
- **Basic Research**

Educational Environment, Future Time Perspective, and Entrepreneurial Tendencies of Nursing Students: The mediating Role of Career Adaptability

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Abstract:

Introduction: Nurses are expected to be ready to acquire new skills and adopt new working styles to respond to changes. In this regard, determining the entrepreneurial tendency of nursing students and the factors that affect it will be useful during their transition into professional nursing.

Aim: To examine the relationships among educational environment, future time perspective, career adaptability and entrepreneurial tendency of nursing students using career construction model of adaptation. **Participants and methods:** A simple random sample of 810 students from Faculty of Nursing, Zagazig University, Egypt. This study adopted descriptive correlational design; four tools were used to collect the data; The Dundee Ready Education Environment Measure, Future time perspective scale, University Students Entrepreneurship Scale, and Career Adapt-Ability Scale. **Results** revealed that 79.1 % and 50.4 % had had high level of future time perspective and career adaptability, respectively. 40.2% perceived their educational environment as poor and 56.1 % had low entrepreneurial tendency. Moreover, career adaptability was positively and significantly correlated with educational environment, future time perspective, and entrepreneurial tendency, where $P\text{-value} < 0.05$. **Conclusion:** career adaptability has full mediation in the relationships between educational environment, future time perspective and entrepreneurial tendency. **Recommendation:** Nursing schools and educators should provide career counseling for nursing students, encouraging them to be more FTP, offering them a supportive and positive educational environment. Also, courses that guide creative and innovative activities should be added in nursing curriculum.

Keywords: Career adaptability, educational environment, entrepreneurial tendency, future time perspective, nursing students

Introduction

In health care organisations, entrepreneurship can be considered a great opportunity to develop competitive advantages. It is also a way to improve the health care of patients, raising innovation levels and constantly transforming organisations. A particularly important benefit is that intrapreneurship offers a method to make the most of each employee-intrapreneur's potential (Kuratko et al., 2014). Entrepreneurship "refers to an individual's ability to turn ideas into action. It includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives (Ince et al., 2015). Entrepreneurship in nursing has a wider meaning than business creation. The requirement to provide and maintain quality patient care in ever-changing, chaotic, and complicated health services increases the importance of entrepreneurial skills in nursing (Sander and Kingma, 2012).

In nursing, entrepreneurship is defined as the development of creative and innovative methods in patient care, as well as the ability to deal with the uncertainty and complexity associated with their job. Accordingly, improving entrepreneurship skills is one of the aims in nursing education (Bodur, 2018). An individual with entrepreneurial skill is open to innovation, creative and locus of control. The other important concept for entrepreneurship is personal benefit; an individual with entrepreneurship features should benefit from the opportunities that he encounters and provides personal benefit for himself (Esmer & Dayi, 2017).

Career adaptability is a vital resource that affects the formation and development of college students' entrepreneurial tendency. It is defined as a transactional competency that is developed based on experiences over time, shaped by learning, and augmented by other capabilities (Rudolph et al., 2017). Career adaptability refers to capabilities, abilities, resources, competencies, attitudes for life transitions, occupational traumas and developmental tasks. The importance of career adaptability is to facilitate the process of transitions from school to work and career transitions or work changes, especially. It includes also some abilities as career planning, career decision making, exploration and confidence on career goals (Savickas & Porfeli, 2012).

Career adaptability allows an individual to make decisions regarding their career path and solve problems they face in the work place by understanding both themselves and their occupation. Career adaptability is a coping skill that can be gained through experience. Individuals with high adaptability skills are expected to make more planned and realistic decisions than other individuals (Pajic et al., 2018). On the other hand, there is an agreement that future-oriented undergraduates are more prepared for and more certain about their career (Ginevra et al., 2016).

Future time perspective (FTP) is the scope of time ahead which influences present behavior. It refers to cognitive beliefs and expectations toward the future that provide a source of motivation by establishing the future as a time frame for an individual's goal-setting. Individuals with FTP value outcomes in the distant future more than immediate gains. FTP (or future orientation) provides the grounds for goal-setting, planning, and making commitments, and consequently guides the person's developmental course (Taber & Blankemeyer, 2015). Individuals with high FTP seem to proactively set up their goals and expectations, regulate their behaviors, and continually monitor their performance on the given tasks (Jung et al., 2015).

In Egypt Bachelor's degree in nursing program, undergraduates spend the first 4 years in the college and the last 1 year (internship) in the hospital. Undergraduates get to know the nursing profession through learning nursing expertise, and develop the professional cognition in college, and integrate theoretical knowledge into nursing practice in hospital (Lazarides et al., 2016). In the educational environment, undergraduates receive support from teachers and peers, gain information and knowledge about occupations or organizations, and develop their professional competences, interests, and values. All these things affect the experiences of medical undergraduates in clinical practice and their attitudes towards their specialty (Mahendran et al., 2015).

The educational environment, which includes physical, psychosocial, cognitive, cultural, emotional, and educational facets, has become important to understand students' motivational beliefs and career choices (Imanipour et al., 2015). Its main characteristic is the *modality* which is featured by the opportunities for the development of students' activity, their personal freedom and independence. These activities involve initiative, aspiration, perseverance and the ability to uphold and advocate their interests (Lazarides et al., 2016)

Significance

Nursing undergraduates are the major source of new nurses, and acquainting their enterprenurial tendencies will be significant to retain them in nursing. The requirement to provide and maintain quality patient care in ever-changing, chaotic, and complicated health services increases the importance of entrepreneurial skills in nursing (Fang et al., 2018). Also, students with a focus on change and action are expected to explore their career development opportunities and create work environments to meet their career needs. FTP was positively related to entrepreneurial career intention. For nursing undergraduates, career adaptability has a positive relationship with enterprenurship (Tolentino et al., 2014) and educational environment. Hence, it is important to examine relationship among educational environment, future time perspective, career adaptability and entrepreneurial tendency in nursing students using career construction model of adaptation.

The career construction model of adaptation developed by Savickas (2013) provides an important guide to explore the relationships between personal and situational factors and career issues in career transition. In the career construction model of adaptation (Savickas, 2013), individuals demonstrating adaptivity are probably developing adaptability resources which in turn lead to more effective adapting responses, and the whole process will be influenced by situational factors. Adaptivity is conceptualized as a stable, contextgeneral, and trait-like psychological characteristic which involves the readiness and willingness to adapt to career change (Rudolph et al., 2017).

In the present study, career construction model of adaptation places FTP personal factor which refers to the readiness to adapt (adaptivity) that mobilizes adaptability resources and shapes adapting responses (behaviors that address changing conditions (Rudolph et al., 2017; Savickas, 2013; Savickas& Porfeli, 2012). Career adaptability is often used to represent adaptability resources. Entrepreneurial tendency was examined as an adapting response in current study. As for situational factors, the educational environment was explored. Therefore, we propose career adaptability as a mediator in the relationship between the educational environment, future time perspective and enterprenurial tendecny in the current study using the career construction model of adaptation. The hypothesized model is presented in Fig.1.

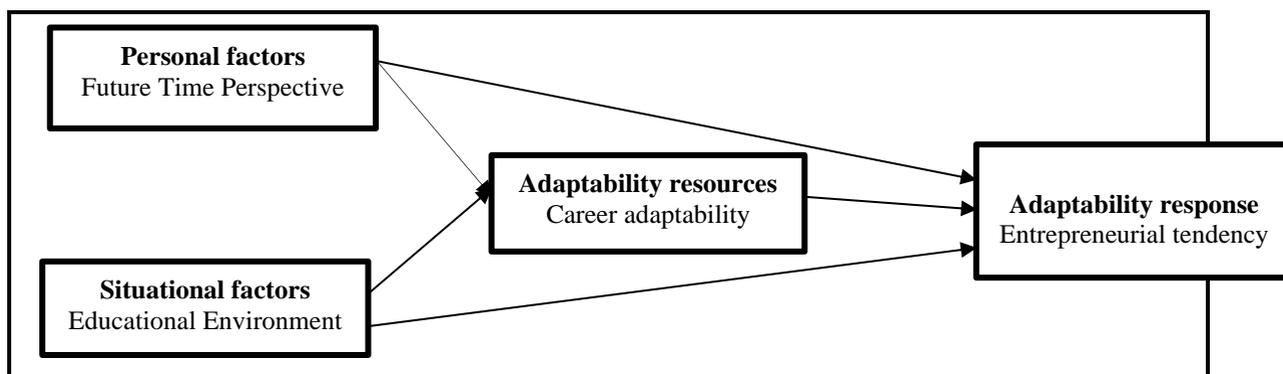


Fig. 1. The hypothesized model of educational environment, future time perspective, career adaptability and entrepreneurial tendency based on the career construction model of adaptation.

Aim:

The present study aimed to examine the relationships among educational environment, future time perspective, career adaptability and entrepreneurial tendency of nursing students using career construction model of adaptation.

Research hypothesis:

Career adaptability will mediate the relationship between educational environment and entrepreneurial tendency.

Career adaptability will mediate the relationship between future time perspective and entrepreneurial tendency.

Subjects and Methods

Design: A descriptive correlational design was used to achieve the aim of this study.

Setting: This study was conducted at the Faculty of Nursing, Zagazig University, Egypt, which includes seven scientific departments namely; Nursing Administration, Psychiatric and Mental Health Nursing, Pediatric Nursing, Community Health Nursing, Maternal and New Born Health Nursing, Medical Surgical Nursing, and Geriatric Nursing. These departments aimed to prepare highly qualified nursing students able to compete nationally and internationally and provide high quality of nursing care.

Subjects: A stratified random sample of nursing students enrolled in the academic year (2020- 2021). The ideal sample size was estimated by using the following formula $[n= N/ 1+ N (e)^2]$ (Yamane, 1967) at confidence interval 95%, margin of errors 5.0%, and a total population size of 2890 students; the required sample size was 810 student. The required number of nursing students from each academic year was calculated with the following formula: Number of students in each academic year \times required sample size / total number of students in the faculty. All students' names from each academic year were put in a container and the researchers picked them up until reached the required number from each academic year.

Instruments: Four tools were used to collect data for this study.

Tool I: The Dundee Ready Education Environment Measure (DREEM) It consisted of two parts as follows: The first part: Personal characteristics of nursing students; this part was used to collect data about age, academic year, gender and working during study. The second part: Was developed by Roff et al., (1997) to measure health-professionals' perception of their educational environment. The DREEM consists of 50 items graded on a 5-point Likert scale (0 strongly disagree to 5 strongly agree). All items are grouped into 5 areas; student perception of learning, student perception of teachers, student academic self-perception, student perception of atmosphere, and student social self-perception. The total score of this tool ranged from (0 – 200).

Scores in the range of 0-50 points were interpreted as "Very poor ", the range of 51-100 points was interpreted as "poor (plenty of problems) ", the range of 101-150 points as " positive ", the range of 151-200 points is interpreted as excellent (**Abdulla, 2014**). In this study, the Cronbach's alpha of educational environment scale was 0.81.

Tool II: Future time perspective scale (FTPS) (Brothers et al., 2014): it is a short form scale (12 items) to assess the individual's future time perspective. It has three subscales; future as open, future as limited, and future as ambiguous with four items per each subscale. Self-reported on 5-point Likert scale (1 strongly disagree to 5 strongly agree). The total score ranged from 12 – 60; Scores ≥ 40 indicated high FTP while scores < 40 indicated low FTP. The internal consistency of this tool was measured by Cronbach's alpha coefficient and it was 0.83.

Tool III: University Students Entrepreneurship Scale (USES) was developed by **Yılmaz and Sünbül (2009)** to identify levels of entrepreneurial tendencies of university students. The scale consists of a total of 36 items, grouped under a single factor. Answered using 5-point Likert type scale (1 = never, 5 = very frequently). The total score of this tool ranged from 36 - 180. Scores in the range of 36-92 points were interpreted as "Low-entrepreneurship", the range of 93-123 points as "moderate-level entrepreneurship", the range of 124-180 points at "High entrepreneurship. (**Yılmaz and Sünbül, 2009**). In this study, the Cronbach's alpha of the scale was 0.87.

Tool IV: Career Adapt-Ability Scale: developed by **Savickas and Porfeli (2012)** to measure students' career adaptability level. It is 24-item scale, grouped under four dimensions of concern, control, curiosity, and confidence, each with 6 items. It is self-reported on 5-point Likert- scale (1 not strong to 5 strongest). The total score of this tool ranged from 24 – 120. Scores ≥ 58 indicated a high level of career adaptability, while scores < 58 indicated a low level. The internal consistency of this tool was measured by Cronbach's alpha coefficient and it was 0.91.

Pilot study: It was carried out before starting the actual data collection to confirm clarity, understanding, and applicability of the tools. Additionally, to estimate the required time to complete the questionnaire sheet. The pilot study was carried out on 81 students (10% of the study sample). Students were selected randomly and excluded from the main study sample and the necessary modifications were done.

Content validity: After the tools were translated into Arabic; validity of the translation of the tools was done by a jury of experts (5 professors) from the academic nursing staff, at Zagazig University. According to their opinions, all needed adjustments were done.

Procedure:

Data collection took about 3 months from start of November to end of January, 2021. The researchers clarified the aim of the study to each student either individually or through group meetings. Each student was given an opportunity to complete the questionnaire under the guidance and supervision of the researchers. The time required to complete each questionnaire sheet took about 20-30 minutes.

Ethical consideration:

The study was approved by Ethics Committee and dean of the Faculty of Nursing, Zagazig University. Verbal and written explanation of the nature and aim of the study have been explained to students included in the study sample. The researchers informed the participants that their participation is voluntary; they could withdraw without giving any rational. The Researchers also, explained to them that they aren't forced to write their names with emphasis on confidentiality of the information as it would be used for the research purpose only.

Statistical analysis:

Data entry and statistical analysis were done using the Statistical Package for Social Science (SPSS), version 17.0. The cleaning of data was done to be sure that there was no missing or abnormal data. Data were presented using descriptive statistics in the form of frequencies and percentages for categorical variables and means and standard deviations for continuous variables. Pearson correlation analysis was used for assessment of the inter-relationships between total scale scores. Multiple Linear inner regression analysis was used to assess the mediation effect.

Results

Table 1 clarifies that 54.3% of nursing students' age was more than 20 years, with a mean age of 20.25 ± 1.8 . As well, the highest percentages of them were females, don't work during study, enter faculty on their desire, and at first academic year (78.7%, 82%, 52.8%, and 31.8%, respectively).

Table 2 presents distribution of study variables' mean scores as reported by studied nursing students. As shown, the highest mean score of the educational environment was for perceptions of atmosphere domain while the lowest was for perception of learning (27.49 ± 9.26 , and 13.35 ± 5.60 , respectively) and the total mean score was (99.21 ± 25.65). Concerning the future time perspective domains, the highest mean score was for future as ambiguous while the lowest was for future as open (15.68 ± 3.08 & 12.53 ± 3.06 , respectively) and the total mean score was (42.32 ± 4.73).

Concerning total mean score of entrepreneurial tendency was 83.91 ± 32.98 . As for career adaptability, the highest mean score was for control while the lowest was for concern (23.02 ± 1.40 & 15.36 ± 4.95 , respectively), and the total mean score was (76.02 ± 14.24).

Figure 2 demonstrates studied nursing students' perception of their educational environment. As observed from the figure; 40.2% of nursing students perceive their educational environment as poor while 20.1 % perceived it as excellent.

Figure 3 explains the levels of future time perspective, entrepreneurial tendency and career adaptability among the studied nursing students. The figure clarifies that highest percentage of nursing students (79.1% & 50.4%) had high future time perspective and career adaptability, respectively. while 56.1% of them had low level of entrepreneurial tendency.

Table 3 presents the correlation between the different study variables; this table displays that entrepreneurial tendency was significantly and positively correlated to educational environment and future time perspective ($r=0.193$ $P=0.000$ and $r=0.367$, $P=0.000$, respectively). Additionally, career adaptability was positively and significantly correlated to educational environment, future time perspective, and entrepreneurial tendency ($r=0.089$, $P=0.000$, $r=0.178$, $P=0.000$, and $r=0.178$, $P=0.000$, respectively).

Mediator analysis:

It was assumed that career adaptability mediated the relationships between the educational environment, future time perspective and entrepreneurial tendency, to prove this hypothesis; there are three conditions must be met. **First**, the independent variables (educational environment and future time perspective) must be related to the mediator (career adaptability). **Second**, the mediator (career adaptability) must be related to the dependent variable (entrepreneurial tendency). **Third**, significant relationship between independent variables (educational environment and future time perspective) and dependent variable (entrepreneurial tendency) will be reduced (partial mediation) or no longer be significant (full mediation) when controlling for the mediator (career adaptability).

Figure (4) demonstrates the findings of the hypothesized model; when career adaptability was included in the educational environment and entrepreneurial tendency interaction model, the regression coefficient of entrepreneurial tendency was reduced from $\beta=0.05$, $P=0.000$ to $\beta=0.03$, $P=0.27$ (not significant). Additionally, educational environment responsible for 2% of the variation in nurses' entrepreneurship tendency ($R^2=0.02$) in the direct model and this effect increased to 9% ($R^2=0.09$) in the mediated model. Accordingly, this result proved the first hypothesis which states that career adaptability will mediate the relationship between educational environment and entrepreneurial tendency.

As well as when career adaptability was involved in future time perspective - entrepreneurial tendency interaction model, regression coefficient of entrepreneurial tendency was decreased from $\beta= 0.070$, $P = 0.000$ to $\beta= 0.052$, $P= 0.141$ (no significant). Also, future time perspective was responsible for only 13% of the variation in nursing students' entrepreneurial tendency ($R^2= 0.13$) in the direct model and this influence increased to 15% ($R^2= 0.15$) in the mediated model. Consequently, this result confirmed the second hypothesis which states that career adaptability will mediate the relationship between future time perspective and entrepreneurial tendency.

Table 4: demonstrates that there was significant relationship between future time perspective and nursing students' personal characteristics as regards gender, academic year, working during study and entering faculty on desire, where $P - \text{value} < 0.05$. Also was significant relationship between career adaptability and nursing students' personal characteristics as regards academic year and entering faculty on desire.

Table (1). Personal Characteristics of Studied Nursing Students (n=810).

Characteristics	N	%
Gender		
• Male	221	27.3
• Female	589	78.7
Age (year)		
• Less than 20 y	440	54.3
• >20 y	370	45.7
Mean± SD 20.25±1.8		
Working during study		
• Yes	146	18
• No	664	82
Entering faculty of desire		
• Yes	428	52.8
• No	382	47.2
Academic year		
• First	258	31.8
• Second	210	26
• Third	180	22.2
• Fourth	162	20

Table (2): Distribution of Different Study Variables' Total Mean Scores as Reported by Nursing Students (n=810).

Study variables	Mean	±	SD
Educational Environment domains			
Students' perception of;	13.35	±	5.60
• Learning	23.82	±	5.55
• Teachers	18.72	±	3.82
• Academic Self-Perception	27.49	±	9.26
• Atmosphere	15.83	±	5.17
• Social Self Perception	99.21	±	25.65
Total			
Future Time Perspective domains			
• Future as open	12.53	±	3.06
• Future as limited	14.11	±	3.17
• Future as ambiguous	15.68	±	3.08
Total	42.32	±	4.73
Career Adaptability domains			
• Concern	15.36	±	4.95
• Control	23.02	±	1.40
• Curiosity	20.17	±	4.20
• Confidence	17.47	±	5.00
Total	76.02	±	14.24
Total Entrepreneurship Tendency	83.91	±	32.98

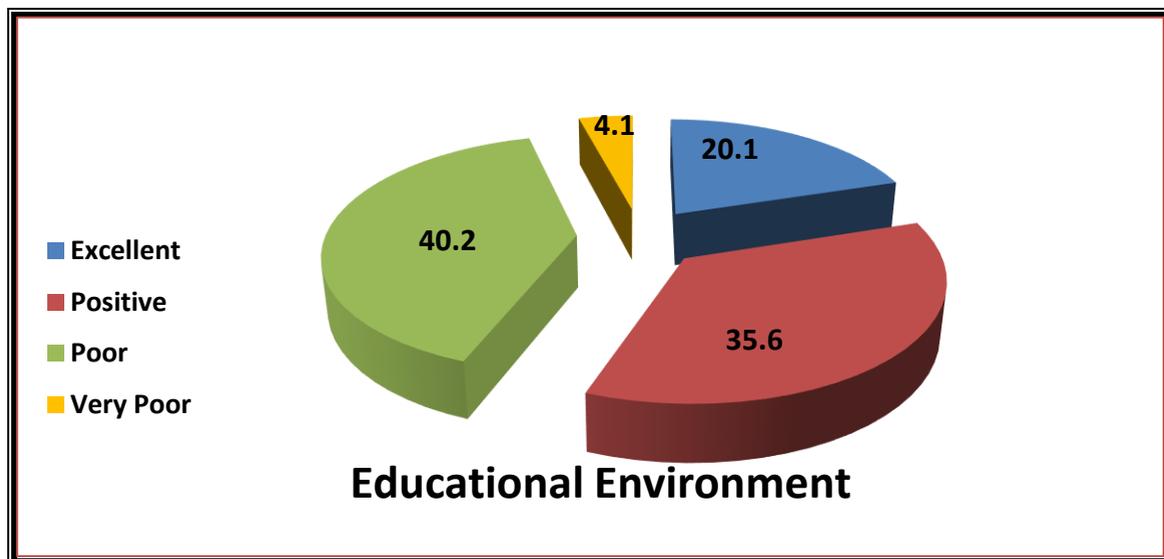


Figure (2) Nursing students’ perception of their educational environment (n=810)

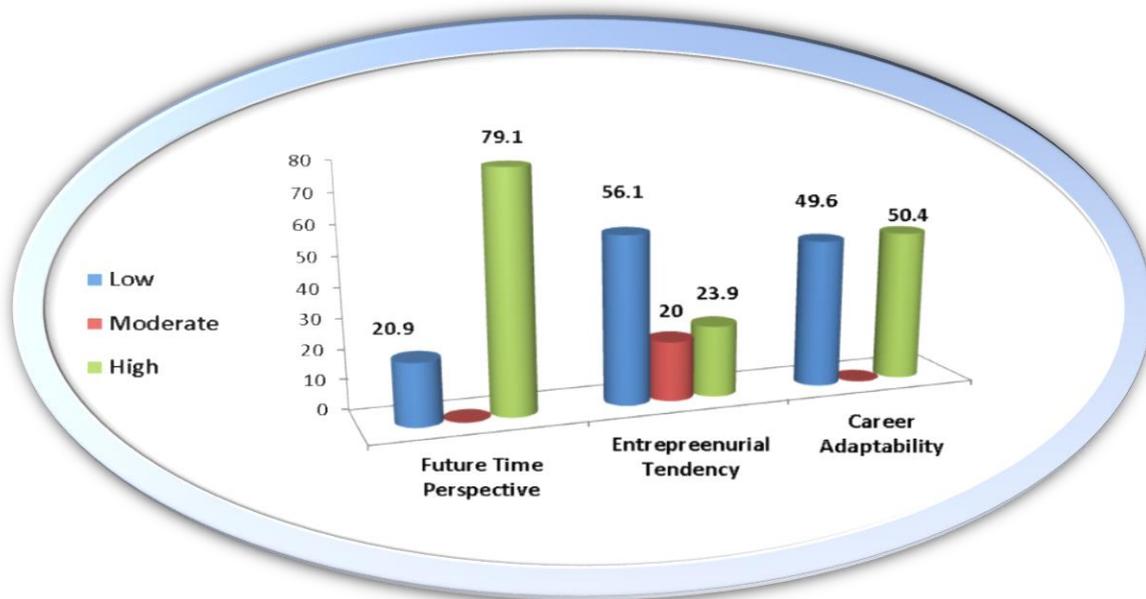


Figure (3) Levels of future time perspective, entrepreneurial tendency and career adaptability among studied nursing students (n=810)

Table (3): Correlation Matrix Between Study Variables as Reported by Studied Nursing Students (n=810).

Study variables	Educational Environment		Future Time Perspective		Entrepreneurial Tendency	
	r	P	r	P	r	P
Future Time Perspective	0.015	0.660				
Entrepreneurial Tendency	0.193**	0.000	0.367**	0.000		
Career Adaptability	0.089**	0.011	0.178**	0.000	0.178**	0.013

*Statistically significant at $P < 0.05$, ** highly statistically significant at $P < 0.01$.

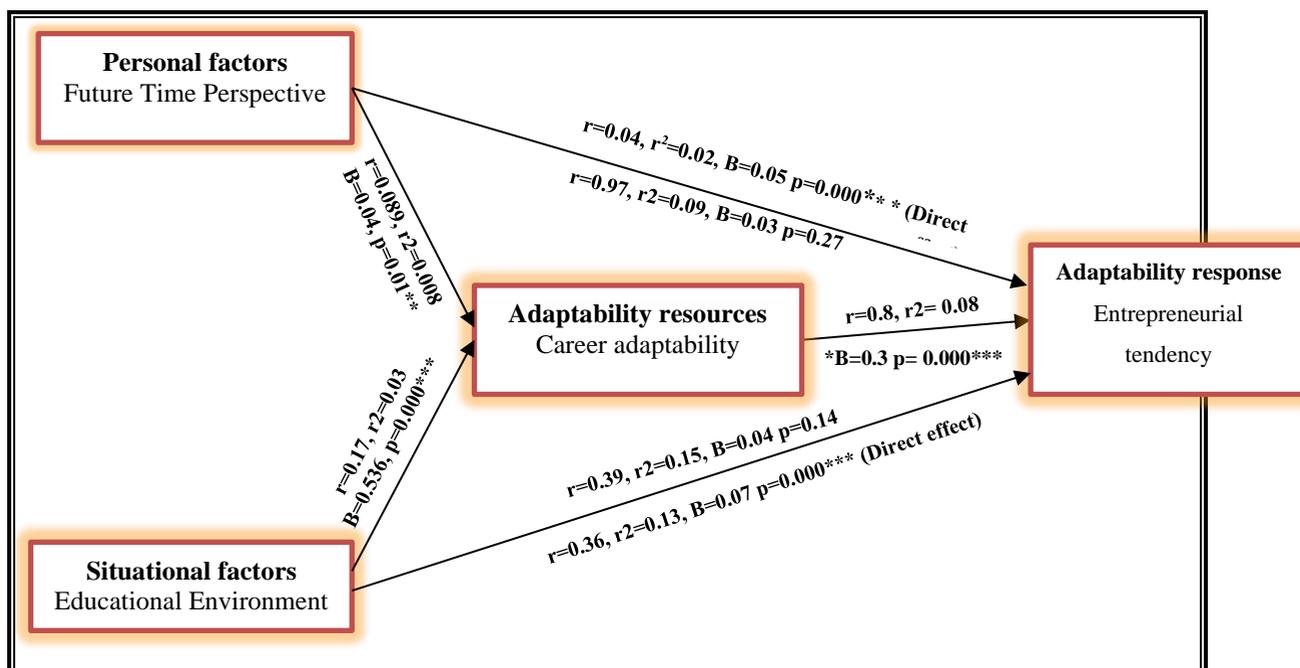


Figure (4) the mediation model of career adaptability in the relationships between educational environment, future time perspective and entrepreneurial tendency (P – value < 0.001).

Table (4): Relation between study variables and nursing students' personal characteristics (n=810)

Variables	Educational environment			Future Time Perspective			Entrepreneurial Tendency			Career Adaptability		
	Mean	±	SD	Mean	±	SD	Mean	±	SD	Mean	±	SD
Age in year												
≤ 20	75.5	±	26.1	28.00	±	5.6	99.00	±	35.5	63.00	±	12.7
≥ 20	110.5	±	27.5	26.00	±	8.4	97.00	±	10.6	69.00	±	4.24
Independent t-test....P-value	1.30---0.323			0.227---0.808			0.057---0.959			0.632---0.592		
Gender												
Male	83.27	±	26.14	24.25	±	5.16	80.72	±	20.53	57.84	±	14.75
Female	86.10	±	29.51	25.08	±	4.54	85.11	±	36.52	58.09	±	14.66
Independent t-test....P-value	1.25---0.211			2.23---0.02*			1.68---0.092			0.227---0.821		
Academic year												
First	86.29	±	23.89	24.15	±	3.81	82.21	±	16.83	58.7	±	15.20
Second	93.69	±	39.53	25.33	±	4.15	85.78	±	20.52	54.1	±	15.25
Third	85.27	±	24.97	24.90	±	5.45	81.43	±	44.76	59.76	±	13.48
Fourth	76.14	±	24.10	24.96	±	4.43	86.61	±	25.40	57.70	±	15.02
Independent t-test....P-value	2.005---0.46			2.62---0.009*			0.646---0.519			2.85---0.005*		
Working during study												
Yes	83.74	±	24.94	24.00	±	4.9	81.32	±	25.12	57.58	±	14.9
No	85.67	±	29.40	25.00	±	4.6	84.48	±	34.46	58.12	±	14.104
Independent t-test....P-value	0.814---0.414			2.35---0.019*			1.04---0.296			0.03---0.414		
Entering faculty on desire												
Yes	86.78	±	27.31	25.29	±	4.91	83.85	±	22.44	59.14	±	13.88
No	83.70	±	30.02	24.36	±	4.46	83.97	±	41.78	56.67	±	14.65
Independent t-test....P-value	1.52---0.127			2.81---0.005*			1.04---0.296			2.8---0.018*		

*Significant at $p < 0.05$.

Discussion

The processes of globalization and change, which have been in place all over the world since the early 2000s, have brought about a faster pace of information flow and technological development. Innovation and entrepreneurship form the basis of the will to become an information society and of the steps to be taken in this direction. (Deveci, 2018) One of these skills in education has been the entrepreneurship skill in recent years. If students in nursing schools can be trained as an entrepreneur individual, these students can cope with future educational problems (Yalcin, 2018). So the aim of our study was to examine the relationships among educational environment, future time perspective, career adaptability and entrepreneurial tendency in nursing students using career construction model of adaptation.

Concerning level of entrepreneurial tendency among studied nursing students; the present research results presented that more than half on nursing students had low level of entrepreneurial tendency. This might be due to that many student nurses are looking for new business alternatives to move away from the bureaucracy and the limits that health institutions impose which in turn limits their entrepreneurship. This result agrees with Silva de Souza et al., (2017) in a study in Brazil entitled entrepreneurial potential scale: evidence on confirmatory factor validity, dimensional structure and predictive effectiveness; they reported that university students had low entrepreneurial intention. Akhmetshin et al., (2019) studied the influence of educational environment on entrepreneurial skills and competencies and they stated that entrepreneurship survey showed average level among students.

On the contrary, this result was in disagreement with some previous results such as Ispir et al., (2019), who conducted a study to assess relationship of personality traits and entrepreneurship tendencies with career adaptability of nursing students in the nursing faculty of a state university on the European side of Istanbul and reported that nursing students had high level of entrepreneurship tendency. In a study conducted by Bodur (2018) with senior nursing students to assess relationship between individual innovativeness and entrepreneurship tendency in Turkey, entrepreneurship scores were above average. In another study consisting of first year students, conducted by Çakır et al., (2016) aimed to assess entrepreneurial characteristics and some related factors, reported high scores. Another study conducted by Tolentino et al., (2014) with business students, the entrepreneurship intentions score was above average.

Regarding level of career adaptability; half of students in this study had high career adaptability. From researchers point of view, this result might be related to that half of students had readiness to cope with the predictable tasks of preparing for and participating in the work role with the unpredictable adjustments prompted by changes in work and

working conditions. The previous study results is supported by other previous researches such as that carried out by **Ispir et al., (2019)**. Also, in a study conducted with nursing students in China by **Tian and Fan (2014)** to assess environmental variables and career adaptability. In the same line; **Fang et al., (2018)** examined relationships between optimism, educational environment, career adaptability and career motivation in nursing undergraduates. On the contrary, the previous result in disagreement with **Wang & Fu (2015)** they assessed social support, social comparison and career adaptability and concluded that most of students had high level of career adaptability

When the sub-dimensions of career adaptability are compared, the highest mean score was in control subdimension while the lowest was for concern. from researchers points of view; these results related to that nursing students decision-making is deliberate and they take responsibility for shaping their career which is explained by control dimension. Similar results demonstrated by **Tian and Fan (2014)**, who found the lowest sub-dimensions score was in concern as in the present study. Conversely, the previous findings are in disagreement with that of **Ispir et al., (2019)** who presented that the highest mean score was in confidence sub-dimension whereas the lowest was in the curiosity sub-dimension.

With regard level of future time perspective; the present study demonstrated that nursing students had high future time perspective. When the sub-dimensions of FTP are compared, the highest mean score was in future as ambiguous subdimension while the lowest was for future as open. The best rational for this result is that nursing students who were getting ready to embark on a professional career and might have been concerned about the larger economical and societal context in which their future is embedded and depends on. Thus, it is understandable that they may look at their personal future not only in terms of openness and opportunities, but also with feelings and thoughts of ambiguity. In accordance, **Jia et al., (2020)** studied future time perspective, career adaptability, anxiety, and career decision-making difficulty, they reported the same results. Additionally, this result agreed with **Brothers et al., (2014)** who mentioned in their research to study FTP across adulthood in Northern Colorado, that younger adults perceived their future as significantly more ambiguous.

Regarding students perception of their educational environment; in the present research, highest percentage of nursing students perceived their educational environment as poor. This result is expected where traditional system of teaching is used. Additionally it may be related to defect of learning facilities and social self perception (nurses still don't have the desired image in our society) as reported by studied nursing students. On this context, **Abdulla (2014)** reported the same results on his study about Validation of dundee ready education environment measure (DREEM) in Basrah college of medicine.

Unlike the previous results, there is disagreement with **Fang et al.,(2018)** who assessed relationships between optimism, educational environment, career adaptability and career motivation in nursing undergraduates and mentioned that students perceived their educational environment as positive. Also **Shehnaz and Sreedharan (2011)** in their research entitled students' perceptions of educational environment in a medical school experiencing curricular transition in United Arab Emirates.

Using the career construction model of adaptation, we assessed the relationships between educational environment, future time perspective, and entrepreneurial tendency among nursing undergraduates, and the mediating effect of career adaptability in these relationships. Our study results revealed that entrepreneurial tendency was significantly and positively correlated to educational environment and future time perspective. Additionally, nursing students' career adaptability was significantly and positively correlated to their educational environment, future time perspective, and entrepreneurial tendency. Moreover career adaptability has a full mediation effect on the relationship between educational environment, future time perspective and entrepreneurial tendency.

The above mentioned results can be better explained as: In the nursing program, the educational environment builds the foundation of professional knowledge and identity, and the clinical learning environment gets nursing undergraduates involved in real working environment to shape their professional attitudes and norms. On the other hand, students with high FTP will connect their daily activities for the sake of their future. They will also perform efforts related to their present career.

The study findings confirm the result of other studies; a recent study done by **Lee & Jung (2021)** examined the mediating role of entrepreneurial mindset between intolerance of uncertainty and career adaptability, they reported statistically significant correlation between entrepreneurial mindset and career adaptability in a positive direction .

Similarly, **Ispir et al., (2019)** concluded that there was a moderate significant relationship between the students' entrepreneurship scores and the total score of career adaptability. Also, **Fang et al.,(2018)** found that educational environment was significantly associated with career adaptability. Furthermore, career adaptability was a partial mediator between personal, situational variables, and career motivation. **Tolentino et al. (2014)** found a positive relationship between career adaptability and entrepreneurship tendency. **McKenna et al., (2016)** studied career adaptability, career satisfaction and entrepreneurial intentions; asserted that career adaptability strongly predicts entrepreneurial intention.

Similar results reported by **Qiao & Huang (2019)** on their study which aimed to assess effect of college students' entrepreneurial self-efficacy on entrepreneurial intention; they found that entrepreneurial self-efficacy of college student significantly and positively affected

career adaptability; career adaptability significantly and positively affected entrepreneurial intention; and career adaptability partially mediated the effect of entrepreneurial self-efficacy on entrepreneurial intention. Also, **Kiani et al., (2020)** studied impact of future time perspective on entrepreneurial career intention for individual sustainable career development and illustrated that FTP was positively related to entrepreneurial career intention. and **Jia et al., (2020)** reported the same results. The previously mentioned result is partially supported by previous study of **Ariani (2017)** conducted a study to assess relationship model among learning environment, learning motivation, and self-regulated learning and found positive and strong relationship between educational environment and career motivation.

With regard to relation between nursing students personal characteristics and different study variables; there was significant relationship between future time perspective and nursing students' personal characteristics regarding gender, academic year, working during study and entering faculty on desire. These results were expected as FTP is considered a personality trait. In the same respect; **Brothers et al., (2014)** found associations between the FTP scales and age. but there was no relation between FTP and gender.

Also there was significant relationship between career adaptability and nursing students' personal characteristics as regards academic year and entering faculty on desire. Students in first year didn't have enough background about their future career. On the other hand, student who entered faculty of nursing on his own desire knows well about nursing career which in turn affect nursing students career adaptability. Similar results were obtained by **Ispir et al., (2019)**, who found significant association between student class (senior students) and career adaptability but there were no association regarding nursing voluntarily.

Conclusion

Our findings make some contributions to the literature through exploring the relationships between personal (FTP) and situational factors (educational environment), career adaptability, and entrepreneurial tendency of nursing students. This study also found that career adaptability mediated the relationships between educational environment, future time perspective and entrepreneurial tendency.

Implications and suggestions

There are many external factors such as the complex healthcare environment, heavy workloads, and job insecurity which severely hinder nursing undergraduates' enthusiasm for choosing nursing as a lifetime career. Therefore, schools and educators should provide career counseling for nursing students, encouraging them to be more FTP, offering them a

supportive and positive educational environment, so that nursing undergraduates will gradually build correct and sufficient career expectancy.

The execution of the effect of nurses with higher entrepreneurship and career satisfaction on nurses outcomes as the patient results, innovative outputs and performance, etc. through the studies conducted will assert the importance of this term in a more understandable way in terms of the nursing education. Therefore, schools and educator should do the following. First, establish an example of entrepreneurship for students; by learning from entrepreneurial role models so students can enhance their alternative experience and belief, thereby improving their entrepreneurial tendency. Second, courses that guide creative and innovative activities should be added in nursing curriculum. Third, entrepreneurial practice activities should be frequently organized, such as entrepreneurial competitions and simulations, to guide students to obtain real and successful entrepreneurial experience. These activities enable students to develop their abilities to solve problems, manage projects, make decisions, lead others, and express themselves.

Limitations

There were some limitations in our study. First, is the use of the descriptive correlational design and data collection with a questionnaire and reliance on self-report data. As a result, some people may refuse to provide real responses and give unrealistic responses. Second, this study just focused on the impact of school educational environment on career adaptability and entrepreneurial tendency. Studies including both school educational environment and clinical learning environment are needed. A further limitation is collection of data in time of outspread of Covid-19 which may affect the results.

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الملخص العربي

البيئة التعليمية ، منظور الزمن المستقبلي ، والميول الريادية لدى طلاب التمريض:

الدور الوسيط للتكيف الوظيفي

المقدمة: من المتوقع أن تكون الممرضات على استعداد لاكتساب مهارات جديدة واعتماد أساليب عمل جديدة للاستجابة للتغيرات. في هذا الصدد ، سيكون تحديد القدرة على التكيف الوظيفي لطلاب التمريض والعوامل التي تؤثر عليها مفيدة أثناء انتقالهم إلى مهنة التمريض .

الهدف من الدراسة : فحص العلاقات بين البيئة التعليمية ، ومنظور زمن المستقبل، والتكيف الوظيفي والميل الريادي لدى طلاب التمريض باستخدام نموذج البناء الوظيفي للتكيف. **فرضيات البحث:** سوف تجيب هذه الدراسة على الفرضيات الآتية: 1. القدرة على التكيف الوظيفي سوف تتوسط العلاقة بين البيئة التعليمية والميل الريادي. 2. القدرة على التكيف الوظيفي سوف تتوسط العلاقة بين منظور الزمن المستقبلي والميل الريادي. **تصميم البحث:** تصميم ارتباط وصفي .

منهجه البحث: اجريت هذه الدراسة في كلية التمريض- جامعة الزقازيق، تكونت عينة عشوائية من 810 من طلاب كلية التمريض، أدوات جمع البيانات : تم استخدام 4 ادوات: مقياس البيئة التعليمية الجاهز (داندي)، مقياس منظور زمن المستقبل، مقياس ريادة الأعمال لطلاب الجامعة ومقياس القدرة على التكيف الوظيفي. **النتائج:** كان لدى 79.1% و 50.4% من الطلاب مستوى عالٍ من منظور زمن المستقبل والتكيف الوظيفي على التوالي. و 40.2% يرون أن بيئتهم التعليمية فقيرة و 56.1% لديهم ميل ريادي منخفض. علاوة على ذلك ، كانت القدرة على التكيف الوظيفي مرتبطة بشكل إيجابي وكبير بالبيئة التعليمية ، ومنظور الزمن المستقبلي ، والميل الريادي ، حيث القيمة الاحتمالية >0.05 . **الخلاصة:** علي ضوء هذه النتائج نستخلص ان القدرة على التكيف الوظيفي لها وساطة كاملة في العلاقات بين البيئة التعليمية ومنظور الزمن المستقبلي والميل الريادي.

لتوصيات: افضت نتائج هذه الدراسة الى التوصيات التالية: يجب على مدارس التمريض والمعلمين تقديم المشورة المهنية لطلاب التمريض ، أيضاً توفير بيئة تعليمية داعمة وإيجابية للطلاب . ، يجب إضافة الدورات التي توجه الأنشطة الإبداعية والمبتكرة في مناهج التمريض.

الكلمات الدالة: التكيف الوظيفي- البيئة التعليمية- الميل الريادي- منظور زمن المستقبل- طلاب التمريض