [8]. Healthcare professionals need to engage in caring practices for managing their own and others' emotions in order to meet patient's and their families' emotional need. Their labour involves induction and suppression of emotions at times to sustain an outer appearance that makes others feel safe and cared [7].

II. LITERATURE REVIEW

Concept of emotional intelligence was originally given by Salovey and Mayer [11], but it was made popular outside academic world by Daniel Goleman. In 1995, Goleman published a book on Emotional Intelligence and it became an instant bestseller. Emotional intelligence suddenly became popular phrase in media circles [10].
Emotional intelligence theory has developed from concepts of intelligence. Historically, It has been difficult to understand the nature of intelligence and emotion. Definitions of intelligence generally consist of behaviors associated with learning, information processing, adaptation to environment and thought and reasoning patterns [2], [10]. Emotions are complex reaction patterns which involve behavioral and psychological elements to personally significant levels [2]. Theodosius [14] had identified three types of emotional labour in nursing.These are therapeutic, collegial and instrumental. Therapeutic emotional labour includes interpersonal relationships and interactions between nurses, patients and their families. Collegial emotional labour includes interpersonal relationships and communications between nurses and within the interdisciplinary team which has the duty of processing important information and facilitation of effective nursing care. Instrumental emotional labour involves the use of interpersonal skills while carrying out a clinical procedure in order to make the process more comfortable and to minimise patient distress.

Emotional intelligence is based on three key concepts [5].

1) Emotions are important part of life.
2) The way that individuals perceive and manage emotions differs.
3) Emotions contribute to overall ways of coping and well being in all areas of life.

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There are two issues of conflict around emotional intelligence. The first question which arises is that does it necessarily represents an ability to reason about emotion or it is just a personality trait. The second issue rises when measuring emotional intelligence.It isn't very clear whether emotional intelligence can be measured using self report or whether an intelligence quotient type measure of emotional intelligence ability is needed. Due to these issues, a wide variety of methods are currently being used to measure emotional intelligence and correlation between them are so usually so low that concerns have been raised whether the tests measure the same thing or not [4].

Globally, Research has been conducted on nurses and doctors separately in the past but the researches have been limited to either doctors or nurses. No significant study has been done comparing performance of doctors and nurses and the relation with their emotional intelligence. Building knowledge about emotional intelligence and its effect on healthcare workers as a whole including doctors and nurses of both gender would be beneficial. It would be useful to explore in more detail whether there are differences between nurses and doctors, and gender. The only studies to include both types of health care professional were Bamberger et al [3], Dafeeah et al [6], and Sommaruga et al [13]. The latter two studies were heavily weighted towards nurses, making meaningful comparisons difficult. Very few studies have been conducted in India and research involving health professionals in India would be useful to see if findings of the past are consistent for them.

III. METHODOLOGY

A. Design and sample

In this study, a cross sectional survey design has been used because it is best suitable for describing the status of any phenomena or relationships between different factors of a phenomena at a fixed point in time. Initial sample consisted of 50 nursing and 50 MBBS students with both male and female participants. Male and female students from both nursing and MBBS were included in the study for several reasons. Nurses have different responsibilities than doctors during treatment of patients. Men and Women generally have different emotional quotients and their ability and style to handle critical situations vary significantly.

B. Instrument

Online survey was conducted for the study and google forms were used to record the responses from the participants. The survey forms consisted of four sections.
First section consisted of questions on person's identity like gender and age of participant and whether the participant is an MBBS student or a nursing student.
Second section of the survey consisted of questions which focused on how the participants manage their own emotion and how much they are aware of their own emotions. For this task three questions each for self awareness,self regulation,motivation, empathy and social skills were adapted

from emotional intelligence mapping tool developed by mindtools.com website [17].
Third section of the survey consisted of questions which were targeted on measuring how participants identified other's emotions. For this,questions were adapted from emotional intelligence measurement tool developed by Greater good magazine [16] in which a participant has to identify the emotion of the person in the image.
Fourth section of the survey consists of questions to measure professional efficiency of the participants. In this sections questions were asked on how they address the problems of the patients and their family members, how much stressed they are while working,how effectively they communicate with their team members etc.

C. Data Collection

Participants have been chosen for the study using personal contacts. They were contacted and briefed about the research and when they agreed to participate, Questionnaire was sent to them.Initially the survey form was sent to 100 participants out of which 76 participants filled the survey. In the responses, there were missing values for which entries were removed. Finally, data of 35 participants was used for analysis in the study.

D. Data Analysis

The data of each participant was annotated for evaluation and scores were calculated for the tests according to answers given by the participants. After calculating scores, graphs were plotted using programs written in python programming language to find correlation between gender and emotional intelligence and performance of participants in healthcare.

E. Ethical Considerations

The survey form sent to the participants outlined the purpose of the study. It also mentioned that their participation was entirely voluntary and they may choose not to answer the questions in the survey anytime before submitting it. Participants were also informed that confidentiality of data will be maintained and names of participants weren't recorded in the survey.

IV. OBSERVATIONS AND RESULTS

After doing the study and summarising the results, following observations were done.
1) Female participants scored more in the section which focused on how the participants manage their own emotion and how much they are aware of their own emotions.It was also seen that highest scores was obtained by Female participant in this section while lowest score was obtained by a male participant. The results have been plotted in fig. 1.
2) Male participants scored more in the section which consisted of questions which were targeted on measuring how participants identified other's emotions.In this section, female participants performed uniformly
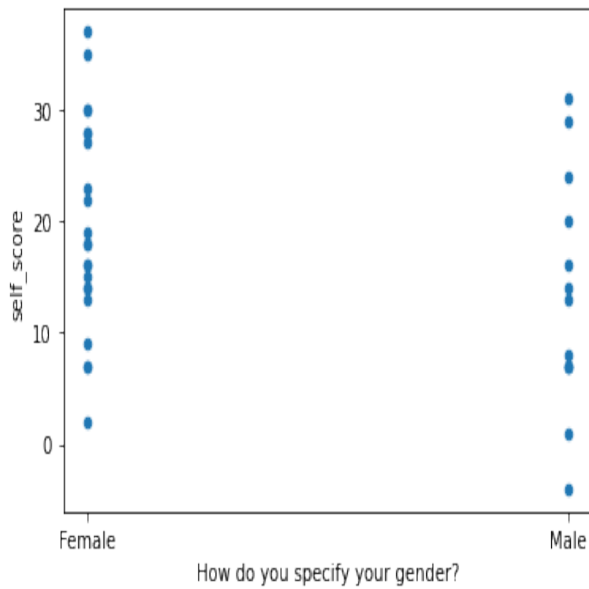
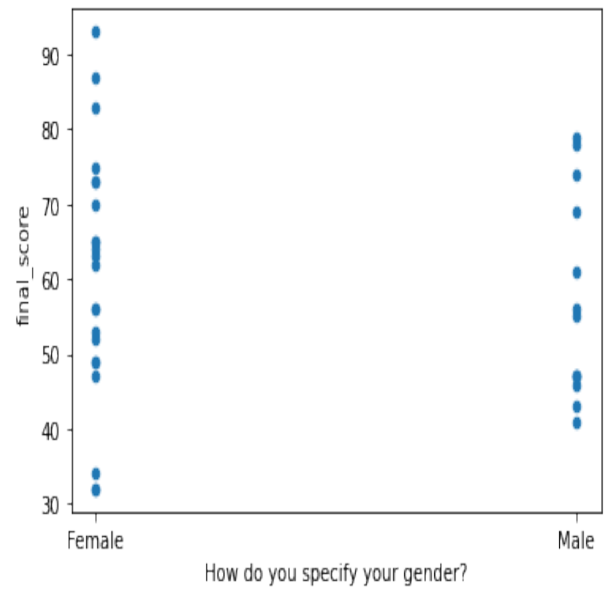Fig. 1. Scatter plot for scores of male and female participants in awareness of their own emotions

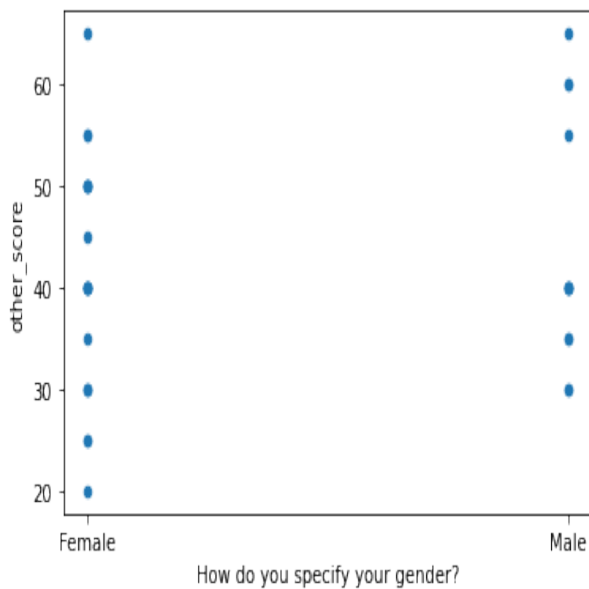Fig. 2. Scatter plot for scores of male and female participants in awareness of other people's emotions

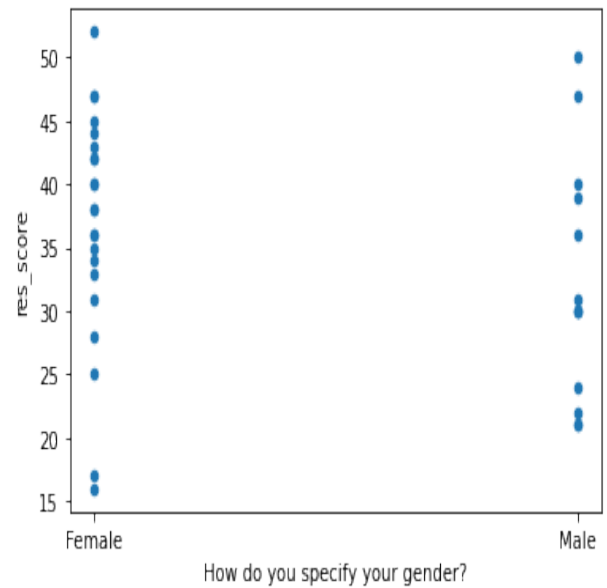Fig. 3. Scatter plot for EI scores of male and female participants

Fig. 4. Scatter plot for performance scores of participants

while male participants had higher average score. In this section, female participants had scored lowest as well as highest points. The results have been plotted in Fig. 2.

3) Overall Female participants performed better in sections in which emotional intelligence was calculated. Male participants neither scored very low, nor they score very high in emotional intelligence tests whereas some female participants had very high EI scores while others had low EI scores. EI scores for female participants were distributed all over the points. The results have be plotted in Fig. 3.

4) Female participants performed better in clinical performance. Average performance score for female participants was 36.77 while it was 32.38 for male participants and 35.14 overall. Also male participants scored in a narrow range than female participants and both the lowest and highest scores were obtained by female participants. Scatter plot for the observation has been given in Fig. 4.

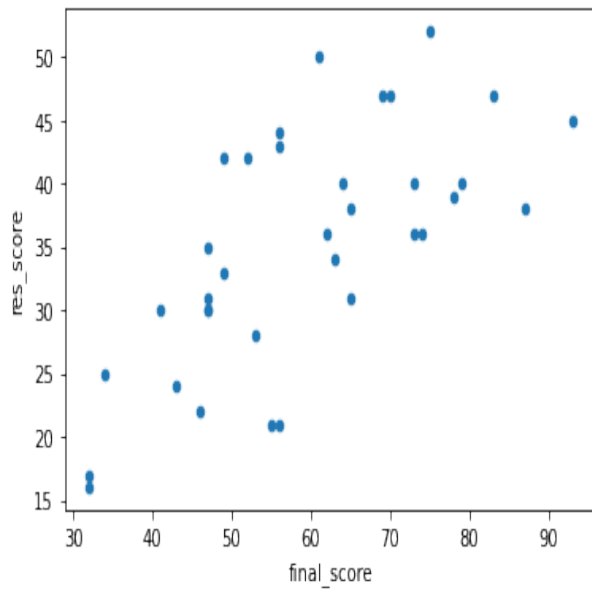5) EI scores of participants were highly correlated with their performance scores. Correlation value between

Fig. 5. Scatter plot for performance scores versus EI scores of participants

TABLE I
AVERAGE SCORES OF PARTICIPANTS IN DIFFERENT CRITERIA

Criteria	Male	Female	Overall Score
Awareness of own emotions	13.3	19.45	17.17
Awareness of others' emotions	43.84	41.13	42.14
Ovearall EI score	57.15	60.59	59.31
Performance score	32.38	36.77	35.14
Correlation b/w performance and EI	0.62	0.71	0.68

found to be 0.62 and overall correlation value between EI scores and performance scores was 0.68.

VI. LIMITATIONS

Survey was conducted with questionnaires which were done using google forms, So the reliability of answers are slightly less because participants might not have answered the questionnaire carefully.There might be different interpretations of questions and participants might not be hundred percent honest while answering the questionnaire which may have led to errors. Also a very small group of only 35 people have been included in the study, so it is possible that results may vary if more number of people are included in the study.

EI scores of participants and their performance score was found to be 0.6809. Fig. 5 shows the values of performance scores and EI scores.

6) EI scores and performance scores of female participants were more correlated than male participants. Correlation between scores of female participants was found to be 0.71 while correlation between scores of male participants was found to be 0.62.

All the above results have been summarised in the TABLE I.

V. CONCLUSION

This study was conducted to analyze the effect of emotional intelligence on performance of healthcare personals through a cross sectional study on medical and nursing final and pre final year students. Trends between the difference in emotional intelligence of male and female professionals and difference in their performance was analysed. From the results of study it can be concluded that female healthcare professionals have good emotional intelligence compared to their male counterpart. They also perform better than male healthcare professionals.In EI tests, average score of male participants was 57.15 whereas average score of female participants was 60.59 and overall the average score was 59.31. Correlation between scores of female participants was found to be 0.71 while correlation between scores of male participants was

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