



Research Article

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# Psychosocial Vulnerability and General Health Status of Medical Students at the University of Yaoundé I, Cameroon, Central Africa

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## Abstract

**Background:** Social medical studies, such as those conducted by Dyrbye, et al., (2006) [1], highlight the impact of vulnerability factors among medical students, considered one of the most stressful occupations in relation to their studies. Thus, certain demographic variables and psychological characteristics may render students more vulnerable to psychological distress.

**Objective:** The aim of this study was to determine the psychosocial vulnerability factors of medical students at the University of Yaoundé I (UYI).

**Methods:** A descriptive cross-sectional study was conducted over a period of 2 months among students from the Faculty of Medicine and Biomedical Sciences of Yaoundé. The data were processed in SPSS software using proportions and Pearson's Chi2 test.

**Results:** 501 students were included for a sex-ratio of 0.77. Age ranged between 17 and 35 years with a median age of 23 years. Identified personal and academic factors played a significant role in the mental vulnerability of the study population. Drug use, school bullying and exposure to human suffering during their internships at hospitals severely tested their sensitivity and empathy towards patients constituted the main sources of vulnerability among students.

**Conclusion:** Medical students at UYI present psychosocial and mental fragility.

**Keywords:** Psychosocial Fragility, Vulnerability Factors, Medical Students, Empathy, Stress, Psychological Distress

## Introduction

The vulnerability of students is multidimensional and is characterized by an accumulation of difficulties reported by the youth

during our study. Students' life reflects the entry into adulthood, this transition period which traditionally goes through certain key stages (family separation-individualization, autonomy, financial in-



dependence, life, and career choices, etc.) [1]. These stressful events and adaptation experiences represent a significant problem among this section of the population. While most young people integrate well into university, a significant proportion of them struggle to find their place. Thus, a constantly expanding body of research confirms that the student role is among the most stressful occupations [1].

The case of medical students is, as they more often than others experience a sense of unease [2]. Nearly a third of these future doctors report psychological distress [3]. The stress generated by medical studies derives from the presence of a combination of independent factors of a chronic or punctual nature, objective or subjective. Medical students at the University of Yaoundé I were chosen for this study due to their openness to research and the length of their curriculum, which can be a stress factor and thus a relevant target to examine vulnerability factors.

Following this logic, it is therefore important to highlight personal and/or academic resources that may help students be more resilient despite vulnerable factors. To do so, it is important to identify all the causes of this vulnerability. This study therefore aims to identify the main sources of vulnerability among medical students at the University of Yaoundé I.

## Materials & Methods

This descriptive cross-sectional study was conducted from March 09 to May 1, 2021, for a duration of 2 months, among medical students at the University of Yaoundé I. Students who enrolled for the 2020-2021 academic year were randomly chosen, regardless of their level of study or specialization. To collect the necessary information, we designed a socio-demographic identification form (FISD) and used the questionnaire (General Health Questionnaire, GHQ-28). We carried out the pretest among about fifty students with the administration of the FISD and GHQ-28 [4] to ensure their relevance to our study, understanding by the majority of students. The initial results obtained during this first week of pre-survey were congruent with the object of the research and met the real

**Table 1:** Socio-academic data.

Variables	Modalities	N=501 n (%)
Sex	Female	283 (56,5)
	Male	218 (43,5)
Age	<20	41 (8,2)
	[20-25[	337 (67,3)
	[25-30[	121 (24,2)
	>=30	2 (0,4)
Marital Status	Single	382 (76,2)
	Married	9 (1,8)
	Concubinage	8 (1,6)
	Free union	102 (20,4)
Number of Children	0	456 (91)
	>=1	44 (9)
Field	General Medicine	303 (60,5)
	Dentistry	137 (27,3)
	Pharmacy	61 (12,2)

needs of the medical students to whom this survey was addressed. After obtaining the necessary permissions from administrative authorities, we conducted interviews at the Faculty of Medicine and Biomedical Sciences (FMSB) of Yaoundé I. Depending on the availability of students, they were supplemented by interviews in their various academic internship locations, namely: Yaoundé University Hospital Center (CHUY), Yaoundé Central Hospital (HCY), Yaoundé Jamot Hospital (HJY) and Yaoundé Gynecological, Obstetric and Pediatric Hospital (HGOPY).

After a brief presentation of the study through the information notice and the signing of the informed consent, their participation was requested for a meeting of about 10 minutes. The collection tool was self-administered. To capture the diversity of student vulnerability, the selected variables were socio-academic data, personal factors, and academic factors. Initially, students' life is approached from the perspective of personal vulnerability. In the second step, we tried to describe the academic profile of the most vulnerable students.

The data were entered and analyzed using the Statistical Package for Social Sciences (SPSS) software in its version 24. Any student who did not finish filling out the questionnaire was excluded. The anonymity and confidentiality of the data were respected. For quantitative variables, we used the median and interquartile range. For qualitative variables, we used proportions. Finally, the Chi-square test was used to search for significant associations between qualitative variables. Values  $p < 0.05$  were considered statistically significant.

## Results

### Socio-Academic Profile

The survey involved 501 students, 77.4% of whom were in higher education. The study's sex-ratio was 0.77. The median age of participants was 23 years with extremes ranging from 17 to 35 years (Table 1).

Level of Medical Studies	1st year	12 (2,4)
	2nd year	40 (8)
	3rd year	60 (12)
	4th year	80 (16)
	5th year	92 (18,4)
	6th year	118 (23,6)
	7th year	99 (19,8)

### Personal Factors

It was found that 17.8% had a family history of psychiatric problems and 8.8% had chronic health problems (including 24.4% asthma, 14.6% gastric ulcers, 12.2% chronic epigastralgia). Similarly, only 28.1% admitted to consuming psychoactive and addictive substances, including alcohol (74.9%), tobacco & hookah (17.7%) and hard drugs (7.4%).

### Academic Factors

Despair in the face of a patient's suffering or death was experienced by 74.7% of the respondents. A quarter of the students

(24.9%) admitted being victims of school bullying, of which 88.8% were in the higher cycle. Up to 34.9% of the population reported ex-

periencing academic pressure due to the number of semester-long duties in a hospital environment (Figure 1).

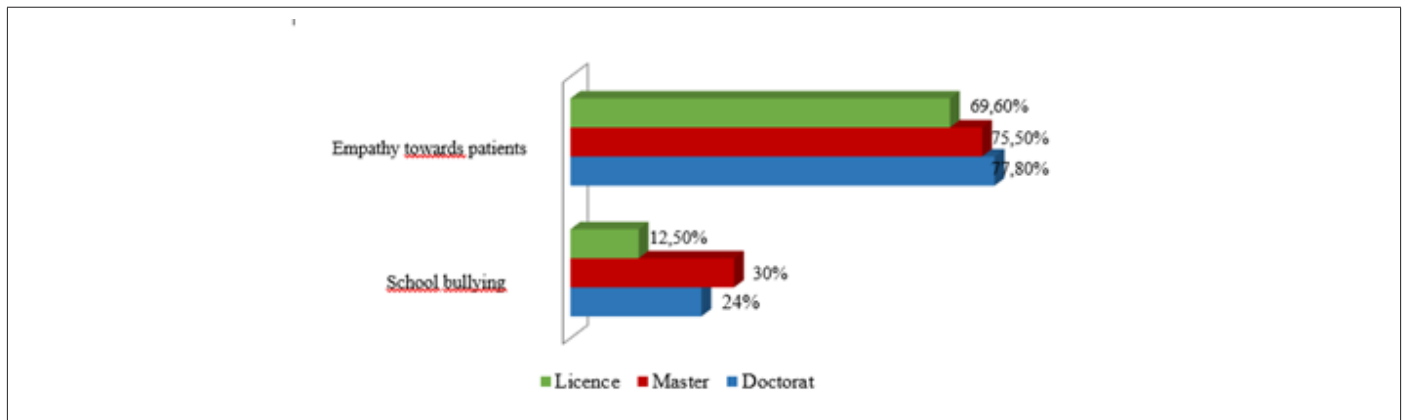


Figure 1: Academic Vulnerability Factors.

School bullying ( $p=0.000$ ,  $OR=4.83$  (1.89-12.30)) and empathy ( $p=0.009$ ,  $OR=2.03$  (1.18-3.48)) were predominant factors in the academic pressure experienced by higher cycle students. Faced with this situation, 38.1% of students had adopted inappropriate stress management practices: stimulant and energy drinks (29.5%), sleeping pills and anxiolytics (8.6%).

**Vulnerability Factors Related to Overall Health:**

**A. Personal and Family General Physical Health Status:**

The study revealed that 17.8% of participants had psychiatric history in their family and 8.8% suffered from chronic health problems, of which 24.4% had asthma, 14.6% had gastric ulcers, and 12.2% suffered from chronic epigastric pain. Furthermore, only 28.1% of participants admitted to consuming addictive substances, including alcohol (74.9%), tobacco and hookah (17.7%), and illicit drugs (7.4%) (Table 2).

Table 2: Academic Factors in Vulnerability.

Variables	Modalities	N=501 n (%)
Empathy Towards Patients	Very often	27 (5,4)
	Often	208 (41,5)
	Sometimes	139 (27,7)
	Never	127 (25,3)

School Bullying N=125	Emotional violence	118 (80,3)
	Physical violence	11 (7,5)
	Sexual violence	18 (12,2)
Academic Results	Excellent	37 (7,4)
	Good	236 (47,3)
	Average	202 (40,3)
	Insufficient	26 (5,2)
Tuition Fees	Scholarship	1 (0,2)
	Family	493 (98,4)
	Paid work	7 (1,4)

A quarter of the students (24.9%) reported being victims of school bullying, of which 88.8% were in the higher cycle. Up to 86.6% of higher cycle students had a low overall mental health score, due to the number of semester ward duties. On average, 34.9% indicated they experienced academic pressure. Figure 4 summarizes these data according to the study cycle (Figure 2).

It emerges that school bullying ( $p=0.000$ ,  $OR=4.83$  (1.89-12.30)) and demoralization ( $p=0.009$ ,  $OR=2.03$  (1.18-3.48)) were predominant factors in the academic pressure experienced by higher cycle students. The resilience mechanisms adopted in response to this situation are summarized in Table 4 (Table 3 & Figure 3).

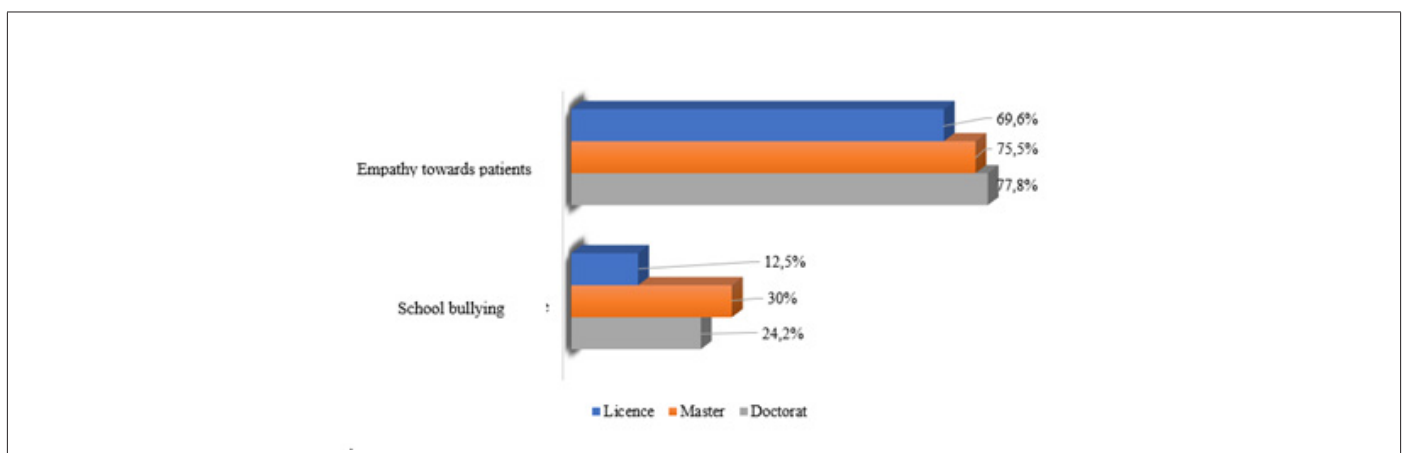
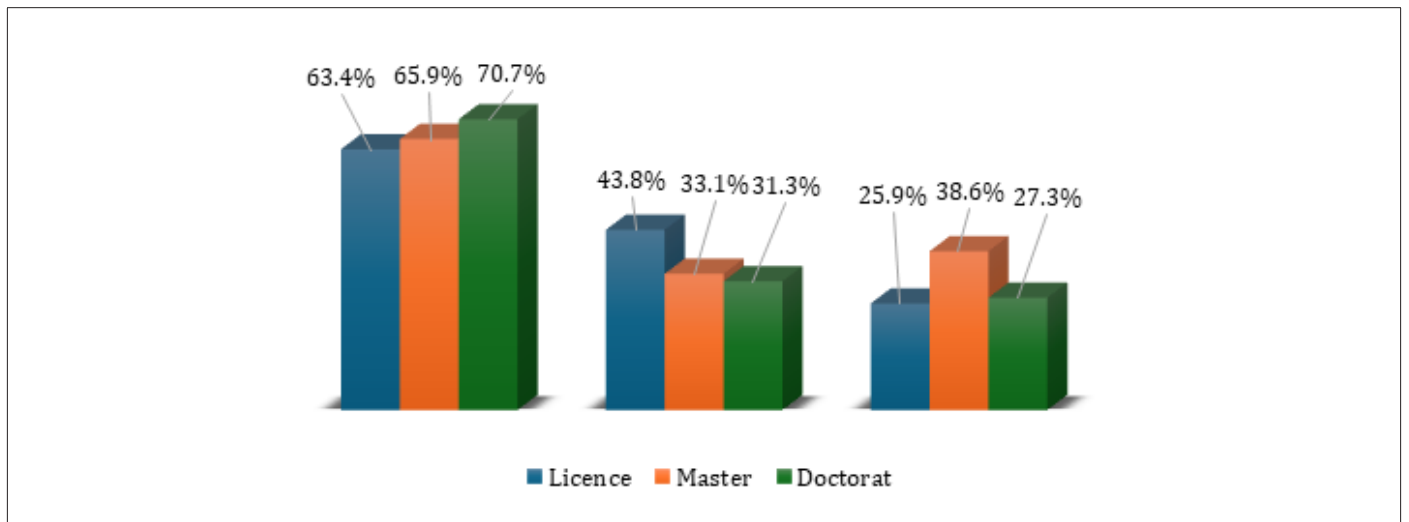


Figure 2: Distribution of Academic Vulnerability Factors by Cycle.

**Table 3:** Resilience Mechanisms.

Variables	Modalities	N=501 n (%)
Resilience Mechanisms	Artistic activities	158 (31,5)
	Stimulant/energy drinks	148 (29,5)
	Change in diet	58 (11,6)
	Personal development	176 (35,5)
	Physical exercise	266 (53,1)
	Medication (sleeping pills, antidepressants)	43 (8,6)



**Figure 3:** Distribution of stress management mechanisms by cycle.

It appeared that students who used drugs were at a higher risk of developing depression ( $p=0.077$ ,  $OR=2.69$  (0.86-8.41), suicidal ideation ( $p=0.012$ ,  $OR=3.92$  (1.24-12.36), suicide attempts ( $p=0.020$ ,  $OR=12.49$  (2.32-67.12)). Those in the doctoral cycle had the best coping strategies although these were not the adequate responses desired by them.

### Support Needs

**Table 4:** Student needs.

Variables	Modalités	N=175 n (%)	
Type de Soutien	Professional support	150 (45)	
	Support from surroundings	109 (32,9)	
	Religious support	69 (20,8)	
	No idea	3 (0,9)	
Motif du Besoin	Academic problems	138 (37,8)	
	Emotional problems	64 (17,5)	
	Family problems	54 (14,8)	
	Economic problems	71 (19,5)	
	Other health problems	38 (10,4)	
	Typologie de la Demande N=437	Listening cell	182 (41,7)
		Psychoeducation to medical life	118 (27,1)
Extra-faculty accompaniment		68 (15,5)	
Financial motivation		49 (11,2)	
Symposium on harassment management		12 (2,7)	
Para-academic activities		8 (1,8)	

All (96%) of the students reported having no support available at their institution, although 34.9% admitted needing it (Table 4).

Medical support accounted for 8.5% of the demand while psychological support made up 36.5%. A total of 87.4% expressed the need for psychological help within the institution. 69.3% stated that they were unaware of good mental hygiene practices. The perception of support needs is summarized in Figure 4.

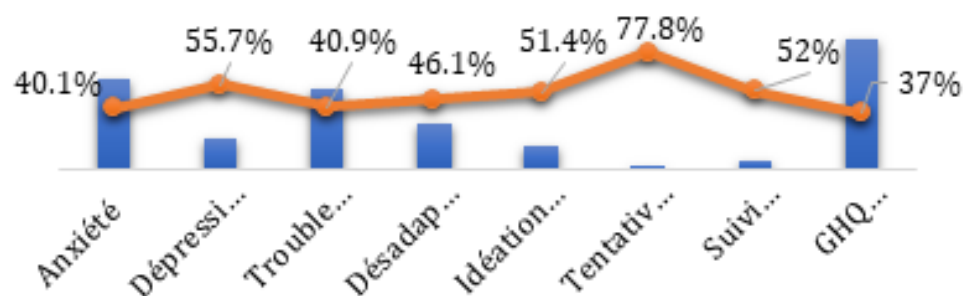


Figure 4: Perceived Need.

Up to 68.8% of the population declared they needed intra-faculty assistance. However, 4.19% claimed they did not need support and had good mental health.

## Discussion

In this study, the female population was predominant, with increased participation from the higher cycle. A significant portion of the surveyed students had family psychiatric histories and admitted to consuming psychoactive substances. The study revealed that nearly a quarter of medical students had been victims of school bullying, most often during academic internships [5]. As for empathy towards patients, it was constant and increased with the level of studies.

This gender inequality reflects the distribution of the world population. Indeed, it is accepted that mental pathologies affect the female sex more. Women would be more vulnerable due to a higher frequency of critical events in their life and the psychophysiological reality linked to their hormonal cycles. Mental health issues are common during the transition to adulthood, a period when many young people are still students [6]. The age of medical students would therefore make them more vulnerable psychologically. The psychiatric disorders of a close family member would constitute a significant risk factor for the child to present a psychiatric disorder during adolescence or adulthood [6]. Despite their knowledge of the harmful effects on the health of psychoactive substances, the high consumption of these substances could underline strong pressure and intense work pace [4].

School bullying would peak at the master's level due to the students' double exposure to medical school and the hospital [7]. Academic internships, which are only carried out in this cycle, could therefore be the main source of school bullying. Learning new medical theories and disease etiologies, the daily alternation between theory and practice, and the first clinical exposures to patients, suffering and death would be the source of the pressure related to medical studies. This pressure would lead to the use of bad coping strategies (stimulating and/or energizing drinks, sleeping pills, anxiolytics) which, in the long term, make them more vulnerable and less productive.

Although the objective of this survey was to determine the psychosocial vulnerability factors of medical students at the University of Yaoundé I, the main investigator may sometimes have lacked dis-

tance and critical thinking in relation to the subject of study, being himself exposed to the subject of study.

## Conclusion

This study has highlighted the fragility in terms of mental health among medical students at the University of Yaoundé I, particularly those in the higher cycle and the general medicine track. The main vulnerability factors identified were sex, young age, school bullying, empathy towards seriously ill or dying patients, and the consumption of narcotics. Understanding these factors underlines the importance of apprehending the specific needs of FM/SB/YUI students and organizing appropriate care for this population during their training.

It is therefore crucial to implement preventive measures and intervention programs targeting these vulnerability factors. This could include awareness of school bullying, psychological support, and education on the risks associated with the consumption of psychoactive substances. In addition, initiatives aimed at promoting a balance between studies and personal life, as well as the development of stress and anxiety management skills, could also contribute to improving overall health, quality of life, and well-being of medical students.

In conclusion, this study sheds light on the challenges faced by medical students at the University of Yaoundé I in terms of overall health, quality of life, and the well-being of medical students. It is imperative that education leaders and health professionals collaborate to provide appropriate support to this vulnerable population, to ensure their academic success and prevent student dropouts. All these measures will allow the personal development of future doctors throughout their future professional career.

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