Original Article

Association between Emotional Intelligence and Objective Structured Examinations: A Study on Psychiatric Residents

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Abstract

Introduction: Emotional Intelligence (EI) is the capacity to handle one's and the others' feelings and reactions, and is important for achieving pleasant social interaction and success in life. The purpose of the present assessment was to explore the connection between the EI of psychiatric residents and their outcomes in objective scholastic evaluations.

Methods: A cross-sectional study was used in the present assessment. 31 psychiatric residents of the University of Social Welfare and Rehabilitation Sciences (grade 1 to 4) were requested to answer the Schutte Self Report Emotional Intelligence Test (SSEIT) for probing the relationship between EI and objective structured examinations, like Mini-Clinical Examination Exercise (Mini-CEX), Objective Structured Clinical Examination (OSCE), and Chart-Stimulated Recall (CSR) scores, which had been taken in the previous six months. SSEIT score of 90 was taken as demarcating point for dividing the sample population into two target groups, including the 1st group with SSEIT score lower than 90, and the 2nd group with SSEIT score equal to or more than 90. Demographic characteristics were analyzed by comparison of proportions regarding gender and year of study and comparison of means (t-test) regarding age, scholastic evaluative scores and EI. Data analysis was conducted using MedCalc Statistical Software version 15.2. Statistical significance was determined as a $P \leq 0.05$.

Results: 29 participants (93.54%) responded to the assessment and answered the SSEIT. According to the findings, there was no significant difference between the aforesaid groups regarding Mini-CEX, OSCE and CSR (P=0.101, P=0.091 and P=0.156, respectively). Post-hoc power analysis showed an intermediary power equal to 0.36 on behalf of this trial.

Conclusion: According to the findings, while a significant difference, with respect to SSEIT score, was evident between two groups of psychiatric residents with higher and lower SSEIT scores, no significant difference was evident between them regarding the objective structured examinations.

Keywords: Emotional intelligence, Objectives, Structural, Examinations, Psychiatric, Residency

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Introduction

While the meaning of Emotional Intelligence (EI), which has frequently been scored as an Emotional Intelligence Quotient (EQ), is regularly fluctuating, it generally designates a talent, skill, or ability to notice, estimate, and deal with the one's and the others' emotional states and approaches (1). The theme of EI can be found in Darwin's primary opinions regarding the significance of emotional expression for survival and adaptation (2). In addition to cognitive aspects of EI, such as remembrance and problem-solving strategy, numerous investigators also have emphasized the significance of the non-perceptive features of EI (3). For instance, Thorndike in 1920 invented "social intelligence" as a term to describe the ability of considering and handling the others' approaches (4). According to Salovey & Mayer, EI is the capacity to discern personal emotional state and others' feelings and attitudes, and to utilize the data for monitoring personal thought and activities (5, 6). Nevertheless, due to various descriptions and frequent changes, the related investigators are persistently revising their descriptions with regard to the concept of EI (7). Currently, there are three basic theories of EI: "ability-based" EI models, "mixed" models of EI, and "trait" EI models (1). The above-mentioned definition of EI by Salovey & Mayer constitutes the "ability based model" (8). This model perceives feelings as valuable data for assisting one to comprehend the public environments (9). "Mixed model" or "the emotional competencies model", presented by Daniel Goleman (10) puts emphasis on EI as an inclusive group of capabilities and talents that start executive enactment, and can be appraised by self-assessment or multi-rater assessments (10). According to Goleman, people are born with common emotional intelligence that controls their competency for getting emotional abilities (11). Lastly, "trait EI" or "trait emotive self-efficacy" refers to a collection of self-perceptions and behavioral temperaments concerning one's capacity to identify, analyze, and use emotion-laden data (12). On the other hand, a trait like alexithymia is inversely related to EI (13). Concerning EI and sexual characteristics, while Austin et al. reported a significant gender effect among first year medical students in United Kingdom (14), Carrothers et al. reported higher EI for female medical students (15). Alternatively, researchers like Cherniss & Goleman have suggested that culture can influence both an individual's reaction to an event and the selection of the reaction (16, 17). Also, according to a study, white people's scores on EI assessments were lesser than blacks and Hispanics (18). As is known, for clinicians, improvement of empathy, interpersonal skills and managing high stress situations are indispensable principles of their profession. Therefore, training and enhancing EI and empathy, as part of medical education, has been emphasized by some researchers (19, 20, 21, 22, 23). Similarly, Carrothers et al. have recommended using EI as part of the selection process for medical students (15). In this regard, some researchers believe that doctors with low levels of EI may lack the capacity to communicate empathetically with their patients (24, 25). For example, Stratton et al. (24) and Arora et al. (26) found empathetic communication as a substantial predictor of medical students' skills and enhanced doctor-patient relationships and communications. Thus, Stoller et al. recommended that the development of EI skills of physicians be definitely included in the educational curriculum (25). In contrast, Stratton et al. found only a modest correlation between EI, empathy and apprentices' medical abilities (24). The objective of the current study is to investigate the relationship between EI of a group of psychiatric residents and their academic accomplishment to see whether proper training can recompense for below average EI.

Methods

A cross-sectional appraisal scheme was used in the present assessment. Ethical approval was obtained from University's Medical Ethics Committee (2013.1914). Psychiatric residents were informed about the objective and method of the study, voluntary format of contribution, anonymity and privacy of information. The study was accomplished during June 2014. Total existing population of psychiatric residents was selected as the sample for this study (n=31). Among the total 31 psychiatric residents, 29 participants (93.54%) responded to the assessment. One of the participants was reluctant to participate in the assessment and another one was absent during the evaluation. Two different kinds of instruments were used in the present assessment. The first one was a demographic inquiry form that involved four queries of sex, age, year of training and educational outcomes regarding their objective structured examinations, including Mini-Clinical Examination Exercise (Mini-CEX), Objective Structured Clinical Examination (OSCE), and Chart-Stimulated Recall (CSR) scores. It deserves to be mentioned that Mini-CEX is a method of appraisal that can be used to evaluate the clinical skill of residents and can enhance student learning and develop student professionalism in serving patients (27). CSR, as well, has been utilized by active specialists in medicine as a reliable and valid instrument to find strengths and weaknesses in medical practice (28). OSCE, too, is a modern form of scrutiny that is planned to test clinical skills such as clinical examination, communication, medical procedures / prescription, etc. (29). The second

instrument involved the Schutte Self Report Emotional Intelligence Test (SSEIT), which was developed by Schutte et al. in 1998 (30). This tool measures trait EI by means of 33 self-referencing items that evaluate EI level of the person. Individuals score the level they agree or disagree with every single announcement on a 5-point measure oscillating between 1 (strongly disagree) and 5 (strongly agree). Three items among the thirty three ones (5, 28, and 33), are inversely scored. According to Schutte et al., while the two-week test-retest reliability co-efficient of SSEIT is around 0.78, the scale has high internal consistency with Cronbach's alpha (α) ranging from 0.87 to 0.90 (31). SSEIT scale has been used in different studies with a range of samples including adolescents, adults, and secondary school apprentices, and it is easy to apprehend and score (30). SSEIT score of 90 is usually taken as a cut-off point. While SSEIT score of 90 or higher includes: low average (90-99), high average (100-109), competent (110-119), strength (120-129) and significant strength (130+), SSEIT score of 89 and lower consists of: consider improvement (70-89) and consider development (69 or less), based on Mayer's guidelines (31).

Demographic characteristics were analyzed by comparison of proportions regarding gender and year of study and comparison of means (t-test) regarding age, scholastic evaluative scores and EI. Data analysis was conducted using MedCalc Statistical Software version 15.2. Statistical significance was determined as a $P \leq 0.05$.

Results

The demographic characteristics of the participants showed that: there was no significant difference between male and female contributors regarding number, age and SSEIT score (Table 1).

Table 1. Demographic characteristics of participants

Demographic variables	Male	Female	Test value	P
Gender	N = 12 (41.37%)	N = 17 (58.62%)	Z = -1.3131	0.189
Age	34.5 ± 4.90	33.23 ± 4.43	T = 0.728	0.472
Mean SSEIT score	95 ± 5.67	96 ± 5.24	T = -0.489	0.629

According to analysis of variance test, there was no significant difference among the four groups of participants (1st to 4th year post-graduate apprentices) with respect to SSEIT scores (Table 2).

Table 2. SSEIT score of participants

Year of study	Frequency (%)	Mean±SD
1st year	n=5, (17.24%)	97.4±11.97
2nd year	n=8, (27.59%)	95.12±11.21
3rd year	n=7, (24.14%)	92.85±12.39
4th year	n=9, (31.03%)	94.22±10.50
F=0.138, P-value=0.936		

Table 3. Comparison of means between two groups

SSEIT score	Frequency (%)	Mean±SD	T	P
< 90	n=11 (34.48%)	97.4±11.97	-6.236	< 0.001
≥ 90	n=18 (79.31%)	95.12±11.21		

Also, based on the abovementioned cut-off point, most of the participants (79.31%) had SSEIT score of 90 or higher. According to the findings, while the comparison of means by t-test showed a significant difference, with respect to SSEIT score, between first and second groups ($p<0.001$) (Table 3), no significant difference was evident between those two target groups regarding the objective structured examinations, like Mini-CEX, OSCE and CSR (Table 4). Post-hoc power analysis showed a power=0.36 on behalf of this assessment, which turned to power=0.74 in compromised power analysis.

Table 4. Comparative analysis of different (Mean±SD) scholastic evaluative scores between two groups

Exams	SSEIT score		T	P
	< 90	≥ 90		
Mini-CEX	22.46±3.82	24.78±3.42	-1.66	0.101
OSCE	24.44±3.11	26.61±3.27	-1.72	0.091
CSR	19.18±3.51	21.36±4.09	-1.42	0.156

Discussion

As is known, the longstanding backgrounds of EI can be traced back to Thorndike's societal intellect, which was associated with the skill to comprehend and behave prudently in social interactions (1, 2). Its modern origins, as well, lie in Gardner's ideas regarding various forms of interpersonal and intrapersonal intellects (3). According to Gardner, "interpersonal intellect signifies an individual's ability to apprehend the motivations, intents,

and wishes of other persons and, accordingly, to work successfully with others" (32). However, "Intrapersonal intellect includes the ability to comprehend personal capacities, fears, and desires and to use them practically for controlling the private life" (3). In this regard, it is important to comprehend that "ability EI" and "trait EI" are two different concepts. While the former is assessed by self-report inquiry form, the latter must be measured by functional tests. This difference in measurement has broad hypothetical and pragmatic repercussions. For instance, while "trait EI" would not be anticipated to relate intensely with general cognitive abilities, "ability EI" is indisputably associated with such capabilities (6, 21). According to the findings of the present assessment, while, based on SSEIT score, a significant difference was palpable between two groups of psychiatric residents regarding emotional intelligence; no significant relationship was evident between that issue and academic performance of participants. Such a result may not be in harmony with the suggestion of Carrothers et al. who suggested using EI as part of the selection method for medical students (15) and Stratton et al., who stated that doctors with low levels of EI may lack the skill to relate empathetically with their patients as they are unable to distinguish emotional state, suffering, and temper (24). Similarly, it is not in accord with McQueen who has said that low levels of EI lead to an undesirable influence on the doctor-patient relationship (27). Conversely, our conclusion was somehow compatible with the further view of Stratton et al. who found only a modest correlation between EI and learners' medical abilities (24). Nonetheless, it could not contradict the view of Arora et al., who declared that higher EI might play a role in improvement of doctor-patient interactions and teamwork skills (26), because better outcome measures were evident in the group with higher SSEIT score, though non-significantly. On the other hand, an insignificant difference between two groups regarding objective assessments could be attributed to the training of psychiatric residents with respect to basic principles and techniques of interview, empathy and rapport. Such a conclusion is consistent with the view of Stoller et al., who suggested that a set of programs should be used to improve EI skills of doctors (25). Also, similar to Austin et al. (14) and Carrothers et al. (15), who found a gender-based difference and higher EI in female medical students, in the present assessment, as well, an insignificant higher EI was evident among female residents. Thus, while according to Stoller et al. (25), enhancement of rapport, sympathy and EI skills can be a promising educative tactic, selection of medical students based on EI, according to Carrothers et al. (15), may be acknowledged as a discriminating or unfair belief. If psychiatric training can make substandard EI an unimportant issue, it can happen, as well, in other areas of clinical practice. On the other hand, some criticism of the theoretical foundation of EI still exists. For example, some researchers believe that EI is too broadly described and the explanations are not stable and therefore it cannot be documented as a form of intellect (34), or EI has no considerable prognostic importance and ability-based measures are gauging conformity, not skill (18). Similarly, ability-based measures are claimed to calculate data (not genuine ability) (32) and self-report measures are considered to be subject to falsification (32). Small sample size, scarcity of assessment tools, restriction of study to merely psychiatric residents, limitation of study to a short period of assessment and lack of control or comparison group were among the weaknesses of this study, which may limit generalization of its outcomes. Further methodical investigations with larger samples will certainly help to explore more decisively the correlation of emotional intelligence with clinical practice of graduate or post-graduate trainees.

Conclusion

According to the findings, while a significant difference, with respect to SSEIT score, was evident between two groups of psychiatric residents with higher and lower SSEIT score, no significant difference was evident between them regarding the objective structured examinations.

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