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Factors affecting students' career choices in Morocco

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ABSTRACT

In a changing socio-economic world, making a career choice has become a complex process that involves many factors. The study is recommended to develop appropriate guiding interventions for career exploration. For this purpose, using a quantitative approach, the study at hand seeks to explain the impact of social context on academic career development. The questionnaire has an internal consistency of about 0.71 and consists of two parts. The first deals with the socio-demographic factor and the second, presented as Likert-type items, contains 17 variables, which are expected to affect students' career and academic choices. A total of 285 high school students responded to the questionnaire. The study has found that family and teachers' support, as well as study plans and educational goals, play an important role in students' career choices. Moreover, using the Mann-Whitney test and the Kruskal-Wallis test, some disparities have been noticed among pupils based on their gender and academic achievement.

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1. INTRODUCTION

In the past few years, the labor market has been gradually changing. The 4th generation of the Industrial Revolution has brought about new jobs and employment requirements [1]. Therefore, the academic setting must adapt to these rapid changes and equip the new generation of students with the necessary up-to-date knowledge and skills that will allow them to make informed professional decisions and efficiently integrate into the job market. This requires an untimely intervention in the first stage of career development to ensure early engagement of students in their career self-management (CSM) [2]. Developing strategic interventions might help align students' career interests with their attributes and labor market needs [3], [4].

Although career development begins in childhood [5], the decisions made during the exploratory phase are critical for a student's career development. This phase, which generally lasts from the age of 14 to 26, is when students construct their own identities and explore their environment. career choice is among the critical decisions that confront adolescents. They are formed through a complex process that includes various aspects that provide students with a variety of challenges. In such changing socio-economic context, studies and career choices are formed between the flow of information and an abundance of opportunities [6]. Lack of information about careers, and false representations concerning labor market conditions [7] are among the main causes of making inadequate decisions that eventually affect students' motivation and lead to dropping out of school, also having a negative impact on a country's economic development [8]. Moreover, due to their different socio-economic categories, gender, and other factors, students are not equal in opportunities offered. The current career interventions remain insufficient to support young people in their choices [6].

According to Siddiky and Akter's [7] in their model of the social environment, students' career choices are recognized to be influenced by social and cultural factors (family and schools), economic and occupational factors, or educational and training factors. Factors such as family preferences, teachers' advice, remuneration from a job, the scope of professional development, academic major, career development training, and others are known to be involved in the development of career interests or the shaping of career choices. Akosah-Twumasi *et al.* categorized factors influencing young people's career choices into intrinsic (personal interests, self-efficacy, outcome expectation), extrinsic (financial remuneration, professional prestige, job accessibility, job security), and interpersonal (family, teachers, and educators, peers) factors. According to Akosah-Twumasi *et al.*, nearly half of the research conducted between 1998 and 2018 focused on intrinsic and interpersonal factors, followed by research focused solely on Interpersonal factors and other studies focused on all three elements, there a few authors interested at the relationship between intrinsic and extrinsic elements but nearly none have focused on intrinsic or extrinsic factors [9]. For other studies [10], [11], career interest is an important element in determining career choice. Sawitri and creed [12] confirmed the involvement of family members in many ways in the shaping of job choices. Cheungh *et al.* [13] highlighted the critical role of peers. According to Cheung and Arnold [14], students place greater reliance on teachers than on peers or even parents.

Career choice is a complex process that includes various aspects that provide students with a variety of challenges. In such changing socio-economics context, studies and career choices are formed between the flow of information and an abundance of opportunities [6]. Lack of information about careers, and false representations concerning labor market conditions are among the main causes of making inadequate decisions that eventually affect students' motivation and lead to dropping out of school, also has a negative impact on a country's economic development [8]. Moreover, due to their different socioeconomic backgrounds, gender, and other factors, students are not offered equal opportunities. Career interventions remain insufficient to support young people in their choices [6].

For this reason, it is quite crucial to understand the process of career development concerning individual differences so that innovative educational methods can be developed to enhance students' abilities and competencies to make appropriate career choices. Vocational training is shown to be effective in matching students' interests, abilities, and aspirations with labor market opportunities [8], [15]. Assisting teenagers in making realistic decisions aids to develop their learning and their decision-making autonomy. Even though some research shows that students' choices are mostly influenced by extrinsic motivation and intrinsic interest in a particular field of study, other factors are involved such as parental encouragement and support, family capital, and teaching approaches [16]. The parental role in the decision-making process has been recognized by many [17], [18]. We recognize the importance of understanding person-environment interactions in order to adjust our support to the needs of students and to take into account the context in which these students make their career decisions [19]. For this purpose, this study takes the initiative to explain how secondary school students make their academic and career decisions. The aim here is to evaluate the weight of contextual factors on the vocational choice process and to assess the distinctions according to gender and academic achievement. As such, the following research: i) Examines the impact of the context variables on high school students' career choices; ii) Highlights whether or not there are gender variations in preference; and iii) Whether there are differences in academic achievement.

2. METHOD AND MATERIALS

2.1. Research method

The empirical quantitative research method was used to achieve the aim of this study. The quantitative method allows the use of statistical tests to measure the variables associated with a studied phenomenon. In this regard, a questionnaire was created. In the survey design, the researchers suggest a set of items that expresses the variables that might influence a student's career choice.

2.2. Participants

The target sample of the study was taken from 10th-grade students, which is the first grade in upper secondary school in Morocco. The participants are from similar socio-economic and cultural backgrounds. They were selected using a cluster sampling method from high school students of Ain Sebaâ Provincial Directorate, Casablanca. The age of the participants ranged from 14 to 26 years (mean=16.31; SD=1.17). The questionnaire was conducted online using Google Forms. It was administered to 285 students; the female represented 53.7% (153) of the participants as described in Table 1. Data were collected between November 2020 and March 2021 in the 2020–2021 academic year.

Table 1. Sample descriptive

	Participant	Frequency	Percentage (%)
Honors	Medium	35	12.1
	Good	143	50.2
	Very good	107	37.6
	Total	285	100
Gender	Male	132	46.3
	Female	153	53.7
	Total	285	100

2.3. Data collection analysis

The data were examined by the Kolmogorov-Smirnov normality test in order to select suitable tests. The results did not indicate normal distributions ($p<.05$) therefore, we used the Mann–Whitney test and the Kruskal–Wallis test to explain the interference of context variables with gender and academic achievement. An exploratory factor analysis (ACP) was applied to the items. The data analysis was carried out by statistical package for the social sciences (SPSS) version 24 software.

3. RESULTS AND DISCUSSION

3.1. Results

Developing career guidance programs requires understanding the context for interventions to be effective. The results of the study confirm that contextual factors have a significant impact. There are few differences generated by gender and academic achievement.

3.1.1. Analysis of data

Choosing a course of study is a key step in the career development process. Thus, we conducted an exploratory factor analysis to determine the primary elements that influenced these choices. The results of the principal component analysis allowed us to present the seven components containing the greatest amount of variance (63.331%). The Kaiser-Meyer-Olkin (KMO) index obtained was acceptable (KMO=0.723); Bartlett's sphericity test was significant at 0.00. There were seven factors retained to explain the choice process as presented in Table 2.

Table 2. Rotation of the component matrix

Items	Components						
	1	2	3	4	5	6	7
Information shared by the family	0.679						
Choice in the family	0.638						
Choice supported by the family	0.557						
Self-efficacy acquired by the families toward a particular major	0.545						0.51
Teacher's assessment of my ability		0.799					
Teachers' opinions on a study course		0.718					
Choice according to a study project			0.756				
Choice according to a study program			0.672				
Information shared in a counseling session							
Choice according to career aspirations							
A choice according to a job opportunity				0.729			
The choice to enroll in a selective course				0.646			
The choice for graduating the baccalaureate					0.785		
Teachers' reputation					0.504		
A choice determined by academic results.						0.735	
Stereotype						0.728	
Choice according to school structure.							0.83

Extraction method: Principal component analysis; Rotation method: Varimax with Kaiser normalization. Convergence of the rotation in 15 iterations.

The first component shows a significant association with several forms of family support: shared information, members of the same family pursuing the same educational path, and family-supported choices, which represent 20.236% of the total variance. The second factor is associated with teachers' suggestions, with a variance of 10.646%. The third component is associated with the study project and study program, with a variance of 7.568%. The fourth component groups choices according to job opportunity and enrolling in a selective course, with a variance of 7.46%. The fifth component is associated with the choice for graduating the baccalaureate and teachers' reputation, with a 6.343% variance. The two last components are

the choice determined by academic results, stereotype (5.789%), and, finally, school structure, with a 5.288% variance. Table 3 describes the hypothesis testing gender influence and the research factors such as choices available in the family, self-efficacy developed in the family, following existing pathways, choice determined by academic results, choice determined by the structure of the school, a choice to join a selective course, the choice to be well supervised pedagogically, choice according to teachers' opinions on a study course, choice according to teacher's estimate on my abilities, choice according to a study project, choice according to a study program, information shared in a counseling session, choice according to career aspirations, according to a job opportunity, for graduating the baccalaureate, information shared by the family, the Mann–Whitney test was chosen to verify our hypothesis. Therefore, an independent Mann–Whitney test was applied to the scores obtained from the scale to determine points of similarities and differences varied by gender. The findings obtained from the analysis are presented in Table 3.

Table 3. Mann–Whitney test applied by gender

Items	Gender	N	Mean rank	Sum of Ranks	U de Mann-Whitney	P
Choice in the family	Male	132	126.84	16743.00	7965	0.001*
	Female	153	156.94	24012.00		
	Total	285				
Self-efficacy acquired by the families toward a particular major	Male	132	148.52	19604.50	9369.5	0.276
	Female	153	138.24	21150.50		
	Total	285				
Stereotype	Male	132	156.22	20621.50	8352.5	0.006*
	Female	153	131.59	20133.50		
	Total	285				
A choice determined by academic results	Male	132	145.57	19215.00	9759	0.614
	Female	153	140.78	21540.00		
	Total	285				
Choice according to school structure	Male	132	143.42	18932.00	10042	0.933
	Female	153	142.63	21823.00		
	Total	285				
The choice to enroll in a selective course of study	Male	132	140.85	18592.50	9814.5	0.668
	Female	153	144.85	22162.50		
	Total	285				
Teachers' reputation	Male	132	145.23	19171.00	9803	0.644
	Female	153	141.07	21584.00		
	Total	285				
Teachers' opinions on a study course	Male	132	131.82	17400.50	8622.5	0.025*
	Female	153	152.64	23354.50		
	Total	285				
Teacher's assessment of my ability	Male	132	135.64	17905.00	9127	0.149
	Female	153	149.35	22850.00		
	Total	285				
A choice according to a job opportunity	Male	132	138.66	18303.50	9525.5	0.369
	Female	153	146.74	22451.50		
	Total	285				
The choice for graduating the baccalaureate	Male	132	140.64	18564.00	9786	0.614
	Female	153	145.04	22191.00		
	Total	285				
Choice according to career aspirations	Male	132	132.11	17439.00	8661	0.014*
	Female	153	152.39	23316.00		
	Total	285				
Choice according to a study project	Male	132	135.06	17828.50	9050.5	0.105
	Female	153	149.85	22926.50		
	Total	285				
Choice according to a study program	Male	132	139.92	18470.00	9692	0.531
	Female	153	145.65	22285.00		
	Total	285				
Information shared in a counseling session	Male	132	136.05	17959.00	9181	0.172
	Female	153	148.99	22796.00		
	Total	285				
Choice supported by the family.	Male	132	139.06	18355.50	9577.5	0.412
	Female	153	146.40	22399.50		
	Total	285				
Information shared by the family	Male	132	137.86	18197.50	9419.5	0.310
	Female	153	147.43	22557.50		
	Total	285				

Note: (*) Statistically significant value.

Table 3 presents the results of the Mann–Whitney test applied by gender. We can see significant gender differences when the choices are available in the family (U de Mann–Whitney=7965; p=0.001 <0.05). The male and female students are inspired differently by the professional or educational paths of other persons (U de Mann–Whitney=8352.5; p=0.006 <0.05). The students do not carry the same considerations to teachers' advice on a course of study (U de Mann–Whitney=8622.5; p=0.025 <0.05). There are also significant Gender differences in the choices related to professional inspirations (U de Mann–Whitney=8661; p=0.014< 0.05). However, we cannot consider the differences in choice according to self-efficacy developed in the family towards a particular field of study (U de Mann–Whitney=9369.5; p=0.276 >0.05). The choices made by students according to their academic performance (U de Mann–Whitney=9759; p=0.614 >0.05).

There was no gender disparity in the students' choices available in their school's streams (U de Mann–Whitney=10042; p=0.933 >0.05). Also, no significative difference recorded for Students' choices to enroll in selective streams (U de Mann–Whitney=9814.5; p=0.668 >0.05). There was no significant gender difference according to the quality of the teaching staff (U de Mann–Whitney=9803; p=0.644 >0.05). Teachers' assessments of students' abilities have an equal impact on male and female students (U de Mann–Whitney=9127; p=0.149 >0.05). No significative gender difference recorded in choice according to a labor market opportunity (U de Mann–Whitney=9525.5; p=0.369 >0.05). No significative difference was recorded in the choice given to the success of the baccalaureate (U de Mann–Whitney=9786; p=0.614 >0.05). There was no gender disparity choice according to a study project (U de Mann–Whitney=9050.5; p=0.105 >0.05).

There was no significative gender difference according to study program (U de Mann–Whitney=9692; p=0.531 >0.05). No significative gender difference recorded in choice based on information shared in a counselling session (U de Mann–Whitney=9181; p=0.172 >0.05). There was no significant gender difference recorded in choice supported by the family (U de Mann–Whitney=9577.5; p=0.412 >0.05). Finally, no significant gender difference in choice based on information shared by the family (U de Mann–Whitney=9419.5; p=0.310 >0.05). Table 4 illustrates the hypothesis that investigates disparities in student selection based on academic performance. Therefore, the Kruskal–Wallis test was used to identify significant differences in environmental factors of the study affecting students' choices according to their academic performance.

Table 4. Kruskal–Wallis test applied to academic achievement

Items	Honors	N	Mean rank	Test Khi2	P-value
Choice in the family	Medium	35	145.77	4.492	0.106
	Good	143	151.78		
	Very good	107	130.36		
	Total	285			
Self-efficacy acquired by the families toward a particular major	Medium	35	144.1	5.312	0.534
	Good	143	176.32		
	Very good	107	143.5		
	Total	285			
Stereotype	Medium	35	141.71	2.094	0.351
	Good	143	149.13		
	Very good	107	135.23		
	Total	285			
A choice determined by academic results	Medium	35	129.01	1.59	0.452
	Good	143	142.33		
	Very good	107	148.47		
	Total	285			
Choice according to school structure	Medium	35	175.96	7.38	0.025*
	Good	143	135.41		
	Very good	107	142.37		
	Total	285			
The choice to enrolling in a selective course	Medium	35	166.49	4,94	0.085
	Good	143	139.89		
	Very good	107	139.47		
	Total	285			
Teachers' reputation	Medium	35	164.80	3.454	0.178
	Good	143	141.56		
	Very good	107	137.79		
	Total	285			
Teachers' opinions on a study course	Medium	35	154.53	1.438	0.487
	Good	143	144.62		
	Very good	107	137.07		
	Total	285			
Teacher's assessment on my ability	Medium	35	173.67	6.373	0.041*
	Good	143	141.80		
	Very good	107	134.57		
	Total	285			

Table 4. Kruskal–Wallis test applied to academic achievement (*continued*)

Items	Honors	N	Mean rank	Test Khi2	P-value
A choice according to a job opportunity	Medium	35	123.06	14.697	0.001*
	Good	143	131.50		
	Very good	107	164.89		
	Total	285			
The choice for graduating the baccalaureate	Medium	35	158.40	3.616	0.164
	Good	143	135.36		
	Very good	107	148.17		
	Total	285			
Choice according to career aspirations	Medium	35	157.57	2.373	0.305
	Good	143	138.01		
	Very good	107	144.91		
	Total	285			
Choice according to a study project	Medium	35	142.90	2.347	0.309
	Good	143	136.57		
	Very good	107	151.62		
	Total	285			
Choice according to a study program	Medium	35	147.54	2.015	0.365
	Good	143	136.60		
	Very good	107	150.07		
	Total	285			
Information shared in a counseling session	Medium	35	162.99	6.699	0.035*
	Good	143	149.13		
	Very good	107	128.27		
	Total	285			
Choice supported by the family	Medium	35	137.56	1.246	0.536
	Good	143	147.97		
	Very good	107	138.14		
	Total	285			
Information shared by the family	Medium	35	165.27	10.111	0.006*
	Good	143	151.35		
	Very good	107	124.55		
	Total	285			

Note: (*) Statistically significant value.

3.2. Discussion

The motive behind this study was to explain the impact of students' environment on their career decisions. For this purpose, some components from students' social backgrounds were studied to determine their effects on academic and career choices. Moreover, these factors were also compared against two other variables: gender and academic achievement.

The factors extracted by the principal component analysis indicate that family comes in first as the most important element influencing students' decisions, followed by teachers' opinions and students' study projects. The students in the study were strongly affected by their families' preferences and their teachers' suggestions. Generally, the survey records the effect of the immediate social context (family and teachers) on the career guidance process. Similar studies confirm that career choices are mainly affected by the surrounding environment, more particularly the family and school [7], [20]. Support from families, teachers, and classmates is important in encouraging career exploration among high school students [12], [21], [22] Another research has shown that environmental resources provide assistance in making transitions [23]. Social support can be manifested in the provision of instrumental or material assistance, emotional support to cope with stress and hardships, and assessment to identify skills and values. It can also be manifested in connecting schools to their environment [24]. Making informed decisions during the exploration phase is critical. Students must be sufficiently informed before embarking on a choice. The results of the survey are in line with this finding. Students show interest when it comes to information about academic streams and job opportunities. It should be noted that contextual influences can act as barriers to career development. Coaching program can also help to better manage social interactions.

We also asked students whether getting a good grade in the baccalaureate exam was affecting their choices, to which their answer was positive. Students pay particular attention to their baccalaureate grades because of the high level of competition that characterizes the post-secondary transition and the limited seats based on grades in the higher educational institution. Academic achievement is reflected in the scores obtained during the assessment along with group ranking and the experiences of repetition if they exist. It is important to note that academic performance has a profound effect on the school experience, which leads to strengthening the academic and professional aspirations of students [24]. Making informed decisions during the exploration phase is critical. Students must be sufficiently informed before embarking on a choice. The

results of the survey are in line with this finding. Students show interest when it comes to information about academic streams and job opportunities. It should be noted that contextual influences can act as barriers to career development. Coaching programs can also help to better manage social interactions.

Aspirations for a career may influence academic stream choices. The presence of a vocational aspiration stimulates the development of strategies, acquires learning, and engages in experiences in this sense [25], [26]. Furthermore, having a career project helps students to make appropriate choices. Career aspirations are inspired by personal interests and require information about self-concept. When faced with intellectual, financial, physical, or other social constraints, stream and career decisions become more realistic. In the second step, we cross-referenced the variables studied with the individual variables: gender and achievement level.

The applied Mann–Whitney test shows some gender differences. Females appeared more influenced by their families' career choices, whereas males were inspired by career stories they know. Professional aspirations are more significant in female's career choices. Moreover, both genders appeared to be interested in making informed choices concerning educational support, curriculum, and job opportunities. Females are more concerned with teachers' opinions. Gender is one of the individual characteristics that contribute to career inequalities [27], [28]. Despite their remarkable academic performance, female's career choices reflect a low self-efficacy towards the science, technology, engineering, and mathematics (STEM) field [29]. Also, their aspirations are influenced by their anticipated future professional and personal roles [30]. Males' career choices, on the other hand, are constructed in accordance with material income, whereas female show an interest in social values [31]. As a result, female's job ambitions are lower than male. A similar study in England found that female generally receive less support and encouragement from their families [32].

Regarding academic performance, the Kruskal–Wallis test confirms that students with low academic performance are more inclined to follow existing choices in their schools. They show particular interest in professors' remarks about their ability to pursue their studies, as well as information from family and academic career guides; yet, their decisions are not compatible with job opportunities, in contrast to good achievers. In similar research, we found that higher academic achievement was approved by adolescents with higher educational aspirations and scholarly experience may change students' behavioral intentions, attitudes, and values in a stage of career preparation [33]–[35]. Social support correlates positively with students' academic achievement. So, students can receive pieces of advice on learning styles, course selection, and study groups to join. In research studies conducted [36], students with positive teacher-student interactions had higher academic achievements, higher levels of student engagement, less negative behaviors, and better peer relationships.

4. CONCLUSION

In conclusion, this paper has confirmed the previously made hypotheses. The results showed that students' environment has a direct impact on their educational and professional pathways. Among the variables proposed, the analyses carried out allowed us to retain the seven most considered factors in career choices: interactions with the family, teachers' suggestions, study projects/programs, job opportunities/selective courses, and many other considerations, such as school results and pedagogical support. Students' decision-making is supported by guidance from family and teachers.

Although academic and career aspirations are formed during the exploratory phase of the career development process based on a complex system of contextual elements, the researchers cannot deny the influence of the individual's characteristics on stream choices. Thus, researchers have highlighted the importance of taking gender into account in guiding interventions and providing adapted social support to students with poor academic achievement. This research will be useful to adapt future interventions to students' needs in terms of career exploration strategies. To improve the quality of the high school career intervention program, future research should look at the interaction between socio-cognitive elements (self-efficacy, outcome expectancies.), social factors (social support and barriers), and interests in the career choice selection process.

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