SYSTEMATIC REVIEW

OPEN ACCESS

State of the Art of Students Psychological Needs at the Level of Higher Education Institutions in Morocco: A Systematic Literature Review

Yassine El Aatik[1,*], Maha El Habchi[1], Hassane Gazzaz[2], Abdelghani Elouardi[1], Mohammed El Feniche[3] and Hassan Kisra[4]

[1]*Research Laboratory of Psychiatry, Medical Psychology and History of Medicine, Faculty of Medicine and Pharmacy, Mohammed V University, 10100 Rabat, Morocco*

[2]*Ministry of Health and Social Protection, Higher Institute of Nursing Professions and Health Techniques, Rabat, Morocco*

[3]*Laboratory of Biostatistics, Clinical Research and Epidemiology, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat 10100, Morocco*

[4]*Department of Child Psychiatry, Ibn Sina University Hospital Center, 10100 Rabat, Morocco*

Abstract:

Introduction: This study uses a systematic literature review to analyze the current state of psychological needs among students in higher education institutions in Morocco. Students' psychological well-being is a significant public health concern in Morocco and is essential to both their academic success and social integration. Despite growing recognition of the significance of mental health in the academic setting, research on this topic is still incomplete and fragmented.

Methods: This article examines the current state of students' psychological needs at the level of higher education institutions in Morocco through a systematic review of the literature. By analyzing existing literature, the study seeks to provide a comprehensive understanding of the well-being of Moroccan students, identifying key psychological needs and risk factors.

Results: The analysis of 11 studies from 2010 to 2024 revealed critical information about the multifaceted nature of students' psychological needs in Morocco. The results were organized into several thematic categories: autonomy, competence, social relationships and support, self-esteem, and personal development. The review highlighted patterns of psychological needs and identified important risk factors such as mental health disorders, psychosocial stressors, and socio-economic challenges.

Conclusion: This systematic review clarified the landscape of research on students' psychological well-being in Morocco and identified critical needs and risk factors. It is imperative to develop appropriate support strategies to improve students' well-being and foster their academic success and social integration.

Keywords: Psychological needs, Students, Morocco, Higher education, Mental health, Systematic review-well-being.

*Address correspondence to this author at the Research Laboratory of Psychiatry, Medical Psychology and History of Medicine, Faculty of Medicine and Pharmacy, Mohammed V University, 10100 Rabat, Morocco; E-mail: yassineelaatik2018@gmail.com

1. INTRODUCTION

The transition of students to adulthood or a new academic environment requires significant intervention to help them overcome any difficulties, whether psychological or social and foster their development and performance in higher education [1, 2]. This period is often marked by an increased demand for psychological support to cope with stress, adapt to a new environment, and meet academic demands [3, 4]. Research in Canada has shown that motivational counseling can significantly impact students' behavior if it is autonomous and reliable, enabling them to accept guidance, participate in support programs, and make positive changes [5]. Students have psychological needs such as personal development and self-esteem, social relationships and belonging, as well as autonomy and skills, which are crucial for their overall well-being and academic success [6, 7].

Research in education and psychology increasingly focuses on students' needs for personal development, as highlighted in general reviews. Throughout their academic careers, students face various challenges, including managing stress, acquiring social and emotional skills, making career decisions, and balancing academic and personal lives [8].

Additionally, studies have shown that motivational elements, such as interest in the course subject and self-confidence, are fundamental needs that can positively influence students' engagement in class [9]. Similarly, the Canadian experience with the Professional Development Program aims to offer first-cycle students opportunities to explore integrated personal and professional development themes within their courses and benefit from additional workshops and extracurricular activities [10].

The aim of this systematic literature review is to examine and summarize existing studies in Morocco that address the psychological needs of students, focusing on various perspectives.

2. METHODS

2.1. Research Design

This study employed a systematic review method, chosen because it synthesizes the findings of several empirical studies and provides a comprehensive perspective on the trends and diverse psychological needs of students in Moroccan higher education institutions.

The review seeks to illuminate the current state of knowledge by identifying students' psychological needs, evaluating interventions implemented within higher education institutions, and offering recommendations to improve student well-being in Morocco.

The main aim of this review is to shed light on the current state of knowledge by identifying the various psychological needs of students, assessing the interventions implemented within higher education institutions, and making recommendations to improve student well-being in Morocco.

2.2. Type of Study

This is a systematic review-type study in accordance with the European Commission's PRISMA 2020 guidelines (Appendix 1). The review was conducted based on research that has examined the psychological needs expressed by students in higher education institutions in Morocco [11].

2.3. Inclusion and Exclusion Criteria

2.3.1. Inclusion Criteria

According to the study objectives, the inclusion criteria were: a) all articles dealing with the psychological needs of students at higher education establishments in Morocco; b) research in the form of empirical studies, literature reviews, or institutional reports; and c) publications scheduled to appear between 2014 and 2023. The inclusion of these specific types of studies ensures that the review covers a comprehensive range of research outputs, including both primary data from empirical studies and broader contextual insights from literature reviews and reports. This temporal range was chosen to capture the most recent and relevant developments in the field.

2.3.2. Exclusion Criteria

For the analysis of this study, we did not include the following types of publications: a) research carried out in other geographical or cultural environments without making an explicit comparison with Morocco, and b) research that does not focus specifically on the psychological needs of students. These exclusion criteria were justified based on the focus of the review, which aims to assess the specific needs of Moroccan students. Research from other cultural contexts was excluded unless it explicitly addressed comparative analyses, ensuring that the conclusions drawn remain contextually relevant.

2.4. Search Source and Strategy

This systematic review was based on data from Google Scholar, Web of Science, and PubMed. The aim of this search strategy was to identify articles that answer the research question formulated using the PICO (Population, Intervention, Comparison, Outcome) method [12]: "What are the psychological needs of students in higher education institutions in Morocco?".

The search equation was based on a combination of the following keywords: "needs," "psychological," "students," "higher education," and "Morocco." Filters were applied to ensure that only articles in English and French were included, which are the primary languages of academic publications in the region. The selection of these databases and keywords was intended to maximize the retrieval of relevant studies while maintaining a manageable scope.

2.5. Data Collection and Extraction

To guarantee the validity of the results, a strict, organized procedure for gathering data was followed. The article titles, author names, publication dates, sample

sizes, study locations, and participant recruiting strategies were among the data that were extracted. Each study's unique and psychological demands were compiled into a thorough table. Any conflicts that arose amongst reviewers during the selection and extraction of data were settled according to a well-defined methodology. Originally, disagreements were resolved by conversation between the two principal reviewers. In order to resolve disagreements when consensus could not be reached, a third impartial reviewer was brought in. This multi-step procedure was put in place to guarantee objectivity and support the authenticity and dependability of the data extraction procedure.

2.6. Data Processing Methods

A three-step procedure was used to process the data using the data management program Zotero: 1) Reviewing article names to ensure they are relevant. 2) Examining the abstracts of the chosen publications to help with the selection process. 3)Analysis of the articles' full texts that were chosen based on their abstracts. In accordance with this protocol, the chosen studies were grouped and examined according to important topics, such as the kinds of psychological needs that were addressed, the therapies that were utilized, and the methodology that was employed. In order to find trends and make inferences about the primary psychological requirements of Moroccan pupils, thematic analysis was employed. Quantitative data from the included research were combined, and trends were compared between studies to guarantee consistency and comprehensiveness in the analysis, strengthening the findings' robustness.
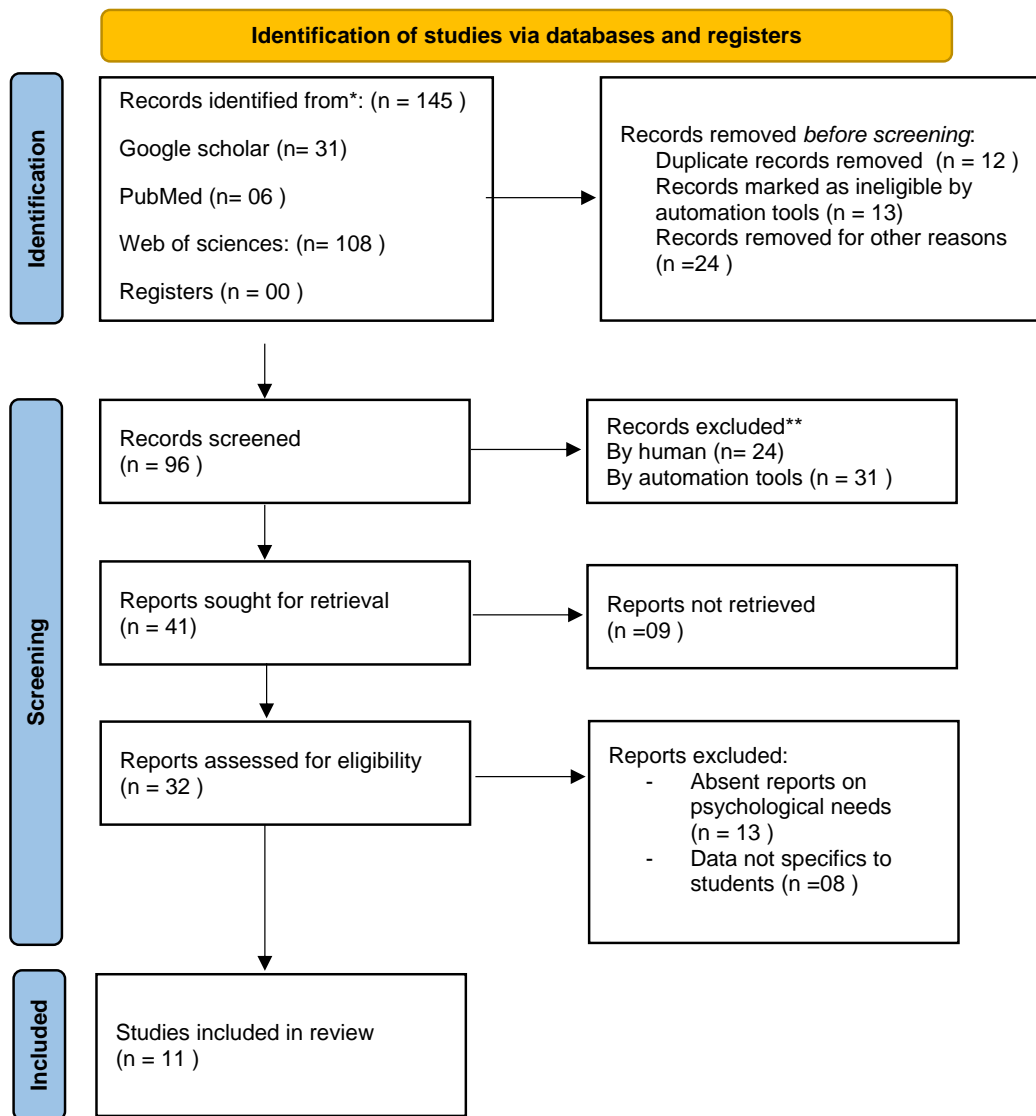
Fig. (1). Flowchart des articles retenus selon les recommandations PRISMA 2020.

3. RESULTS

3.1. Selected Items

One hundred forty-five items were initially identified. Then, the duplicates had been removed (n=17) and 128 unique articles were selected. After reading the titles and abstracts, 14 articles were deleted. The remaining 22 articles underwent a full evaluation, from which 18 articles were further excluded. Finally, 11 studies were selected for the current systematic review (Fig. **1**).

3.2. Characteristics of Included Studies

After careful examination of the various articles published in the above-mentioned databases (Table **1**), 11 studies were identified. Of these, three were from Mohammed V University in Rabat [13-15], two from Cadi Ayyad University [16, 17], two from Sidi Mohammed Ben Abdallah University [18, 19], and one from each of the following universities: Ibn Zohr University of Agadir [20], Abdelmalek Essaadi University [21], Hassan II University [22], and Mohammed Premier University [23].

The articles addressing the psychological needs of students in Morocco also varied by city, including the kingdom's capital, Rabat [13-15], which had three publications. Marrakech [16, 17] and Fes [18, 19]had two publications each, while Agadir [20], Tetouan [21], Oujda [22] and Mohammedia [23] each had one publication.

In terms of study type, there were four cross-sectional studies that addressed the psychological needs of students related to the COVID-19 pandemic [16, 18-20], conducted in 2020. A qualitative study was carried out on the level of self-esteem satisfaction among National School of Business and Management students in Morocco [24], a quantitative study on motivation [25], two mixed-method studies [14, 17], a multicenter study conducted in several medical faculties in Morocco [23], a psychometric validation study to evaluate the Work Preference Inventory measurement scale adapted to the educational context [15], and an exploratory study among the articles published in Morocco dealing.

3.3. Main Identified Psychological Needs

The studies highlighted several key psychological needs among Moroccan students (Table **2**). Firstly, stress management is a critical need, as highlighted in three articles [18-20]. Effective stress management is essential for students to maintain their mental health and perform well academically.

Additionally, psychological and social support services are crucial, with significant needs identified in several studies [14, 16, 23]. Such support helps students cope with academic and personal challenges. Confidence is another vital need for students, enabling them to take initiative, meet academic challenges, and develop resilience in the face of failure [22, 25].

Table 1. Main characteristics of eligible studies.

Authors/Refs.	Year	Institution/City	Sample Size	Study Type	Method	Objective
S. Michaud [16]	2022	Kadi Ayad Univ./Marrakech	355	Cross-sectional	Questionnaire & interview	Assess psychological state post-COVID-19
I. Rammouz [20]	2023	Ibn Zohr Faculty/Agadir	413	Cross-sectional	BDI-II & PSS	Assess association between religious acts, depressive symptoms, and stress
S. Drider [14]	2021	National School of Public Health/Rabat	401	Mixed	Electronic questionnaire	Improve prevention and management of student mental disorders during COVID-19
H. Fallaki [22]	2018	Faculty of Science and Technology/Mohammadia	100	Exploratory	Observation & scale	Measure students' level of self-esteem
H. El Madani [19]	2023	Higher Institute of Nursing Professions and Health Technology/Fes	437	Cross-sectional	Self-administered questionnaire	Evaluate association between perceived stress and academic performance
H. El Madani [18]	2023	Sidi Mohammed Ben Abdellah Univ., Faculty of Medicine and Pharmacy/Fez	307	Cross-sectional	Self-administered questionnaire	Assess psychological status of students
S. Michaud [17]	2022	Kadi Ayad Univ./Marrakech	355	Mixed	Questionnaire & interview	Assess coping strategies, difficulties, and needs post-COVID-19
S. Balhadj [25]	2020	Abdelmalek Essaadi Univ., National School of Business and Management/Tetouan	15	Qualitative	Semi-directive interview	Analyze relationship between style and perception of employability
M. Barrimi [23]	2019	Mohammed Premier Univ., seven faculties of medicine and pharmacy/Oujda	600	Multicenter	Questionnaire	Estimate prevalence and factors associated with suicide ideation and attempts
F. Rih [15]	2023	Mohammed V Univ., Faculty of Education Sciences/Rabat	162	Psychometric validation	Questionnaire	Understand motivational processes of creative and innovative young people
T. Côme, A. Yassine [13]	2015	Mohammed V Univ./Rabat	668	Cross-sectional	Questionnaire	Assess students' level of involvement and motivation upon entering university

Table 2. Main needs and recommendations of the selected studies.

Refs.	Results	Recommendations
[16]	Need for psychological support	Adaptation strategies to improve student performance
[20]	Need for stress management	Prospective studies are needed to investigate how religiosity improves mental health.
[14]	Need for social support	Setting up listening platforms and professionals specializing in psychosocial for young people in mental distress
[22]	Need for self- esteem, self-confidence and love	Involvement of teachers and trainers in listening to and supporting students
[19]	Need for stress management	implement preventive interventions aimed at controlling stress-related factors,
[18]	Need for stress management	Special attention needs to be given to this sub-population in order to improve their well-being.
[17]	Need to promote their well-being	Psychosocial and solution- oriented measures should be implemented at the Faculty of Medecine and Pharmacy of Marrakech
[25]	Need for confidence	Rigorous analysis of teaching style and its repercussions on the perception of the student
[23]	Need for family support and motivation	Prevention and support measures must be put in place to limit this phenomenon.
[15]	Need for Motivation	Morocco's research and development system needs to be equipped with a comprehensive database of the country's young creative/innovative talent.
[13]	Need for involvement and motivation	Revisit the missions of guidance and help with professionals to be better considered in our universities.

Table 3. Keywords and boolean operators used in different databases.

PubMed	(“psychological needs” OR “mental health of students” OR “psychological well-being” OR “students in a high level of study”) AND (“Morocco”)
Google Scholar	- ALL TEXT: (“psychological needs ” OR “students needs” OR “psychology of students” OR ” observance”)AND (“Morocco”)NOT Hospital NOT patient
Web of Sciences	- English: ((“psychological needs ” OR ” mental health of students ” OR ” psychological well-being ” OR ”Morocco”)AND (“Morocco”) NOT Hospital NOT patient)) (review articles and research articles) - French: (“les besoins psychologiques” AND (Maroc) NOT Hôspital NOT Patient (review articles and research articles)

Furthermore, involvement and a sense of belonging are major concerns, particularly for students from remote areas [13]. Feeling involved and connected to their academic community can enhance students' overall well-being. It may be beneficial to integrate "social relation-ships and support" with a "sense of belonging" to provide a clearer thematic distinction.

Finally, motivation is key to improving students' academic performance and commitment. Motivated students are more likely to experience personal well-being and be better prepared for their future careers. Motivation is essential for fostering autonomous and resilient learning, as reported in two articles [13, 15].

In summary, these elements highlight the diverse psychological needs of Moroccan students, emphasizing the importance of a comprehensive approach to support their well-being and academic success (Table **3**).

4. DISCUSSION

This systematic review, which includes three studies [13-15] conducted in Rabat, Morocco's capital and a hub of higher education, as well as two studies each from Marrakech [16, 17] and Fes [18, 19], reveals a significant gap in research related to smaller towns. The primary objective of this study is to identify and analyze the psychological needs of students across Moroccan higher education institutions. The majority of the studies utilized questionnaires, which are effective for gathering data on a broad scale. However, the findings point to significant differences between Moroccan universities regarding the satisfaction of students' psychological needs, including stress management, involvement, confidence, motivation, and psychological and social support.

Stress management stands out as a crucial factor for students' mental health. Studies by I. Rammouz *et al*. [20], H. El Madani *et al*. [18], and ISPITSF [19] emphasize its importance. This aligns with research from the United States [26, 27], which highlights the benefits of stress management programs and the positive impact of resilience training and structured mental health inter-ventions. Similarly, Canadian research [28] underscores the importance of managing stress and anxiety, particularly among medical and nursing students. Interventions such as mindfulness workshops and peer support groups have been shown to improve both psychological well-being and academic performance. The convergence of these findings across different cultural and geographic contexts demonstrates the universal impor-tance of stress management. However, in Morocco, the availability of these programs remains limited, which presents a challenge that needs to be addressed to align with international best practices and improve student outcomes.

Psychological and social support are also key areas of concern across Moroccan universities, reflecting global trends in higher education. H. El Madani *et al*. [18] highlight the need for stronger social support networks to enhance the health and well-being of medical students in Marrakech, particularly in managing both academic and emotional stress. Similarly, S. Drider [14] notes the detri-

mental impact of the COVID-19 pandemic on students' mental health, emphasizing the importance of psycho-social interventions during crises. M. Barrimi [23] stresses the need for psychosocial support to prevent suicidal ideation among medical students by improving access to mental health services and reducing stigma. These findings are consistent with international studies, such as those by M. Matrascia *et al*. [29] in Fribourg and O. Michelet [30] in France, both of which demonstrated the critical role of ongoing psychosocial services throughout the academic year. The comparison underscores that while Moroccan students face similar challenges to their international counterparts, the local response to these issues remains underdeveloped. There is a pressing need to adopt more structured and continuous support mechanisms that align with global standards.

Encouraging student autonomy also emerged as a critical factor in enhancing perceptions of employability and building confidence. S. Balhadj *et al*. [25] found that promoting autonomy and initiative among Moroccan students helped improve their preparedness for professional life. This aligns with international research, such as B. Khanfir *et al*. [31] in Tunisia, which emphasized the role of self-confidence in developing entrepreneurial intent. Similarly, A. Yassine *et al*. [13] demonstrated that regulated access policies could significantly boost student involvement and motivation, ultimately increasing academic engagement. O. Bourachnikova *et al*. [32] echoed these findings, highlighting the importance of student involvement in team dynamics, particularly in entre- preneurial settings. Comparatively, in Western contexts, where student autonomy is often more actively fostered, the positive effects on motivation and employability are well-documented. Moroccan institutions, therefore, have an opportunity to further develop frameworks that encourage student autonomy, thus aligning with global best practices.

Moreover, motivation remains a key driver of academic success. A. Yassine and F. Rih *et al*. [13, 15] at Mohammed V University emphasized the importance of intrinsic motivation, validating tools such as the WPI-E scale for assessing student motivation. This resonates with findings from M. Sacré *et al*. [33, 34] in France, which highlighted the influence of prior work experience on academic engagement and learning value. Globally, intrinsic motivation is recognized as a major factor in student success, particularly in fostering long-term engagement. However, in the Moroccan context, external factors such as economic pressures and limited career prospects may hinder the development of intrinsic motivation. To address this, Moroccan institutions could benefit from integrating more personalized learning approaches that stimulate students' passion for their studies, thus aligning more closely with global trends in education.

In light of these findings, it is clear that Moroccan universities must implement both preventive and supportive measures, such as psychosocial interventions, counseling services, and mentoring programs, to meet international standards. Additionally, fostering regular physical and leisure activities, enhancing academic counseling, and developing robust mentoring programs are essential steps for reducing stress and promoting student well-being. Comparative research with inter-national institutions would further help identify which interventions are most effective in this context. Finally, there is an opportunity for Moroccan universities to explore the impact of religiosity on mental health and examine the effects of empowering teaching styles on student engagement. By reassessing their roles in career guidance and job placement, universities can better support their students, ensuring their academic success and personal growth align with global educational practices.

5. LIMITATIONS

Despite the inclusion of several universities in the study, the sample may not fully reflect the diversity of the Moroccan student population, particularly students from rural areas or small universities. Additionally, students most affected by psychological disorders may be more likely to participate, which could lead to bias. The results reflect a situation at a given point in time and may not account for dynamic changes in students' psychological needs over time. Furthermore, applying the results to other cultural or educational contexts outside Morocco may be complex. Moreover, the exclusion of studies not published in English or French, such as those in Arabic, might have limited the comprehensiveness of the review [34].

CONCLUSION

Recent research into the psychological needs of students in Morocco highlights significant challenges related to mental health and well-being. Multi-sectorial responses and well-developed interventions are essential to address these challenges and provide adequate support to students.

It is crucial to adopt a comprehensive approach that includes prevention, psychological support, improved teaching conditions, and strengthened mechanisms for career guidance and integration. Through this colla-boration, it will be possible to develop a healthier educational environment

AUTHOR'S CONTRIBUTION

A.E.O: Study conception and design were adopted; M.E.F: Involved in the data analysis and interpretation of results; H.K.: Contributed to the validation; H.Z.: Provided the conceptualization; M.E.H.: Adopted the methodology; Y.E.A.: Involved in writing - reviewing and editing.

LIST OF ABBREVIATIONS

FMPM	=	Faculty of Medicine and Pharmacy of Marrakech
ENCG	=	National School of Business and Management

ISPITSF = Higher Institute of Nursing Professions and Health Techniques, FEZ

SUPPLEMENTRY MATERIAL

PRISMA checklist is available as supplementary material on the publisher's website along with the published article.

Supplementary material is available on the publisher's website along with the published article

REFERENCES

[1] De Clercq M, Leroy V, Stinglhamber F, Frenay M. "Training project": Supporting towards university success and professional integration. Rev Int Pedagogy Higher Education 2022; 38.
http://dx.doi.org/10.4000/ripes.3808

[2] Soidet I, Raussin J. The student experience of transition: Adults returning to school *versus* young baccalaureate holders. Psychol Trav Organ 2017; 23: 236-54.
http://dx.doi.org/10.1016/j.pto.2017.06.001

[3] Pratt MW, Hunsberger B, Pancer SM, Alisat S. A Longitudinal analysis of personal values socialization: Correlates of a moral self- ideal in late adolescence. Soc Dev 2003; 12(4): 563-85.
http://dx.doi.org/10.1111/1467-9507.00249

[4] Clercq MD, Perret C. Exploratory study of the obstacles to university transition according to the experiences of French and Belgian students 2020.
http://dx.doi.org/10.4000/edso.13276

[5] Bory OM, Brami C, Souchu H, Ribault S, Taddei F, Rode G. Teaching complexity in medical studies. Bull Acad Natl Med 2021; 205: 574-8.
http://dx.doi.org/10.1016/j.banm.2020.10.020

[6] Different types of motivation according to self-determination theory. 2019. Available from:
https://rire.ctreq.qc.ca/les-differents-types-de-motivation-selon-la-theorie-de-lautodetermination/(Accessed on: June 28, 2024)

[7] Maslow's pyramid: The theory of needs. 2020. Available from:
https://www.psychologue.net/articles/la-pyramide-de-maslow-la-theorie-des-besoins(Accessed on: July 28, 2024)

[8] Frajerman A. Which interventions improve the well-being of medical students? A review of the literature. Encephale 2020; 46(1): 55-64.
http://dx.doi.org/10.1016/j.encep.2019.09.004 PMID: 31767254

[9] Chabrol C, Radu M. Psychology of communication and persuasion: Theories and applications. Brussel, Belgiam: De Boeck Supérieur 2008.

[10] Personal and leadership development initiatives. Available from:
https://telfer.uottawa.ca/fr/bcom/votre-avancement-professionnel/initiatives-de-developpement-personnel-et-en-leadership/(Accessed on: July 14, 2024)

[11] PRISMA 2020 statement. 2020. Available from:
https://www.prisma-statement.org/prisma-2020-statement(Accessed on: June 28, 2024)

[12] Formulating a question using PICO. Available from:
https://www.ciap.health.nsw.gov.au/training/ebp-learning-modules/module2/formulating-a-question-using-pico.html(Accessed on: July 27, 2024).

[13] Côme T, Yassine A. Regulated access to university and student involvement and motivation: The example of Morocco. Gest Manag Public 2015; 3 / 4: 5-26.
http://dx.doi.org/10.3917/gmp.034.0005

[14] Drider S, Ouhssine M. Prevalence of mental disorders among Moroccan students during the COVID-19 pandemic. OALibJ 2024; 11(5)
http://dx.doi.org/10.4236/oalib.1111586

[15] Rih F, Limamy K, El Alem W. The Measurement of motivation in creative and innovative young people in the Moroccan education system: Validation of the WPI-E measurement scale. Eur Sci J 2023; 19: 118.
http://dx.doi.org/10.19044/esj.2023.v19n10p118

[16] Michaud S, Mansoury O, Adarmouch L, Amine M, Guillemin F, Sebbani M. The psychosocial components of medical student well-being in Marrakech – What you need to know to develop health promotion recommendations. Rev Public Health Epidemiol 2022; 70: 45.
http://dx.doi.org/10.1016/j.respe.2021.11.018

[17] Michaud S, Mansoury O, Adarmouch L, Amine M, Guillemin F, Sebbani M. Well-being assessment in medical students since the COVID-19 pandemic: A mixed method study. J Adv Med Educ Prof 2022; 10(2): 83-90.
http://dx.doi.org/10.30476/JAMP.2022.93642.1542 PMID: 35434150

[18] Madani HE, Berraho M. Mental health and academic performance among medical students in Morocco: A cross-sectional study. Rev Public Health Epidemiol 2023; 71: 102023.
http://dx.doi.org/10.1016/j.respe.2023.102023

[19] Madani HE, Harch IE, Bahra N, Bourkhime H, Tachfouti N, Fakir SE, *et al.* P025 - Perceived stress and academic performance among nursing students in Morocco: A cross-sectional study. Rev Public Health Epidemiol 2023; 71: 101666.
http://dx.doi.org/10.1016/j.respe.2023.101666

[20] Rammouz I, Lahlou L, Salehddine Z, *et al.* Religiosity, stress, and depressive symptoms among nursing and medical students during the middle stage of the COVID-19 pandemic: A cross-sectional study in Morocco. Front Psychiatry 2023; 14: 1123356.
http://dx.doi.org/10.3389/fpsyt.2023.1123356 PMID: 36911107

[21] Said B, Issam M. Does the empowering pedagogical style contribute to the development of a pre-employability of young graduates: Literature review and proposal of a conceptual model. Eur Sci J 2020; 16
http://dx.doi.org/10.19044/esj.2020.v16n4p107

[22] Zohra F. Need for self-esteem in Moroccan students Exploratory study among graduates of the Grandes Ecoles in the pre-employment phase (Proposal of the soft-skills model) 2018.

[23] Barrimi M, Maazouzi M, Malakt S, Lazaar S, Khaoulani H. Suicide ideation and attempts among medical students in Morocco: Results of a multicenter study. Ann Med-Psychol Rev Psychiatr 2019; 178
http://dx.doi.org/10.1016/j.amp.2018.11.012

[24]   Need for self-esteem student Marocain 2019.

[25]   Balhadj S, Melhaoui I. Support for autonomy in order to improve the perception of students' employability: Qualitative study carried out among students under the ENCG in Morocco. Rev Int Sci Gest 2020; 3

[26]   Ajdour S. Time management and motivation in students at the beginning of the university curriculum. Rev Marocaine Manag Logistique Transp 2021.

[27]   Mental health. 2022. Available from: https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response/?gad_source=1&gclid=CjwKCAjwnK60BhA9EiwAmpHZw9nhVOTvoFuvg4dLjK50jhy7R2gZqEDJGmlgQyfaqxZ_5WnkEg7e9BoCj4kQAvD_BwE(Accessed on: ccessed July 8, 2024)

[28]   Morneau-Sévigny F, Dodin S, Lamontagne G, Rochefort L, Belleville G. Sources and means of stress reduction among medical students: Analysis of focused interviews. Medical Pedagogy 2013; 14: 9-15.
http://dx.doi.org/10.1051/pmed/2012027

[29]   Véniard A. Involvement and employability: A reciprocal commitment between employee and employer to be built. Manag Avenir 2011; 49: 84-101.
http://dx.doi.org/10.3917/mav.049.0084

[30]   Psycho-social service, for more equality between student. 2023. Available from: https://www.vinci.be/fr/article/le-service-psycho-social-pour-plus-degalite-entre-les-etudiants(Accessed on: July 8, 2024)

[31]   Khanfir BL, M'henna MA. The factors of development of students' entrepreneurial intentions: The role of self-confidence and associative life. Moroc J Res Manag Mark 2015.
http://dx.doi.org/10.48376/IMIST.PRSM/remarem-v0i12.3781

[32]   Bourachnikova O, Sauter C, Merdinger C. Individual performance within a team of student entrepreneurs: How does the team influence the ability of its members to act? 2019.

[33]   Sacré M, Hénaff BL, Toczek M-C, et al. The motivation of nursing students. Orientat Sc Prof 2021; 50(4): 563-92.
http://dx.doi.org/10.4000/osp.14930

[34]   Gazzaz H, El Feniche M, Ameur A, Dami A. Association between the Estrogen receptor β rs1256049 polymorphism and prostate cancer risk: A meta-analysis. Ann Biol Clin (Paris) 2023; 81(3): 280-8.
http://dx.doi.org/10.1684/abc.2023.1815 PMID: 37329151