Impostor Phenomenon and Its Relationship to Self-Esteem Among Students at an International Medical College in the Middle East: A Cross Sectional Study

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The atmosphere of constant scrutiny of academic ability that prevails in medical colleges may leave some students at risk of expressing feelings of intellectual fraudulence and phoniness. Impostor phenomenon (IP) traits have been associated with anxiety, depression, job dissatisfaction, and poor professional performance. Internationally trained junior doctors exhibit stronger IP feelings than colleagues trained within their own country of citizenship. These feelings may develop during student life. International universities are diverse and complex environments where students may be emersed in a cultural milieu alien to their societies of origin, leading to feelings of isolation. Individuals with IP traits often perceive themselves as the "only one" experiencing this phenomenon, resulting in further isolation and negative self-evaluation, especially among women and underrepresented minorities. IP has also been linked to low self-esteem among students. This study assessed the prevalence of IP and its relationship to self-esteem among students at a campus of a European medical college with a large international student body situated in the Middle East. The self-administered questionnaires: Clance's Impostor Phenomenon Scale (CIPS) and Rosenberg's Self-Esteem Scale (RSES) were completed by 290 medical students (58.3% females). Participants' median (range) age was 19 years (16–35). Students were of 28 different nationalities; the largest proportions were from Gulf Corporation Council (GCC) countries. The prevalence of low self-esteem was 18.6%, while 45.2% of the students demonstrated traits suggestive of IP. There was a strongly negative correlation between CIPS and RSES ($r = -0.71$). No significant gender differences were found in IP. Similarly, no differences in IP were found when comparing between age groups, previous experience in higher education or year of study. Multivariate analysis showed that students from GCC countries had higher levels of self-esteem relative to students from other regions. Low self-esteem was a strong predictor of IP. Country of origin may influence students' self-esteem studying in international university settings.

Keywords: imposter phenomenon, Clance's Imposter Phenomenon Scale, self-esteem, Rosenberg's Self-Esteem Scale, medical education

INTRODUCTION

Students may perceive medical college as a place where skills, performance, and academic ability come under constant scrutiny. Competitive academic college environments position high-achieving students at risk of developing feelings of intellectual fraudulence and phoniness (1–3). The exhibition of these types of "impostor" characteristics has been associated with negative personality traits (4, 5), as well as anxiety and depression (6, 7). Impostor phenomenon (IP), as described by Clance & Imes in 1978, refers to the widely recognized fear of being exposed as a fraud (7), despite having validated self-achievement. Individuals with impostor feelings consider themselves as having deceived others into believing that they are more intelligent and more capable than they really are (8). They often attribute their accomplishments to luck, fate, personal charm, and attractiveness (9). In the workplace, IP has been associated with poor performance, job dissatisfaction, and burnout in several professions (10), including healthcare (6, 11).

Within student populations, self-esteem has been reported to be a principal precondition (12–14) and predictor of IP (15). Self-esteem being the evaluative dimension of self-knowledge, referring to how a person positively or negatively appraises themselves (16). Good mental health, competence, confidence and productivity all correlate positively with self-esteem (17, 18), whilst feelings of inferiority, sadness, depression, desperation and suicidal ideation are all associated with low self-esteem (19, 20). Individuals with high self-esteem demonstrate an acceptance of themselves as they are, regardless of their strengths and weaknesses. Therefore, they are less vulnerable to pressures to prove their worth (21). Neureiter and Traut-Mattausch investigated psychological barriers to a successful career-development process and suggested that imposter feelings are wrought by low self-esteem and both the fear of failure and the fear of success. The latter being more significant among a qualified workforce rather than among university students (12). This implies that low self-esteem may be predictive of IP at all stages of a skilled-worker's personal and professional development but it has a particular prominence at the undergraduate stage of education and training. Furthermore, a study of students categorized as impostors suffered more significant reductions in self-esteem than non-impostor students following subjective failure on a mid-term exam (15). In contrast, imposters did not differ from non-impostors after subjective success (15). These issues underline the importance of understanding the relationship between self-esteem and imposter feelings among all undergraduate students.

Academic achievement in medicine is attainable by individuals undeterred by IP (22, 23). However, it has been reported that 27.5% of healthcare students experienced IP (1), imposterism has been associated with burnout (8, 11, 24), and the feelings of self-doubt that accompany real and imagined

underperformance (25). Insecurities about performance decrease with experience and career progression, but IP fosters feelings of incompetence at different stages across a doctor's career, including early stages of medical studies (24, 25). Admission to medical school is conditional upon students having high academic accomplishments, acting as concrete validation of aptitude. However, the nature and the sheer volume of the material comprising medical curricula may leave some students doubting their own academic abilities.

Experiences of racial discrimination have been associated with IP feelings by evoking a sense of "otherness" and thus reinforcing feelings of intellectual inferiority (5). Exposure to unfamiliar environments may exacerbate this sense of otherness, especially among women and underrepresented minorities (3, 7, 9, 11, 26, 27). The fear of being exposed as an "impostor" is a situational affective response, i.e., the presence or absence of IP is governed by the setting and the circumstance (28). A Canadian study found that foreign-trained residents were more susceptible to IP than graduates from medical colleges in Canada (11), implying that internationally trained doctors may have stronger feelings of IP than colleagues trained within their own country of citizenship. International medical colleges often have culturally diverse student populations. In these environments, individuals may find themselves emersed in a cultural milieu alien to their societies of origin (29), leading to further isolation and increased IP (3, 7, 9, 11, 26, 27).

There is disparity in the educational research literature regarding the strength of the relationship between IP and self-esteem measured in student populations (21, 30, 31). However, the various studies addressing this topic were not conducted among medical students, nor were they conducted in a university situated in the Middle East with a large Arab student body. To our knowledge, there are no published studies reporting upon IP and self-esteem among medical students in a predominantly Arabic speaking country.

We hypothesized that IP would be relatively high among medical students at a campus of an Irish medical college situated in the Middle East and that IP would be strongly predicted by low self-esteem. This study aimed at describing the prevalence of IP and low self-esteem within a medical college and quantifying the relationship between the two. Further, we assessed differences between subgroups of students regarding IP and self-esteem, focusing on gender, Arab/non-Arab, and domestic/international student status.

MATERIALS AND METHODS

Study Design

This cross-sectional descriptive study was conducted in the Bahrain campus of the Royal College of Surgeons in Ireland. Participants were recruited from students enrolled on the 5-year medical program which consists of an integrated curriculum. The first and second years of study predominantly focus on pre-clinical themes and are delivered within the college campus setting. From the third year of study until the completion of the course, educational themes are predominately clinical and are taught mainly in the clinical setting. The study included students

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Abbreviations: ANOVA, Analysis of variance; CIPS, Clance's Impostor Phenomenon Scale; GCC, Gulf Corporation Council countries; IP, Imposter phenomenon; MANOVA, Multivariate analysis of variance; RSES, Rosenberg's Self-Esteem Scale.
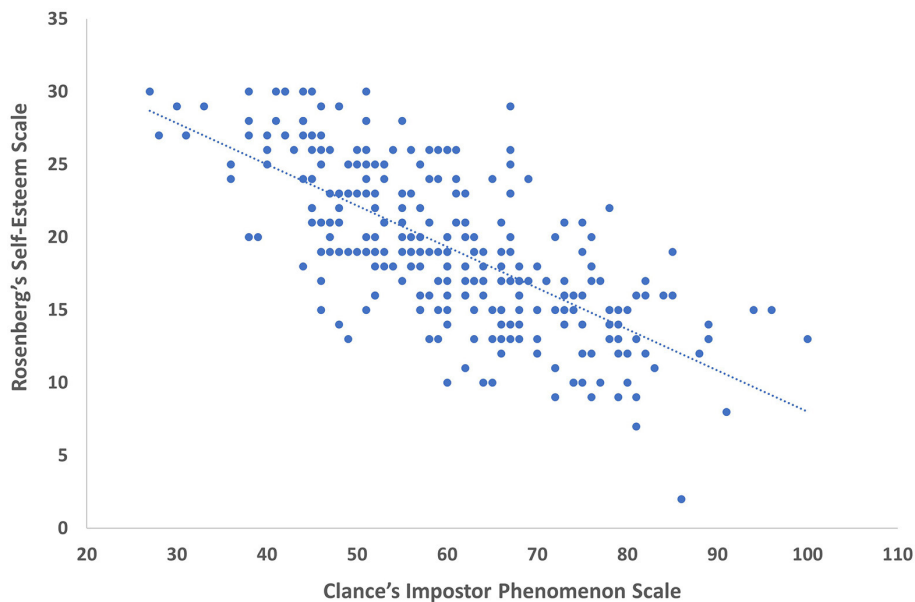
FIGURE 1 | Correlation between student scores for clance impostor phenomenon scale and Rosenberg Self-Esteem Scale.

from all 5-year groups. Recruitment took place before regularly timetabled teaching sessions in the school of medicine during the first semester of the academic year. Blank paper copies of the questionnaires were distributed to students at the beginning of their class and a verbal description of the research study was provided by one of the investigators. Students returned the completed questionnaire immediately after class.

Participants

There were 770 students enrolled in the medical degree program spanning across 5-year groups (first to fifth year of study). There were approximately 154 students in each year group. Convenience sampling was used to approach students attending teaching activities that took place on the college campus. Students attending clinical teaching sessions outside of the campus were not approached. A total of 360 students were approached and received copies of the questionnaires. These were distributed at the beginning of a teaching activity. Of these 360 questionnaires, 295 were returned for a total response rate of 82%. Five questionnaires were handed back with incomplete responses giving a final number of analyzed questionnaires of 290. The median (range) age of participants was 19 years (1, 16–34). There were 119 males (41.0%), and 169 females (58.3%) spread over the first to fifth year of study groups. Six (2.1%) of the participants were married and 34 (11.7%) had obtained a degree before joining the medical program (**Table 1**). Students were of 28 different nationalities. The largest proportion of students were citizens of Bahrain, these were considered "domestic" students and all others were considered "international" students. The nationalities of the international students were grouped into three broad categories: Gulf Corporation Council (GCC) nationalities (i.e., Bahrain, Kuwait, Oman, Saudi Arabia and the

United Arab Emirates), North American (Canada and USA) and others (Australia, Bangladesh, Egypt, France, Ghana, Iceland, Ireland, India, Italy, Jordan, Libya, Morocco, Pakistan, Palestine, South Africa, Spain, Syria, Iraq, UK, and Yemen).

No incentive for participation was provided. Participation was voluntary and written informed consent was collected from all participants before enrolment onto the study. The study was approved by Research Ethics Committee of RCSI Bahrain (reference: approval letter dated, October 22, 2019).

Measures

Self-administered questionnaires of the Clance's Impostor Phenomenon Scale (CIPS) and Rosenberg Self-Esteem Scale (RSES) were used for this study. The two different tools were combined into one sheet and distributed together as a single questionnaire. The English version of both surveys was used.

Characteristics of the impostor phenomenon were assessed using CIPS (32). This survey consists of 20 items that each individual participant rates on a 5-point Likert scale (1; not at all true, 2; rarely true, 3; sometimes true, 4; often true, 5; very true). This results in a total score ranging from 20 to 100. The higher the score the more severe the manifestation of IP. A cut-off value of <63 was used to define an individual as an impostor (1, 3, 33). The CIPS has been reported to have a high internal reliability with Cronbach's α of 0.92 (33), and 0.96 (32). The current study gave a Cronbach's alpha coefficient of 0.87.

Self-esteem was assessed using RSES. This is a 10-item questionnaire, each having a 4- point Likert scale (0; strongly agree, 1; agree, 2; disagree, 3; strongly disagree). The total scoring ranges from 0 to 30 (34). The higher the score the more self-esteem the individual has. A cut-off value of <16 was used to define an individual as having low self-esteem. RSES has

TABLE 1 | Participant and year of study group demographics.

Year of study	Pre-Clinical		Clinical		
	First	Second	Third	Fourth	Fifth
	N (%)	N (%)	N (%)	N (%)	N (%)
Gender					
Male	27 (56.2)	19 (30.1)	18 (56.2)	35 (41.2)	20 (33.3)
Female	21 (43.8)	44 (69.8)	14 (43.8)	50 (58.8)	40 (66.6)
Not reported = 2					
Age					
<21 years old	43 (87.8)	46 (73.0)	18 (56.2)	31 (36.5)	7 (11.9)
>21 years old	6 (12.2)	17 (27.0)	14 (43.8)	54 (63.5)	52 (88.1)
Not reported = 2					
Marital status					
Unmarried	47 (100)	62 (100)	31 (96.9)	79 (96.3)	58 (96.7)
Married	0 (0)	0 (0)	1 (3.1)	3 (3.7)	2 (3.3)
Not reported = 7					
Previous education					
No degree	40 (85.1)	47 (74.6)	24 (8)	80 (97.6)	57 (95.0)
Degree	7 (14.9)	16 (25.4)	6 (2)	2 (2.4)	3 (5.0)
Not reported = 8					
Domestic or international					
Domestic	18 (36.7)	30 (48.4)	9 (28.1)	48 (57.1)	25 (41.7)
International	31 (63.3)	32 (51.6)	23 (71.9)	36 (42.9)	35 (58.3)
Not reported = 3					
Geographical region					
GCC	26 (53.1)	34 (54.8)	13 (40.6)	58 (69.0)	35 (58.3)
North America	6 (12.2)	12 (19.4)	10 (31.3)	7 (8.3)	9 (15.0)
Others	17 (34.7)	16 (25.8)	9 (28.1)	19 (22.6)	16 (26.7)
Not reported = 3					

reported Cronbach alpha coefficients ranging from 0.87 to 0.92 for American college students (34). The current study gave a Cronbach's alpha coefficient of 0.86.

Analysis

Returned completed questionnaires were coded with a specific sequential number. Data from each questionnaire returned was entered on to SPSS software package (IBM Corp. Released 2020. IBM SPSS Statistics for Windows, Version 27.0. Armonk, NY: IBM Corp). Descriptive statistics (mean, standard deviation, frequency, and percentage) were used to summarize data. Pearson Correlation was used to relate CIPS to RSES. Chi-squared test was used to risk of high CIPS as predicted by low RSES. Mean CIPS and mean RSES between variables were compared using t-test or ANOVA where appropriate. Median CIPS and RSES were compared for married and single groups using Mann-Whitney U test. Multivariate analysis (MANOVA) was used to predict demographic and personal variables affecting IP and self-esteem. The reliability of CIPS and RSES was assessed using Cronbach's alpha coefficient with a value of 0.70 or above considered as indicative of acceptable reliability. The statistical level of significance was set at $p \leq 0.05$.

RESULTS

There were 131 (45.2%) participants who were imposters (i.e., high CIPS) and 54 (18.6%) participants classified as having low self-esteem (i.e., low RSES). The comparison of CIPS with RSES revealed a Pearson Correlation $r = -0.71$, $p < 0.001$ (**Figure 1**). There was a significant difference in the average CIPS between groups of low self-esteem (mean = 73.7 ± 10.3) and normal self-esteem (mean = 57.0 ± 12.2) students ($t_{(288)} = 9.3$, $p < 0.001$). The risk of being an imposter was strongly associated with having low self-esteem. The frequencies of participants with low self-esteem and impostors gave an Odds Ratio of 1.5 (1.3–1.7), $\chi^2_{(1,N=290)} = 51$, $p < 0.001$.

There were no significant differences in the average CIPS between demographic groups: males and females, <21 and >21 years of age, degree holders and non-degree holders, year of study groups, pre-clinical and clinical, domestic and international and geographical regions. Similarly, there were no significant differences in the average RSES between the listed demographic groups. These values are summarized in **Table 2**, **Table 3**. Also, there were no significant differences observed in the ratio of impostors between any of the demographic groups. There was a significant difference in the ratio of participants with low self-esteem between domestic students and foreign students, $\chi^2_{(1,N=287)} = 6.6$, $p < 0.01$. However, there were no other such differences observed in frequencies of individuals with low self-esteem for the other listed demographics (see **Table 2**, **Table 3**). The study found small but significant differences in CIPS and RSES between married and unmarried students according to the Mann-Whitney U-test. Median (minimum–maximum) CIPS were: single 60 (27–100), and married 47 (42–66), $p = 0.026$. Median (minimum–maximum) RSES were: single 19 (2–30), married 24 (19–30), $p = 0.040$.

One-way multivariate analysis of variance (MANOVA) was performed to assess one or more mean differences between various demographics (gender, marital status, previous degree, North American nationality, GCC nationality, pre-clinical, age below 21 years, year of course and domestic student status) and measures of IP and self-esteem. Preliminary tests were conducted to check for multicollinearity, multivariate normality, absence of multivariate outliers, homogeneity of variances; the results indicated that there were no serious violations of the MANOVA assumptions. Prior to conducting follow-up ANOVAs, the homogeneity of variance assumption was tested for CIPS and RSES. Based on Levene's F-tests, the homogeneity of variance assumption was considered satisfied ($p > 0.05$). Scheffe's *post hoc* test was used for multiple group comparisons. There was a significant difference between domestic students (Bahraini) and international students, Wilke's $\Lambda = 0.97$, $F_{(2,284)} = 4.40$, $p = 0.01$. There was a significant difference between domestic students and international students for RSES, $F_{(1,285)} = 8.3$, $p < 0.01$), with domestic students (Mean = 20.3 ± 5.1) scoring higher than international students (mean = 18.5 ± 5.6). Further, there was a significant difference between geographical regions [GCC, North American

TABLE 2 | Mean student's scores on the clance impostor phenomenon scale and frequency of imposterism.

	N (%)	Score Mean (SD)	p-value	Imposter frequency N (%)	OR for imposter
Overall	290	60 (13.5)		131 (45.2)	
Gender					
Male	119 (41.0)	59 (13.4)	0.129	46 (38.7)	1.57 (0.97–2.53)
Female	169 (58.3)	61 (13.5)		84 (49.7)	
Not reported	2 (0.7)				
Total	290 (100.0)				
Age					
<21	145 (50.0)	60 (12.7)	0.766	63 (43.4)	1.18 (0.74–1.88)
>21	143 (49.3)	60 (14.3)		68 (47.6)	
Not reported	2 (0.7)				
Total	290 (100.0)				
Marital status					
Unmarried	277 (95.5)	61 (13.4)	0.040	129 (46.6)	0.23 (0.03–1.99)
Married	6 (2.1)	49 (9.3)		1 (16.7)	
Not reported	7 (2.4)				
Total	290 (100.0)				
Previous educations					
No degree	248 (85.5)	61 (13.4)	0.152	118 (47.6)	0.53 (0.25–1.13)
Degree	34 (11.7)	57 (14.0)		11 (32.4)	
Not reported	8 (2.8)				
Total	290 (100.0)				
Year of study					
First	49 (16.9)	60 (12.8)	0.279	21 (42.9)	
Second	63 (21.7)	60 (12.4)		28 (44.4)	
Third	32 (11.0)	56 (12.8)		9 (28.1)	
Fourth	86 (29.7)	60 (13.8)		39 (45.3)	
Fifth	60 (20.7)	62 (15.0)		34 (56.7)	
Total	290 (100.0)				
Place in the program					
Pre-clinical	144 (49.7)	59 (12.6)	0.154	58 (40.3)	1.48 (0.93–2.36)
Clinical	146 (50.3)	61 (14.3)		73 (50.0)	
Total	290 (100.0)				
Domestic or international					
Domestic	130 (44.8)	59 (13.8)	0.139	51 (39.2)	1.57 (0.98–2.51)
International	157 (54.1)	61 (13.3)		79 (50.3)	
Not reported	3 (1.0)				
Total	290 (100.0)				
Geographical region					
GCC	166 (57.2)	59 (14.1)	0.387	71 (42.8)	
North America	44 (15.2)	60 (13.2)		21 (47.7)	
Others	77 (26.6)	62 (12.4)		38 (49.4)	
Not reported	3 (1.0)				
Total	290 (100.0)				

OR, odds ratio; SD, standard deviation.

and "others" (i.e. non-GCC and non-North American)] when considering jointly the variables CIPS and RSES. Wilke's $\Lambda = 0.96$, $F_{(4,566)} = 2.68$, $p = 0.03$. There were significant differences between GCC students, North American students and others for RSES, $F_{(2,284)} = 4.7$, $p = 0.01$, with GCC students (mean $= 20.0 \pm 5.3$) scoring higher than North American students (mean $= 19.4 \pm 5.3$) and others (mean $= 17.7 \pm 5.5$). *Post-hoc* ANOVA revealed a significant difference

TABLE 3 | Mean student's scores on the Rosenberg's Self-Esteem Scale and frequency of low self-esteem.

	N (%)	Score Mean (SD)	p-value	Low self-esteem frequency N (%)	OR for low self-esteem
Overall	290	19 (5.4)		54 (18.6)	
Gender					
Male	119 (41.0)	20 (5.6)	0.325	24 (20.2)	1.17 (0.64–2.13)
Female	169 (58.3)	19 (5.3)		30 (17.8)	
Not reported	2 (0.7)				
Total	290 (100.0)				
Age					
<21	145 (50.0)	20 (5.0)	0.439	21 (14.5)	0.59 (0.32–1.08)
>21	143 (49.3)	19 (5.9)		32 (22.4)	
Not reported	2 (0.7)				
Total	290 (100.0)				
Marital status					
Unmarried	277 (95.5)	19 (5.4)	0.042	54 (19.5)	1.03 (1.00–1.05)
Married	6 (2.1)	24 (4.6)		0 (0.0)	
Not reported	7 (2.4)				
Total	290 (100.0)				
Previous educations					
No degree	248 (85.5)	19 (5.4)	0.396	48 (19.4)	1.39 (0.51–3.78)
Degree	34 (11.7)	20 (5.6)		5 (14.7)	
Not reported	8 (2.8)				
Total	290 (100.0)				
Year of study					
First	49 (16.9)	19 (5.6)	0.788	11 (22.4)	
Second	63 (21.7)	20 (4.4)		6 (9.5)	
Third	32 (11.0)	20 (4.9)		5 (15.6)	
Fourth	86 (29.7)	19 (6.0)		19 (22.1)	
Fifth	60 (20.7)	19 (5.7)		13 (21.7)	
Total	290 (100.0)				
Place in the program					
Pre-clinical	144 (49.7)	20 (4.9)	0.459	22 (15.3)	0.64 (0.35–1.17)
Clinical	146 (50.3)	19 (5.9)		32 (21.9)	
Total	290 (100.0)				
Domestic or international					
Domestic	130 (44.8)	20 (5.1)	0.004	16 (12.3)	0.44 (0.23–0.83)
International	157 (54.1)	18 (5.9)		38 (24.2)	
Not reported	3 (1.0)				
Total	290 (100.0)				
Geographical region					
GCC	166 (57.2)	20 (5.3)	0.010	25 (15.1)	
North America	44 (15.2)	19 (5.3)		8 (18.2)	
Others	77 (26.6)	18 (5.5)		21 (27.3)	
Not reported	3 (1.0)				
Total	290 (100.0)				

OR, odds ratio; SD, standard deviation.

between GCC student and others but no difference between GCC students and Northern American students for self-esteem scores only. No other significant differences were found using multivariate analysis.

DISCUSSION

This study explored the relationship between IP and self-esteem amongst medical students in a European medical college campus

situated in the Arabic speaking Kingdom of Bahrain. CIPS were higher among students with low self-esteem. We found no significant gender differences in IP in this cohort. Similarly, we found no differences in IP between: age groups (<21 and >21 years of age), previous experience in higher education, year of study or domestic vs. international student status. Domestic-status and citizenship of a GCC country was associated with self-esteem.

IP was first described in highly performing women (7). Subsequent studies have shown IP to affect both genders equally in the professional setting (8). However, studies among medical students have demonstrated female gender to be associated with IP (1, 24). The present study found no such associations with gender. Major professional or educational transitions are crucial periods when IP is likely to occur (2, 25), particularly in the third-year (classroom to clinic) transition (1, 2, 24). The present study found no significant differences in CIPS between the years of study, including the critical third-year. We found a small but statistically significant difference in CIPS between married and unmarried students. However, the number of married students ($n = 6$) was relatively low. Henning et al., had shown that married medical students had less distress than their single counterparts (1), and it has been suggested that marriage might act as a buffer against distress (35).

Multiple factors may interplay to explain the relationship between self-esteem and IP. The development of impostor traits may stem from innate predispositions (7, 36), familial and developmental. These include personality traits (e.g., neurotic personality traits, perfectionism etc.,) that are linked to perpetuating feelings of low self-esteem (37).

Students from GCC countries and North America had relatively high self-esteem. These two categories are well defined geopolitically. In contrast, our category of "other" (i.e., non-American, -Canadian or -GCC nationalities) was geographically and socially very diverse. The interrelationships between culture, nationality, self-esteem and personality have previously been commented upon. Fulmer et al. (29), explored the concept of "person-culture match" which predicts that "when a person's personality matches the prevalent personalities of other people in a culture, culture functions as an amplifier of the positive effect of personality on self-esteem" (29). Students who are raised in GCC countries share many cultural features and ideals and have shared historical backgrounds. Abdulkhaliq et al. (16), studied self-esteem amongst college students in four different Arab countries and reported self-esteem to be higher in students from countries with high per-capita incomes. This reflects our findings of high self-esteem among students from economically advanced countries. Further, issues of race and ethnicity may also be important in understanding the differences in the levels of self-esteem and impostor traits. Bernard et al. studied the effect of racial identity on impostor traits in minorities and concluded that a high sense of racial identity generally confers protection against developing impostor traits (5). Although, our study did not examine ethnicity as a subgroup, it is postulated that non-GCC students may experience feelings related to being a racial minority

while studying in Bahrain. This may contribute toward levels of self-esteem.

Our findings highlight the importance of identifying individuals with IP in order to optimize their learning experiences and professional progression. Clance and Imes recommended frequent, specific feedback as a solution for those who doubt their abilities (38). Future investigations may focus on relating IP to "educational safety" and learning in non-judgmental settings. Eliminating unhealthy competitiveness in campus culture and creating environments where students are supported educationally and personally may reduce IP (39). International medical colleges should be attentive to the needs of minorities in order to reduce IP and allow diversity to be a universal asset to the educational experience (40, 41).

Limitations of this study include our use of convenience sampling of medical students who may not represent the full student body. The timing of the study overlapped with the examination preparation period, and so attendance of the classes was lower than expected. Minimal demographic data were collected for non-respondents preventing us from assessing the degree to which selection bias might have occurred. As this is a cross-sectional study, no causal conclusions can be made. The subgroups of married students and post-graduate students had relatively low numbers of participants.

Low self-esteem was found to be a predictor of IP with medical students. Female students were no more likely than males to display characteristics of IP. Previous university experience, year of study on the medical program and age did not significantly affect measures of IP. Domestic student status and citizenship of a GCC or a North American country affected self-esteem. Foreign/international students may benefit from targeted support to address students' self-esteem and its negative consequences on professional performance and personal wellbeing. International medical colleges should implement general support measures for domestic and international students. These measures should be aimed at making the general culture of the college more acceptable to students from diverse backgrounds, particularly for non-citizens of the country in which the campus is located.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Research Ethics Committee of RCSI Bahrain. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fmed.2022.850434/full#supplementary-material

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