

ORIGINAL ARTICLE 

# The impact of senior medical students as role models: A cross-sectional study from a medical school in Mauritius

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**Information about the article:**

**Received:** Jan. 18, 2020

**Accepted:** May 21, 2020

**Published online:** July 1, 2020

**Publisher**

Quest International University (QIU), No.227, Plaza Teh Teng Seng (Level 2), Jalan Raja Permaisuri Bainun, 30250 Ipoh, Perak Darul Ridzuan, Malaysia

e-ISSN: 2636-9478

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**ABSTRACT**

**Introduction:**

All successful people once were an average individual at the beginning of their lives. If you asked how they achieved their goals, you would receive a wide range of answers. The fact that these people had role models will be a pattern found among the responses. The influence of role models on an individual mould the future. The main aim of this research was to find out whether senior medical students were seen as role models by junior students and the perception of junior medical students towards their seniors as role models at SSR Medical College, Mauritius.

**Methods:**

A cross-sectional study was conducted amongst junior medical students, semester two, three, and four at SSR Medical College. The study took place from August to September 2018. A semi-structured questionnaire was developed to explore how role models were selected and perceived within the medical school.

**Results:**

The overall response rate of the study was 89.21%. 214 (78.4%) of the students acknowledged that they regarded senior medical students as their role models, as a cohort of 239(87.9%) students agreed that senior medical students give helpful advice; 88.3 % of juniors find the study materials offered by the seniors as a helpful resource.

**Conclusion:**

A large predominant cohort of the junior medical students acknowledged that senior medical students are their role models. These role models were found to be a vital aid in academics, motivation, counselling, and played a poignant role in sculpting the lives of junior medical students.

**Keywords**

Mauritius, medical, role models, senior medical students, SSR Medical College

## Introduction

Every successful human was once an average individual who began life at the base level. If one were to ask how they achieved this feat, they would be met with a wide host of responses. A trend that would be noticed among the responses would be the fact that these individuals had role models in their life. The impact that role models have on a person can be life-changing. [1-3]

The medical field is a broad and vast career choice, and the studies to attain the degree can be a minefield to navigate. Medical students often suffer from severe stress, depression, and even burnout in their pre-clinical years. On top of this, what would be the consequences for a medical student studying in a foreign country, without parental figureheads? Does having a senior student role model aid medical student in their journey to becoming doctors? Does studying in a foreign country cause student to rely on their senior medical students more heavily? [4]

Medicine is a field where the transfer of skills and knowledge from more experienced individuals to those with less experience is vital. It is a career of conduct, morals and requires the highest level of discipline. Is having a senior medical student as a role model important to junior medical students?

The impact and influence that role models have on young people is marked and one may even compare, juniors as clay ready to be sculpted by their environment, experiences and role models. Role models should be upstanding figures and be responsible individuals to have a positive impact. It is therefore of paramount importance that seniors instill the values, skills and love for the profession to the future students [5, 6]

It is therefore imperative that the perception of junior medical students towards their senior students as role models is clearly understood. This is vital as the senior students who are the role models of today will have a large influence on the physicians of tomorrow. The need for this study is evident as there is no data at present on the perception of junior medical students on their senior students in Mauritius. The specific objective of the research was to determine whether the senior medical students were considered to be role models by the junior students and as well as the perception of junior medical students towards senior medical students as Role Models at SSR Medical College, Mauritius. This is the first study conducted and reported on the impact of senior medical students as Role Models from Mauritius.

## Methods

### Study Period

The study was conducted at Sir Seewoosagur Ramgoolam Medical College, Mauritius, in 2018, from the 1<sup>st</sup> of August 2018 to the 15<sup>th</sup> of September 2018. SSRMC is the first medical college in Mauritius and was established on the 18<sup>th</sup> of September 1999 in Mauritius. [7]

### Study design, participants, and the collection of data

The study was a cross-sectional observational analytical, quantitative study. The study was conducted amongst the junior medical students of semesters two, three, and four. In total, 273 students participated in the study. All the participants remained anonymous.

### Questionnaire design

A semi-structured questionnaire was developed and distributed to the students to reconnoiter the influence of senior medical students as role models. The questionnaire included the demographic details of students and the perception of senior students as role models. The responses were in the format of yes/no. The questions were compiled collectively by the authors using the method of mind mapping and exclusion of irrelevant questions. Cronbach's alpha for reliability analysis shows 0.78.

### Inclusion criteria

Students from semester two, three, and four were included in the study as they were considered to be junior medical students.

### Exclusion criteria

Questionnaires, which were incompletely answered, and senior medical students were excluded from the study's participants. As there were no students in semester one, they were excluded from the study.

### Ethical committee approval

Ethical Committee and Institutional Review Board permission was taken from the Sir Seewoosagur Ramgoolam Medical College, Belle Rive, Mauritius before conducting the research project. The institutional review board approved the questionnaire.

The research was conducted in accordance with the Declaration of Helsinki - Ethical Principles for Medical Research involving Human Subjects guidelines. [8]

### Data management and statistical analysis

The data collected was analyzed using IBM Statistical package for social sciences (SPSS 24) and EPI Info 3.5.1 Windows Version. For statistical analysis, Chi-square test was used for analytical purposes.  $p < 0.05$  was considered as statistically significant.

## Results

The overall response rate of the study was 89.21%. Out of 306 students, 273 participated in the questionnaire. Concerning gender, it was seen that there was higher participation from the female junior medical students with 56.8% and slightly lower participation from the male junior medical students with 43.2%. Looking at the nationalities, we see that majority of the students are from India, 64.1%, with 19.0% being Mauritian, 16.1% being South African,

and 0.7% of other nationalities. Three semesters of students participated, consisting of 2nd, 3rd, and 4th semesters with the participation of 29.3%, 39.2%, and 31.5%, respectively. (Table 1).

**Table 1: Demographic details of medical students (n =273)**

		n	(%)	95% CI
<b>Gender</b>	Female	155	(56.8)	(50.7-62.7)
	Male	118	(43.2)	(37.3-49.3)
<b>Nationality</b>	Indian	175	(64.1)	(58.1-69.8)
	Mauritian	52	(19.0)	(14.6-24.2)
	Others	2	(0.7)	(1-2.6)
	South African	44	(16.1)	(12-21)
<b>Semester</b>	2nd Semester	80	(29.3)	(24-35.1)
	3rd Semester	107	(39.2)	(33.4-45.3)
	4th Semester	86	(31.5)	(26-37.4)

amongst the nationalities regarding the helpful advice given by the senior medical students with Indian 91.4%, Mauritian 80.8%, and South African 84.1%. The students agreed that it was helpful when senior medical students offered their study materials with 90.9%, 80.8%, and 86.4% from India, Mauritius, and South Africa, respectively. The international students had a higher agreement that senior medical students motivated them even when they wanted to give up with 86.3% Indian, and 81.8% South African. The Indian students had the highest agreement of putting into use the study methods given by the senior medical students with 80%. The majority of the Mauritian students were convinced to take medicine as a future career path with an agreement of 75%. 77.3% of South African students agreed that the senior medical students expected something in return from giving advice or help. All these were found to be statistically significant  $p < 0.05$ .

**Table 2: Correlations between nationality and senior students as role models**

Senior medical students are good role models	Indian	Mauritian	South African	Others	P value
Yes (n=214)	147(84.0%)	35 (67.3%)	32 (72.7%)	0 (0%)	0.002 <sup>†</sup>
No (n=59)	28 (16.0%)	17 (32.7%)	12 (27.3%)	2 (100.0%)	
<b>Senior medical students and helpful advice</b>					
Yes (n= 240)	160 (91.4%)	42 (80.8%)	37 (84.1%)	1 (50%)	0.049*
No (n= 33)	15 (8.6%)	10 (19.2%)	7(15.9%)	1 (50%)	
<b>Would juniors find it helpful if seniors offered their study materials?</b>					
Yes (n= 241)	159 (90.9%)	42 (80.8%)	38 (86.4%)	2 (100%)	0.223 <sup>x</sup>
No (n= 32)	16 (9.1%)	10 (19.2%)	6 (13.6%)	0 (0%)	
<b>Do juniors require same gender role model?</b>					
Yes (n= 62)	42 (24%)	12 (23.1%)	8 (18.2%)	0 (0%)	0.736 <sup>x</sup>
No (n= 211)	133 (76%)	40(76.9%)	36 (81.8%)	2 (100%)	
<b>Advice from the senior students motivate you to keep trying even when you wanted to give up</b>					
Yes (n=222)	149 (85.1%)	36 (69.2%)	36 (81.8%)	1 (50%)	0.046*
No (n=51)	26 (14.9%)	16 (30.8%)	8 (18.2%)	1 (50%)	
<b>When you had any doubts did you ask senior students for help?</b>					
Yes (n=222)	151 (86.3%)	35 (67.3%)	35 (79.5%)	1 (50%)	0.12*
No (n=51)	24 (13.7%)	17 (32.7%)	9 (20.5%)	1 (50%)	
<b>Do you put into use any study methods given by seniors?</b>					
Yes (n=202)	140 (80%)	33 (63.5%)	28 (63.6%)	1 (50%)	0.025*
No (n= 71)	75 (40%)	19 (36.5%)	16 (36.4%)	1 (50%)	
<b>Did senior students convince you to take medical studies as a future career path?</b>					
Yes (n= 105)	81 (46.3%)	39 (75%)	10 (22.7%)	1 (50%)	0.004 <sup>†</sup>
No (n= 168)	94 (53.7%)	13 (25%)	34 (77.3%)	1 (50%)	
<b>Do the senior students expect anything in return from you when they give out advice or help?</b>					
Yes (n=92)	70 (40%)	11(21.2%)	34 (77.3%)	1 (50%)	0.025*
No (n= 181)	105(60%)	41(78.8%)	10 (22.7%)	1 (50%)	
<b>Do you feel as though the seniors have soothed your nerves about the future?</b>					
Yes (n=164)	115 (65.7%)	24 (46.2%)	24 (54.5%)	1 (50%)	0.067 <sup>x</sup>
No (n=109)	60 (34.3%)	28 (53.8%)	20(45.5%)	1 (50%)	

<sup>x</sup>p>0.05, \*P<0.05, <sup>†</sup>P<0.01

Table 2 reveals the correlations between nationality and senior students as role models. This table offers a comparison of the opinions from the respective nationalities. There was a high agreement of the international students that they considered senior medical students to be good role models with 84.0% from India and 72.7% from South Africa. There was a mutual agreement

Table 3 reveals the different perceptions of role models by different genders. More females felt motivated by the role models when feelings of giving up ensued with 86.5%. It was found to be statistically significant  $p < 0.05$ . Both genders had a strong agreement that senior medical students gave helpful advice with 84.7% and 90.3%, male and female, respectively. Both genders agreed that it was helpful when seniors offered their study materials.

**Table 3: Correlations between gender of students and role models**

<b>Senior medical students are good role models</b>			
	<b>Male</b>	<b>Female</b>	<b>P value</b>
Yes (n=214)	88 (74.6%)	126 (81.3%)	0.182*
No (n=59)	30 (25.4%)	29 (18.7%)	
<b>Senior students motivated and helped juniors keep trying even when they wanted to give up</b>			
Yes (n=222)	88 (74.6%)	134(86.5%)	0.013*
No (n=51)	30 (25.4%)	21 (13.5%)	
<b>Senior medical students and helpful advice</b>			
Yes (n= 240)	100 (84.7%)	140(90.3 %)	0.05*
No (n= 33)	18 (15.3%)	15(9.7%)	
<b>Would juniors find it helpful if seniors offered their study materials?</b>			
Yes (n= 241)	99 (83.9%)	142 (91.6%)	0.223*
No (n= 32)	19 (16.1%)	13 (8.4%)	
<b>Do juniors require same gender role model?</b>			
Yes (n= 62)	28 (23.7%)	34 (21.9%)	0.726*
No (n= 211)	90 (76.3%)	121 (78.1%)	
<b>When you had any doubts did you ask senior students for help?</b>			
Yes (n= 222)	94(79.7%)	128 (82.6%)	0.540*
No (n= 51)	24(20.3%)	27 (17.4%)	
<b>Do you put into use any study methods given by seniors?</b>			
Yes (n= 202)	82(69.5%)	120(77.4%)	0.139*
No (n= 71)	36(30.5%)	35 (22.6%)	
<b>Did senior students convince you to take medical studies as a future career path?</b>			
Yes (n= 105)	49 (41.5%)	56 (36.1%)	0.364*
No (n= 168)	69 (58.5%)	99 (63.9%)	
<b>Do the senior students expect anything in return from you when they give out advice or help?</b>			
Yes (n=92)	44 (62.7%)	48 (31%)	0.274*
No (n= 181)	74 (37.3%)	107 (69%)	
<b>Do you feel as though the seniors have soothed your nerves about the future?</b>			
Yes (n=164)	72 (61%)	92 (59.4%)	0.781*
No (n=109)	46 (39%)	63 (40.6%)	

\*p>0.05, \*p<0.05

Males and females disagreed that they required the same gender role models. 79.6% of males and 82.6% of females said that they asked senior students for help when they had any doubts. 77.4% of the females stated they put into use the study methods given by the students. More males were convinced to take medical studies as a future career path, with 41.5%. 62.7% agreed that the senior students expected something in return for help and offered advice. 61% of the Males agreed that the senior students soothed their nerves relating to the future.

### Discussion

Role models can shape the character and mind of individuals positively. The value of the advice from a senior medical student to a junior medical student is invaluable as senior medical students have had similar experiences. Their guidance is, therefore, held in high esteem. Senior medical students can provide support and develop their leadership skills as well as a sense of responsibility for the performance and well-being of others. [9] Senior medical students aid in the transition of junior medical students from their former education to their new role as undergraduates

and first-time medical students. Junior medical students can seek out role models who share the same dreams and passions. It allows a better connection between the senior medical students and the junior medical students. In this study, the focus is centred on how junior medical students perceived senior medical role models. There was more robust participation from the female students. This may be related to females having a stronger idea of the importance of role models than males. [9]

It could also be that females seek out role models who have the same inclination towards values and appreciable characteristics. [10, 11] However, this should be explored in-depth separately. The results showed that 78.4% of the participants agreed that senior medical students could be considered as role models; it can be argued that senior medical students step into a leadership role as 52% of the junior medical students agreed that they thought these senior medical students would make good future leaders; the qualities of leadership seen in the senior medical students may be imparted to the junior medical students. Previous errors by senior medical students could be beneficial to junior students, as 66.6% agreed that the mistakes could shape their mindset, preventing similar mistakes from occurring amongst junior medical students. One of the main factors of senior medical students as role models is the aid provided by them in the difficult transition that junior medical students face when joining medical school. The same gender as role models was not seen as a requirement or of much significance in this study. Help and motivation were some of the principles the senior medical students demonstrated in their position as role models. The honesty and advice conveyed were greatly appreciated by the junior medical students as compared to the advice given by their peers. 57.1% of junior medical students said that they were more motivated by the brutal truth of how difficult it would be to study medicine expressed to them by the senior medical students. The study methods provided by the senior medical students were broadly put into use by the junior medical students. Junior medical students had an agreement of 76.2% that they could see themselves as role models in the future. This shows that a positive impact could be passed on from one student to the next and could bode well for future generations. Though we discussed the positive impact role models might serve, there may also be negative role models wishing to lead the junior medical students astray. Negative role models exhibit behavior that most students may wish to evade. [12, 13]

Junior medical students disagreed that they would also break the rules and regulations if they were privy to a senior student disregarding rule. This shows that the junior students have a large amount of integrity that cannot be swayed by poor behavior shown by the few negative role models. 61.5% of junior students disagreed that senior medical students convinced them to join the medical field; however, it should be further explored whether senior

medical students could help the decision of specialization or post-graduate courses amongst junior students. [14, 15]

Junior students felt that all the guidance provided by the senior students soothed any nervousness or fears they had concerning the future. Senior medical students also motivated junior medical students when they wanted to give up; this shows the immense influence senior medical students have as role models and the responsibility to use it constructively. Junior medical students may rely heavily on role models, especially if they are studying abroad. In this study, most of the students who participated came from abroad with 64.1%; 16.1%; from India and South Africa, respectively. The lack of parental figures could be linked to the dependence of role models for support and guidance, especially when first entering medical college; junior medical students are in a position they would like to be in the future. This ensures they are motivated and strong enough to overcome the adversities that their seniors faced. Role models and mentors are not the same and cannot be compared. Mentors are usually older individuals who support and motivate younger colleagues with their endeavours in their career; whereas, a role model generally leads by example and rarely moulds individuals. [16-19]

The junior medical students also considered the senior medical students as a counsel for any difficulties or doubts they faced. However, junior medical students may place much responsibilities on their shoulders of senior medical students as role models. Such high expectations if placed on role models, and if this is not met, a sense of disappointment may be felt by juniors. [20]

## Conclusion

A large predominant cohort of the junior medical students acknowledged senior medical students as their role models. These role models were found to be a vital aid in academics, motivation, and counselling playing a poignant role in sculpting the lives of junior medical students.

## Limitation and future scope

This cross-sectional study was conducted on medical students from a medical school in Mauritius. A multicentric study involving medical students from all the medical colleges of Mauritius will give a better insight.

## Abbreviations

Seewoosagur Ramgoolam Medical College (SSR Medical College), Seewoosagur Ramgoolam Medical College (SSRMC)

## Acknowledgment

The authors are grateful to the Chairman Mr. RPN Singh for his wisdom and belief in their potential. They are also thankful to Prof. Namrata Chhabra and Prof. Sushil Dawka for her never-ending guidance and support. We appreciate all the students who took part in the project.

## Authors' contribution

- a. Study planning: IB
- b. Data collection: TP, IB, AG
- c. Data analysis/ interpretation: IB
- d. Manuscript writing: TP, IB, AG, JR
- e. Manuscript revision: IB, JR
- f. Final approval: TP, IB, AG, JR
- g. Agreement to be accountable for all aspects of the work: TP, IB, AG, JR

## Funding

No funding's were available for this research study.

## Availability of data and materials

All data underlying the results are available as part of the article, and no additional source data are required.

## Competing interests

There is no conflict of interest for any author of this manuscript.

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