

Development and Validation of Perceived Social Expectations Scale towards Medical Profession (PSESMP)

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Abstract: Society has shown to have a significant influence on the career-decision making process of adolescents. A profession that possesses immense social honor advocated to it is that of Medical Science. Medical Science demands prospective candidates to be skilled learners, meticulous in approach and noble in conduct. A vocation whose prima objective is service to humanity, adolescents wanting to become medical practitioners have cited several reasons for the same ranging from parental influence, peer influence, self- interest and social prestige advocated to the profession. As the expectations attached to this profession is high, the desires of applicants and necessarily their parents would resonate in qualifying into Medical Science. The construct of social expectations has been conceptualized from the concept of Social Expectations and the Social Expectations Theory. A lacuna of a suitable instrument to measure social expectations attached to the profession of Medical Science as perceived by the adolescents exists. This paper presents the results of the development and validation of the Perceived Social Expectations Scale towards Medical Profession (PSESMP) conducted on a sample of higher secondary students. The results of item correlation, factor analysis, reliability and validity scores, norms for interpretation of scores were derived. The scale was found to display a high reliability.

Keywords - Medical aspirants, medical profession, social expectations, social expectations theory.

I. INTRODUCTION

A profession that harbinger adolescent minds towards developing a fair mix of intellectual competency, moral growth, value sensitization and preparation for professional life- is the profession of Medical Science [1]. Crossley and Mubarik have christened medicine as a profession that tests the rational intellect of the doctor [2, p. 471]. While literature has cited several reasons for choosing the profession of medical science ranging from one's own interest [3]- [4]; social service to serve humanity [5], [6] to parental influence [7], the influence of the society has emerged as a subtle reason from studies. Reference [8] cited approval of high social status; reference [9] quoted social prestige while [10] highlighted prestige associated with the profession. Reference [11] cited respect and honor advocated to the profession; reference [5] listed out respect in the society while [12] cited social recognition for wanting to join the profession of Medical Science.

The Asian country of India is home to 426 medical colleges offering the undergraduate course in the Bachelor of Medicine and Surgery course (MBBS) - the largest number in the world, housing 53,330 seats at present (as of 2016, as mentioned in the website of Medical Council of India). Amongst the 29 states and seven Union Territories, the Indian state of Karnataka, located in the Southwestern region of India, is home to 53 medical colleges- the largest number in the country, accommodating 7245 seats across eight universities of medical and health sciences in the state (as of 2016, mentioned in the website of the Medical Council of India). The Rajiv Gandhi University of Health Sciences (RGUHS) situated in Bengaluru has 45 colleges of medical and health sciences falling under its jurisdiction. The honor advocated to the profession of medical science resonates with most parents of the Indian populace that they desire their adolescent children to tread the path of this noble profession. Hence, the expectations attached to this vocation is high. As the percentage of students qualifying into this profession is limited in any country, it demands that the individuals admitted into this profession possess relentless commitment with an ability to work hard under strenuous conditions and sound presence of mind to master competency in both intellectual and clinical spheres of Medical Science [1]. The purpose of the present scale is to develop a standardized tool to assess the social expectations towards medical profession as perceived by the higher secondary adolescent. In designing the Perceived Social Expectations Scale towards Medical Profession, reference was made to literature with respect to the type of scales to be adopted. Questionnaires and scales adopted in other countries were referred to help in developing constructs for the scale. Since the scale assessed an aspect which had not been encountered in literature, all test items were completely designed by the researcher. Tools and methods to assess the attitude of higher secondary adolescents towards their future career do exist but an indigenous tool to assess the perceived social expectations of higher secondary adolescents specifically towards the profession of medical science faces a lacuna. The current study is an attempt to create a psychometric self-administered scale to assess the perceived social expectations of higher secondary students towards the profession of medical science. The pilot study was tested on a sample of second-year pre-university students of a junior college in the capital city of Bengaluru, Karnataka. The scale could be of potential use in the entry-level assessment of freshmen to know their societal perception of the profession. The conceptualization, scale construction, method of collecting data, results of factor analysis, reliability and validity of the scale is presented in the paper.

II. THE SOCIAL CONTRACT OF THE MEDICAL PROFESSION

A contract can be defined as a written or spoken agreement that is legally binding in nature, which both the parties must oblige to. Medical Science, which abides by the concept of trust and professionalism of its members in also entailed into such a contract with the society. The novice thought regarding the contractual nature of the Medical Profession was enunciated by Paul Starr in his book *The Social Transformation of American Medicine* (1982) (as cited in [13]). Patients being treated were obliged to pay for the services rendered by the physician. Accountability rested in the hands of the patient, with meager accountability for the society. Individual doctors were trusted and possessed immense authority, status, respect, autonomy in practice, self-regulation and financial rewards [14]. The society, in turn, expected these physicians to be proficient, altruistic, ethical in standards and discuss the health care needs of the individual patients and society- implicit that the obligations had to be sustained by physicians over generations. On reading between the lines, it is evident that trust and professionalism formed the edifice of the medical profession's social contract with the society. Reference [13, p. 80] has quoted that "the society expects physicians to behave professionally in return for their privileged position. If they fail to do so, society will alter the contract."

III. THE CONCEPT OF SOCIAL EXPECTATIONS AND THE SOCIAL EXPECTATIONS THEORY

An individual is a figment of the society. The social norms and beliefs often dictate our attitudes and beliefs, to be accepted in the society. The social setting in which the process of education takes place has a great bearing on the personality of the educand. Reference [15, p. 180] has defined social expectations as an "internalized social norm for individuals and organizations, thus for society as a whole, about what people should do." The Social Expectations Theory propounded by Melvin De Fleur is one of the theories of Mass Communication. Human behavior is governed by both internal forces and external factors. While intrinsic forces rule the psyche of the individual, the overt influence exerted by the society and culture on the conduct of the individual cannot be side-lined [16]. This conduct is perceived by the individuals or members of a group as the anticipations and expectations upheld by the society. These expectations are bound to significantly dictate the norms, roles, responsibilities, ranking or pattern of organization of the group [17]. The consequences, repercussions, approval or disapproval, acceptance, rewards or reprimands that stem from the decisions and actions that individuals wish to follow is highly speculated as a result of these expectations. The behavior of such an individual in a social context will depend on his or her comprehension and approval of culturally accepted norms of conduct and the behavioral expectations of the society.

The implications of social expectations have by far extended itself to have a say in the educational, professional and career choice areas clubbed with a true sense of self- concept of the educand [18]. It also ascertains that understanding the essence of one's educational and career attainment with respect to its social setting is advantageous.

IV. SOCIAL EXPECTATIONS TOWARDS MEDICAL PROFESSION

Hippocrates of Kos – the 'Father of Clinical Medicine' and the Medical Council of India have mutually stressed on the characters that physicians must possess [19],[20]. This includes conducting oneself with the utmost dignity attached to the profession; being a painstaking learner in mastering medical competency and acting in accordance to the best interest of the patient. These references clearly emphasize the need for selecting individuals who have been "chosen or called for" the vocation of Medical Science with a divine purpose of healing the sick. Reference [21] has stressed that such prospective adolescents must be those whose conduct and abilities match with those expected from future physicians.

The Medical Council of India, in its Report and Recommendations of National Workshop on "Medical Education – An Appraisal" New Delhi: MCI 1996; 4-5 (as quoted in [22], [23], [24]) had stressed that:

A humanitarian approach to the society and sound communication skills are some of the entry level parameters to be checked in freshmen apart from their domain-specific knowledge in the subjects. However, due to the non-availability of a standardized tool to assess the same, implementation throughout national level would not be possible. Medical Science, being a profession that is associated with immense honor in India, is always perceived as expecting more from its professionals, as far as their professional competency and clinical skills are concerned as highlighted in [1]. This is why the rank of a doctor is often considered on par to a "wonder worker" or "divine healer, "priest", "witch", "lawgiver" and that of a judge (as cited by Cameron in [25]).

Literature studies have thrown light on several aspects that the society at large expects from the medical profession. Further investigation and content analysis of the expectations from these studies showed recurrence of certain common attributes. For the ease of analyzing these expectations, they have been grouped under the two broad expectation spheres:

- 1) Sphere of Professional Expectations
- 2) Sphere of Expectations in Personal Conduct

1) The Sphere of Professional Expectations includes expectations of the society with respect to the professional conduct of doctors, such as addressing the needs of the patient and society at large. These include:

- Providing quality and compassionate medical treatment and care [13], [14], [26]
- Professional manner of conduct [13], [26] and "guided by the rules of professional practice" [27, p. 50]
- Provide opportunity to self for professional growth through research [14], [28] and competency through practices of self-regulation [14]
- Application of their professional knowledge and clinical skills for the benefit of the patient [27]
- Keeping the patient as the first priority [14],[28]; acting in the best interest of the patient [14], [25], [26], [27], [28]; and for the welfare of the community [25] rather than in for vested interests [14], [27], [28]
- Confidentiality of spoken conversations [26]

- Addressing the needs of patients and societal issues [14]
- 2) The Sphere of Expectations in Personal Conduct includes those expectations pertaining to the attributes regarding the personal conduct and demeanor of the medical professional. These include:
- Interpersonal-soft skills such as being empathetic [28], amicable, approachable, a good listener and possessing a forthcoming attitude [26]
 - Separating one's professional conduct from one's personal life and not allowing either of it to greatly influence each other [26]
 - Withholding one's personal beliefs without disclosing it to patients [26]
 - Non-judgemental about patient's behaviour [26], [27], [28]
 - Maintaining confidentiality about personal beliefs of patients [26]
 - Ability to comprehend the health problems of patients and clearly communicate to them [14], [28]
 - Unbiased in approach and not emotionally involved with any patient [27]
 - Remain ethical in standards; truthful in practice in their daily lives; upholding the dignity and integrity of the profession [13], [28]

V. CHANGING SOCIAL EXPECTATIONS TOWARDS MEDICAL PROFESSION

The changing role of today's doctor in the medical profession has been highlighted in [28]. This role dynamism is in resonance with the varying needs and expectations of the patient and the society at large. Mass media and increasing public awareness have resulted in patients being well informed and consciously concerned about their health. They no longer wish to be passive recipients of treatment but are active partakers in their own care. The doctor's role thus changes from that of an instructor or healer to that of "an advisor, interpreter and supporter" [28, p. 3], to that of a "guide in helping patients to make decision about their health" [25, p. 51].

However, in recent years, the medical profession has suffered several setbacks. These setbacks include advocating vested interests at the cost of the society through means of commercialization and globalization [25]. The selfless and humanitarian nature of the vocation has suffered a downfall owing to pursuits of monetary benefits by members of the profession where ideals of morals and compassion have been brushed aside [29].

The profession of medical science, since time immemorial, has been equaled with an incomparable amount of reverence advocated. The perception that the professionals of this vocation could do no harm to any living creature and possessed substantial powers over patients has lived in the mindsets of many till date. Reference [25] has pointed out that since the service given by the physician is offered for payment of the same, patients can challenge doctors if the treatment rendered by them fails to meet their expected outcome or if any misconduct occurs, which could have otherwise been avoided by meticulous effort. It is evident that as long as the medical profession continues to meet the expectations of the patient and the society at large, the fidelity of the profession sustains. This fidelity is based on the principle of trust and professionalism- as outlined in the social contract of the medical profession. It is this obligation on the part of both the profession and society that would benefit both the parties.

V. THE INDIAN SOCIETAL PERSPECTIVE OF THE MEDICAL PROFESSION

As quoted before, India is one of the largest producers of medical professionals producing 27,676 doctors annually [30]. It is also a known fact that nearly one-third of these doctors migrate to other countries to continue their post-graduation medical education or residency training. Despite a vast number of doctors graduating every year, the doctor-patient ratio in India is low with one doctor for every 1700 patients- much lower than the worldwide ratio of 1.5: 1000 [31].

Dr S K Pandya (as cited in [32]) has observed that the number of role models in the field of medical education is diminishing owing to an alarming incidence in unethical medical practices such as organ transplants, medical negligence, and corruption which adds onto the ethical and moral woes of both the medical professionals and the public. Reference [33] adds that the misuse of technology by medical professionals have been rampant where patients are advised to undergo unnecessary diagnostic procedures and hospitalizations. The tie-up between multi-national pharmaceutical companies and physicians for advocating their drugs and diagnostics has also been brought into the light. The far-reaching influence of such ill-practices has reached even medical colleges where students are conveyed the notion that unscrupulous practice is the means to survive and conduct oneself in this profession [33]. This adds on to the psychological quandary of graduating doctors as it contradicts what is mentioned in the traditional Hippocratic Oath and what is practiced [32]. The Parliament of India, Rajya Sabha, Department-Related Parliamentary Standing Committee on Health and Family Welfare, headed by Chairman Shri Satish Chandra Misra presented its 92nd Report on 8th March 2016 concerning the Functioning of the Medical Council of India, under the jurisdiction of the Ministry of Health and Family Welfare. It has stated that "instances of unethical practice continue to grow due to which respect for the profession has dwindled [34, p. 28] and distrust has replaced the high status the doctor once enjoyed in society" [34, p. 72].

The Medical Council of India (MCI) regulations on undergraduate medical courses emphasizes that "medical graduates become exemplary citizens by the observation of medical ethics, and fulfilling social and professional obligations, so as to respond to national aspirations" [35, p. 6]. It is with this intention that the Medical Council of India introduced 'Vision 2015' as a foundation course in the first two months of graduate medical education to orient freshmen in the areas of "national health scenarios, medical ethics, health economics, learning skills & communication, life support, computer learning, sociology & demographics, biohazard safety, environmental issues and community orientation" [31, p. 11].

VI. CONCEPT OF PERCEIVED SOCIAL EXPECTATIONS TOWARDS MEDICAL PROFESSION

The Oxford Living Dictionary defines perception as “the way in which something is regarded, understood, or interpreted” [36]. Keeping the welfare of the individual and the society as the prima priority, the society constantly perceives the medical profession to fulfil its obligatory role [25]. The clinical practice of medicine and the conduct of its members must be regulated with the discernment of the public and the rights of the society. Few medical students have reported as considering the profession to be sacred and envisaged themselves as the ‘representatives of God on earth’ by alleviating the sufferings of the deceased [11].

Perceived Social Expectations for the current study is conceptualized as the student awareness about the regard advocated to the profession; awareness possessed by the student about the society’s expectations of a doctor and the extent to which social expectations influence the student in choosing the profession.

VII. METHOD OF TOOL DEVELOPMENT

A. Scale Development

The first step in the process of scale development is to generate an item pool containing as many items as possible which captures the construct of interest [37]. 34 items were constructed for the initial try-out of the scale measuring the construct of social expectations as put forth by De Fleur in his Social Expectations Theory. This rating scale was based on the Likert-type was designed, where each item had to be rated on a five-point scale of Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. The scale consisted of a few items involving the dimensions of student awareness about the regard advocated to the profession. A few statements were based on the awareness possessed by the student about the society’s expectations of a doctor and the extent to which social expectations influence the student in choosing the profession.

B. Content Validation of Perceived Social Expectations Scale towards Medical Profession (PSESMP)

Preliminary drafts containing 34 items of the Perceived Social Expectations Scale towards Medical Profession were given to four professors teaching in medical colleges in the city of Bengaluru, for content validation. The subject experts chosen were academicians with more than a decade of teaching experience in medical education. Apart from their academic requisite, their repertoire of mentoring medical students was also considered. Modifications with respect to certain repetitive words in the statements were made. It was recommended to add more items such that long sentenced items could be reduced. This helped in increasing the initial count from 34 to 40 items in the scale, based on expert suggestions. Certain items that were considered ambiguous were rephrased. The preliminary 40 items scale has been given in TABLE I below. The modified scale was then administered for the pilot study.

Table I: Perceived Social Expectations Scale Towards Medical Profession

Item no.	Statement
PS1.	The Profession of Medical Science is considered a noble one
PS 2.	The Profession of Medical Science is often regarded as a symbol of great status
PS 3.	The society holds great regard for the profession of Medical Science
PS 4.	The society expects doctors to remain calm and composed always
PS 5.	The society expects doctors to be compassionate always
PS 6.	The society expects doctors to uphold the dignity of the profession always
PS 7.	Doctors receive immense respect in the society
PS 8.	All doctors, regardless of their clinical skills, are equally respected in the society
PS 9.	The society expects a doctor to always fulfill his or her professional commitments to the fullest level
PS 10.	Families having multiple medical practitioners are respected by the society
PS 11.	A higher secondary adolescent wanting to take up this profession is always encouraged by the society
PS 12.	The society emotionally supports such prospective adolescents
PS 13.	The society morally supports such prospective adolescents
PS 14.	The society is aware that the profession of Medical Science is strenuous
PS 15.	The society is aware that the profession of Medical Science demands intense hard work from the doctor
PS 16.	The society is aware that the profession of Medical Science is strenuous and demands intense hard work from the medical student
PS 17.	Despite the strenuous life of doctors, the society encourages prospective adolescents to take up the profession
PS 18.	Doctors are expected to attend to the needs of their patients even in the wee hours of the morning
PS 19.	Doctors unable to attend to the needs of a patient owing to personal commitments are considered unprofessional
PS 20.	Doctors have to be transparent in dealings with patients
PS 21.	Doctors are expected to communicate openly with patients and their well-wishers
PS 22.	A doctor is expected to be a friend, philosopher and a guide to his patients, apart from being a medical practitioner
PS 23.	Doctors are considered to be on par with a supreme power with respect to their abilities to heal the sick
PS 24.	The honor associated with the profession of Medical Science has ignited the enthusiasm in me to take up the profession
PS 25.	My family will receive immense respect from the society if I join the medical profession
PS 26.	I will receive immense respect from the society if I qualify into the profession
PS 27.	An assured employment awaits me in any part of the world if I become a doctor

PS 28.	Along with my intrinsic motivation to heal the sick, I also want to take up the profession owing to the status advocated to it.
PS 29.	The anecdotes of some of my well-wishers regarding the profession have motivated me for the same
PS 30.	Some of my well-wishers have even appraised me to the status of becoming a doctor owing to my personal qualities and aptitude for the profession
PS 31.	Doctors are expected to be well versed with all tools of diagnosis and treatment
PS 32.	Doctors must always be approachable to attend to the needs of patients
PS 33.	Doctors must be readily available on call to attend to any medical emergency
PS 34.	The society presumes that any higher secondary student pursuing Science, with Biology as one of the core subjects, wants to enter the profession of Medical Science
PS 35.	The society holds immense trust in the treatment advised by the doctors of today
PS 36.	An allegation made by a patient against the procedures of treatment advised by the doctor can impact the professional growth of the doctor
PS 37.	An allegation made by a patient against the code of conduct of a doctor can tarnish the reputation of the doctor
PS 38.	Such doctors are ridiculed and condemned by the society with a black mark in their record
PS 39.	It is easy for the society to lose faith in doctors through a single act of professional or personal misconduct
PS 40.	The society expects adolescent students aspiring for the profession to show traits as desirable in doctors such as compassion and dignity in conduct

C. Pilot Study of the Content Validated Tool

A preliminary trial of the content validated tool was administered to a sample of 90 respondents to test the reliability and construct validity of the Perceived Social Expectations Scale towards Medical Profession (PSESMP). The pilot study was conducted in the month of September 2016. The sample of students chosen for the pilot study were second-year pre-university students from Christ Junior College, Bengaluru. The students chosen were those having studied Physics, Chemistry, and Biology in their two years of higher secondary education. Parental consent form was given in advance to the students for procuring permission with the authorized signature of the parent. The participants were briefed about the objective of the study and were assured of confidentiality. The respondents were 32 males and 58 females in the age group of 16-18 years. Permission was procured in advance from the head of the institution on the day of the study and one hour of a regular theory hour was utilized for conducting the survey. The rating scales were self-administered by the researcher during the allotted time and the respondents were asked to give their first preference to the statements of the items.

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy to check for linear relationships between the variables was assessed on the initial 40 items of the scale. The KMO Index obtained was 0.691 indicating the goodness of EFA for the items concerned. Bartlett's test of sphericity revealed a statistical significance of 0.000 (i.e., $p < .005$). Hence, the data was suitable for further exploratory factor analysis.

D. Reliability of the Scale

The reliability of the scale for the 40 items was found to be 0.903 (Cronbach's Alpha) which indicated a high level of internal consistency for the scale with this specific sample.

E. Item Analysis: Procedure and Result

The inter-item correlation for the 40 items retained by experts for the Perceived Social Expectations Scale towards Medical Profession (PSESMP) was carried out using data from the pilot study. Seven items with an inter-item correlation value of less than 0.5 were dropped (PS 8, 14, 22, 31, 34, 35, 36) from the original 40 items scale leaving the scale with 33 items.

F. Principal Factor Analysis

An Exploratory Analysis was carried out on the remaining 33 items to assess the effectiveness of the questionnaire using Principal Component Analysis from SPSS, Version 20. Factor analysis left the Perceived Social Expectations Scale towards Medical Profession (PSESMP) with 29 close-ended items from the original 33 which had been left from the round of expert validation. Items with low correlation (less than 0.50) were dropped from the list and those items showing a fairly high correlation with more than one factor loadings were also dropped from the list. Four such items were dropped from the list leaving the scale with a total of 29 items from its 33-item scale. The items along with their factor analysis results have been given in TABLE II. The Factor Analysis yielded six factors which accounted for 60.55% of the Total Variance.

Table II: Factor Loadings Of Final Perceived Social Expectations Scale Towards Medical Profession (Psesmp) From Principal Component Analysis

Factors	Items	Factor Loading
Social Responsibility	The society expects doctors to remain calm and composed always	0.754
	The society expects doctors to be compassionate always	0.797
	The society expects doctors to uphold the dignity of the profession always	0.689
	Doctors receive immense respect in the society	0.570
	The society expects a doctor to always fulfill his or her professional commitments to the fullest level	0.703
	Doctors unable to attend to the needs of a patient owing to personal commitments are considered unprofessional	0.568
	Doctors have to be transparent in dealings with patients	0.518
	The society expects adolescent students aspiring for the profession to show traits as desirable in doctors such as compassion and dignity in conduct	0.601
Intentional Regard advocated to the Profession	The Profession of Medical Science is considered a noble one	0.754
	The Profession of Medical Science is often regarded as a symbol of great status	0.797
	The society holds great regard for the profession of Medical Science	0.689
	My family will receive immense respect from the society if I join the medical profession	0.570
	I will receive immense respect from the society if I qualify into the profession	0.703
	An assured employment awaits me in any part of the world if I become a doctor	0.568
Professional Status	Doctors are expected to attend to the needs of their patients even in the wee hours of the morning	0.528
	Doctors are expected to communicate openly with patients and their well-wishers	0.610
	Doctors must always be approachable to attend to the needs of patients	0.707
	Doctors must be readily available on call to attend to any medical emergency	0.651
	It is easy for the society to lose faith in doctors through a single act of professional or personal misconduct	0.642
	Such doctors are ridiculed and condemned by the society with a black mark in their record	0.555
Medical Status	Families having multiple medical practitioners are respected by the society	0.587
	A higher secondary adolescent wanting to take up this profession is always encouraged by the society	0.721
	The society morally supports such prospective adolescents	0.504
Noble Pursuits	The honor associated with the profession of Medical Science has ignited the enthusiasm in me to take up the profession	0.628
	Along with my intrinsic motivation to heal the sick, I also want to take up the profession owing to the status advocated to it.	0.716
	The anecdotes of some of my well-wishers regarding the profession have motivated me for the same	0.780
	Some of my well-wishers have even appraised me to the status of becoming a doctor owing to my personal qualities and aptitude for the profession	0.579
Societal Awareness	The society is aware that the profession of Medical Science demands intense hard work from the doctor	0.807
	The society is aware that the profession of Medical Science is strenuous and demands intense hard work from the medical student	0.790

Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization

VIII. RESULTS

The first factor that PSESMP measures was "Social Responsibility", which accounted for 14.412% of the total variance consisting of eight items. These items describe the social and moral obligations of the doctor to the society, which were framed bearing in mind the Social Contract of the Medical Profession. The factor loadings ranged from 0.518 to 0.797.

The second factor was labeled as "Intentional Regard advocated to the Profession" which explained 25.381% of the total variance, clustering six items. The items loading under this factor echoes the personal intention advocated by the higher secondary adolescent to the profession of medical science. The factor loadings ranged from 0.568 to 0.797.

The third factor extracted was named "Professional Expectations" that amounted to 34.887% of the total variance consisting of six items. The items loading in this factor describes the expectation of the society regarding the professional conduct of the doctor. The factor loadings ranged from 0.528 to 0.727.

The fourth factor was named "Medical Status" which could explain 44.220% of the total variance encompassing three items. The items in this factor explain the status associated with the profession as perceived by both the family and the society. The factor loadings of this sub-scale ranged from 0.504 to 0.721.

The fifth factor extracted was labeled as "Noble Pursuits" which amounted to 53.084% of the total variance consisting of four items. These items describe the nobility attached to the profession of medical science. The factor loadings range from 0.579 to 0.780.

The sixth factor extracted was named as "Societal Awareness" which accounted for 60.527% of the variance and consisted of two items. These items under this domain reflect the societal perception regarding the rigorous nature of the profession. The factor loadings were 0.790 and 0.807.

A. Validity of Perceived Social Expectations Scale towards Medical Profession (PSESMP)

The completed surveys of 90 students were used to establish the validity of the scale. The Face Validity and Content Validity were established by subject experts in the field of medical education where items that lacked poor conceptual clarity and representation were discarded. In order to find out the Item Validity, inter-item correlations were calculated. Intrinsic Validity of the tool was calculated by taking the square root of the reliability coefficient of the tool. The Guttman Split-half reliability of the scale was found to be 0.766. Its square root was found to be 0.875. This is a satisfactory measure of the intrinsic validity of the inventory. The Factorial Validity was derived at by factor analyzing all the items using Principal Component Method. Rotations were carried out by Varimax Criterion. Six factors were identified which measured the construct of the scale for which it was purported to measure.

B. Reliability of Perceived Social Expectations Scale towards Medical Profession (PSESMP)

The reliability of the total scale was derived at by Cronbach alpha method was found to be 0.892. The total split-half reliability of the scale was found to be 0.766, which is the Guttman Split-half reliability of the scale. Its square root is found to be 0.875. The reliability (Cronbach's Alpha) for each subscale identified through exploratory factor analysis was calculated. TABLE III gives the details regarding the reliabilities of the sub-scales.

Table III: Summary of Subscales Extracted Through Factor Analysis

Sl. no.	Factor	Subscale	No. of items	Reliability (Cronbach's Alpha)
1.	Factor 1	Social Responsibility	08	0.838
2.	Factor 2	Intentional regard advocated to the Profession	06	0.867
3.	Factor 3	Professional Status	06	0.729
4.	Factor 4	Medical Status	03	0.669
5.	Factor 5	Noble Pursuits	04	0.750
6.	Factor 6	Societal Awareness	02	0.880

C. Scale Administration and Scoring

The scale can be administered both individually and in groups. The individuals are required to put a tick (□) in the columns provided by giving their agreement with the statements. This scale -not being an achievement or a speed test, has no time limit to be answered. However, a minimum of fifteen minutes should suffice as the respondents are encouraged to provide with the first answer that comes to their mind without giving the socially desirable answer. The scale was prepared in the 'Likert Scale' model with five alternatives to answer, i.e., Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree, with the scores of 5, 4, 3, 2 and 1 respectively. The standardized Perceived Social Expectations Scale towards Medical Profession (PSESMP) with the validated 29 items is presented in Appendix 1.

D. Norms for the Scale

Norms were established for the 90 respondents based on Mean and Standard Deviation (M+/-SD) for the Perceived Social Expectations Scale towards Medical Profession as given in TABLE IV

Table IV: Norms for The Perceived Social Expectations Scale Towards Medical Profession

Low	Moderate	High
Below 103	103 – 129	130 and above

E. Pilot Study II

The validated Perceived Social Expectations Scale towards Medical Profession (PSESMP) was administered to a sample of 60 students to re-ascertain its reliability. The sample chosen was second-year pre-university students from Christ Junior College, Bengaluru, Karnataka belonging to a different batch. This was conducted in December 2017- a year after the initial Pilot Test. The reliability of the total scale derived by Cronbach's Alpha method was found to be 0.879.

IX. DISCUSSION

The 40 items of the Perceived Social Expectations Scale towards Medical Profession (PSESMP) were subjected to construct validation procedures through Item Analysis followed by Principal Component Analysis with Varimax Rotation and six factors extracted from the analysis. Seven items with a low value of inter-item correlation (less than 0.5) were dropped from the scale. The remaining 33 items were subjected to an Exploratory Analysis where items with low correlation and loading in more than one factor were also dropped, leaving the scale with a total of 29 items. Out of the six factors extracted, Factor 1 throws light on the 'social responsibility of the medical profession' with eight items to its credit; Factor 2 highlights the 'intentional regard advocated to the profession' of Medical Science with six items under it; Factor 3 exuberates the 'professional status' of the doctor with six items under this domain; Factor 4 throws light on the 'medical status' of the doctor as perceived by the society with four items extracted; Factor 5, containing four items highlights the 'noble pursuits' attributed to the profession while the last Factor 6 throws light on 'societal awareness' regarded to the profession with two items in this subscale. The 29 items that surpassed the factor analysis displayed a Cronbach's Alpha of 0.892, implying the high reliability and internal consistency of the scale. The second pilot study conducted on a sample of 60 students also revealed a high Cronbach's Alpha of 0.879. The administration of this scale to higher secondary adolescents would enable policymakers and curriculum drafters with a feedback on how the society perceives the profession to be, from the eyes of the adolescent. The total score calculated per respondent indicates the influence that the society has on the adolescent in choosing the profession. This could indirectly convey if the adolescent earnestly wants to join the profession out of goodwill and passion for the same or out of the status associated with the profession.

X. CONCLUSION

The purpose of this study was to develop and validate a scale to assess social expectations towards medical profession as perceived by higher secondary adolescents. In developing the scale, the content and face validity was ascertained. The reliability of the scale and its six subscales were established. This scale has potential value for policymakers to assess the perception held by higher secondary adolescents, at the entry level, into the profession of medical science.

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Appendix-1

PERCEIVED SOCIAL EXPECTATIONS SCALE TOWARDS MEDICAL PROFESSION (PS SMP)

Instructions for respondents:

- This rating scale is not a speed test. You can take your own time at leisure in completing the same.
- You are requested to indicate your preference on the statements reflected. The statements are ranked or graded in this order as –
SA- Strongly Agree
A- Agree
N- Neither disagree nor agree
D- Disagree
SD- Strongly Disagree
- For instance, if you strongly agree with a statement, you can tick (✓) it across SA. In case you disagree with a statement, you can denote it as Disagree (D) or strongly disagree (SD) depending on the intensity of your response.
- You are requested to give only one response per statement. Multiple responses per statement are not accepted

Sl. no	STATEMENT	SA	A	N	D	SD
PS1.	The society expects doctors to remain calm and composed always					
PS 2.	The society expects doctors to be compassionate always					
PS 3.	The society expects doctors to uphold the dignity of the profession always					
PS 4.	Doctors receive immense respect in the society					
PS 5.	The society expects a doctor to always fulfill his or her professional commitments to the fullest level					
PS 6.	Doctors unable to attend to the needs of a patient owing to personal commitments are considered unprofessional					
PS 7.	Doctors have to be transparent in dealings with patients					
PS 8.	The society expects adolescent students aspiring for the profession to show traits as desirable in doctors such as compassion and dignity in conduct					
PS 9.	The Profession of Medical Science is considered a noble one					
PS 10.	The Profession of Medical Science is often regarded as a symbol of great status					
PS 11.	The society holds great regard for the profession of Medical Science					
PS 12.	My family will receive immense respect from the society if I join the medical profession					
PS 13.	I will receive immense respect from the society if I qualify for the profession					
PS 14.	An assured employment awaits me in any part of the world if I become a doctor					
PS 15.	Doctors are expected to attend to the needs of their patients even in the wee hours of the morning					
PS 16.	Doctors are expected to communicate openly with patients and their well-wishers					
PS 17.	Doctors must always be approachable to attend to the needs of patients					
PS 18.	Doctors must be readily available on call to attend to any medical emergency					
PS 19.	It is easy for the society to lose faith in doctors through a single act of professional or personal misconduct					
PS 20.	Such doctors are ridiculed and condemned by the society with a black mark in their record					
PS 21.	Families having multiple medical practitioners are respected by the society					
PS 22.	A higher secondary adolescent wanting to take up this profession is always encouraged by the society					
PS 23.	The society morally supports such prospective adolescents					
PS 24.	The honor associated with the profession of Medical Science has ignited the enthusiasm in me to take up the profession					
PS 25.	Along with my intrinsic motivation to heal the sick, I also want to take up the profession owing to the status advocated to it.					
PS 26.	The anecdotes of some of my well-wishers regarding the profession have motivated me for the same					
PS 27.	Some of my well-wishers have even appraised me to the status of becoming a doctor owing to my personal qualities and aptitude for the profession					
PS 28.	The society is aware that the profession of Medical Science demands intense hard work from the doctor					
PS 29.	The society is aware that the profession of Medical Science is strenuous and demands intense hard work from the medical student					