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Parental authority as a mediator between career decision-making self-efficacy, career decision ambiguity tolerance, and career choice of nursing students: A path analysis

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ABSTRACT

Background: Students' decision to pursue a nursing career is influenced by internal (e.g., innate desire, personal experiences) and external variables (e.g., parental influence, social support). However, little is known about how parental authority mediates nursing students' career decision-making self-efficacy, decision-making ambiguity, and nursing as a career choice.
Purpose: This study examined the influence of parental authority on nursing students' decision to pursue nursing and its mediating effect on the association between career choice, career decision ambiguity, and career decision-making self-efficacy.
Methods: A cross-sectional study that used total enumeration sampling. Four self-report survey instruments were utilized to collect data from nursing students ($n = 378$) of a state-run university in Saudi Arabia. The data were analyzed using Pearson's correlation coefficient, covariance-based structural equation model, and path analysis.
Results: The emerging model showed acceptable model fit indices. The path analysis indicated that parental authority mediated the relationship between career decision-making self-efficacy and nursing career choice. Career decision-making self-efficacy positively and indirectly affected nursing career choice through the mediation of parental authority. Career decision ambiguity tolerance did not directly influence parental authority, but it had a positive, indirect effect through the mediation of career decision-making self-efficacy of nursing students.
Conclusion: The strong and direct correlation between career decision-making self-efficacy, career decision ambiguity tolerance, and nursing career choice demonstrated in our study indicates that parental authority strongly influences nursing students' career choices. Our study concludes that parental authority over their children is highly predictive of their career choices.

Introduction

The COVID-19 pandemic emphasized, more than ever, the crucial responsibility of nurses as the largest group of healthcare personnel in the fight against the deadly virus (McCauley & Hayes, 2020). Nurses and other healthcare providers were on the front lines of the COVID-19 pandemic war, which took millions of lives worldwide (Billings et al., 2021). Among the casualties are nurses who put their welfare in danger and risked their lives for genuine human service (Keles et al., 2021). Despite the risks associated with nursing, some reasons and causes motivate students to continue the profession. One of the main reasons is the professional identity attached to the nursing profession (Nie et al., 2021). Notably, nurses helping people amid the pandemic motivated nursing students to continue their nursing programs (Berdida & Grande,

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2022; Nie et al., 2021).

Numerous factors influence one's decision to pursue nursing or another career (Donner & Wheeler, 2001; Dos Santos, 2020; Liaw et al., 2017). One of these factors is the family, precisely the parent factor (Labib, 2021; Tian et al., 2021). Parental authority is a significant factor in students' decision to pursue careers as nurses (Marznaki et al., 2021; Önder et al., 2014). Students listen to their parents and rely on them to make their own career choices (Liaw et al., 2017; Wu et al., 2015). Wang et al. (2018) discovered that parents significantly influence their children's decision to pursue a career in nursing. Even when students have already decided to pursue a nursing career and are enrolled in a nursing program, they are still unsure if their decision was right (Liaw et al., 2017).

Career ambiguity (Budner, 1962; Xu & Tracey, 2014), career self-efficacy (Betz & Hackett, 1981; Betz & Luzzo, 1996; Kim, 2016), and career choice (Palazzo & Erickson, 2021; Roe, 1956; Roe & Lunneborg, 1990; Wang et al., 2018) are three distinct concepts that discuss how an individual makes career-related decisions (Betz & Hackett, 1981; Kusumawati & Wahyuningsih, 2020). These concepts, however, share conceptual underpinnings that help explain how an individual can develop ambivalence about a chosen career path (Kasperzack et al., 2014) and how these three concepts may be mediated by parents' influence over their children's life choices (Nakhostin-Ansari et al., 2021; Tian et al., 2021), particularly their future career choices (Liaw et al., 2017).

High school students pursue nursing (Marcinowicz et al., 2016; Palazzo & Erickson, 2021). Even those who have completed other courses for various reasons, including the desire to assist pregnant women and witness the miracle of birth or to be there for others who are ill, injured, or simply in a positive spirit (Dos Santos, 2020). Another reason could be that nursing is financially lucrative, with nurses earning an average annual salary of $75,330 (U.S. of Bureau of Labor Statistics, 2020).

Background

Students' decision-making abilities in pursuing their desired profession are influenced by structural and process-oriented factors (Xing & Rojewski, 2018). However, a student's parental social support was reported as one of the most important factors influencing their decision to pursue a profession (Marznaki et al., 2021; Wang et al., 2018). As a result, parental influence substantially affects students' self-efficacy for career decision-making (Tian et al., 2021; Wang et al., 2018). Therefore, parents influence their children's decision to pursue a career of their choice and their career development (Wang et al., 2018; Xing & Rojewski, 2018).

Self-efficacy expectations refer to a person's conviction in their capacity to complete a task or behavior successfully (Hoffart, 2017). Since self-efficacy expectations are behaviorally specific rather than generic, the idea requires a behavioral referent to be relevant (Bandura, 1977). Self-efficacy can be used in various aspects of human endeavor (Farmer & Tierney, 2017), ranging from mathematics to changing a flat tire. Because self-efficacy is tied to the behavioral component of human interaction, the different types of self-efficacy can be identified through observed human behaviors and interactions (Hoffart, 2017). Our study referred to the behavioral domain to describe a person's actions and motivations (Schunk & DiBenedetto, 2021) while selecting a career, such as a career decision-making ability or even success in a chosen profession (Fillman, 2015; Kim, 2016; Lent & Hackett, 1987; Wang et al., 2018). A variety of factors influence self-efficacy. Self-efficacy is believed to be a dynamic construct that evolves due to new experiences, such as education and clinical encounters (Schunk & DiBenedetto, 2021). Social experiences affect self-efficacy and determine whether an individual has a high or low level of self-efficacy (Hoffart, 2017). Additionally, certain variables predict self-efficacy (Farmer & Tierney, 2017). The individuals' beliefs in their abilities to perform specific behaviors significantly predict their choice behavior, effort expenditure, thought patterns, and emotional reactions (Bandura, 1977; Schunk & DiBenedetto, 2021).

Nursing students' career choice contributes to their satisfaction and success. Similarly, parents want their children to be happy and successful (Marznaki et al., 2021). Parents significantly influence their children's career development and decision-making (Marznaki et al., 2021; Wang et al., 2018). When students feel supported and loved by their parents, they have more faith in their ability to conduct career research and choose an interesting and exciting career (Liaw et al., 2017). Neuenschwander and Hofmann (2021) that adolescents who feel competent in making career decisions later in life make more satisfying choices. Many researchers have expressed concern about parenting styles as one of the many family-related factors. The way parents raise and educate their children is referred to as their "family parenting style" (Tian et al., 2021), and it is critical to the development of children and adults alike (Wu et al., 2015). Darling and Steinberg (1993) defined parenting styles as the emotional atmosphere in which parents raise and educate their children. It is also characterized by the dimensions of responsiveness and demands and shows the nature of parent-child interaction. Children who grow up in a more democratic parenting style are more likely to be creative and imaginative (Tian et al., 2021).

High school students are still unsure what to study in college (Kasperzack et al., 2014), while those already enrolled in nursing may switch to other programs or remain in nursing (Palazzo & Erickson, 2021). Ambiguity tolerance in career decision-making is an individual's ability to perceive and respond to ambiguous situations or stimuli containing various unfamiliar, complex, or inconsistent cues (Budner, 1962; Xu & Tracey, 2014). A person with a high tolerance for ambiguity views ambiguous situations or stimuli as desirable and exciting without denying or distorting the complexity of incongruity (McLain et al., 2015). Ambiguity tolerance has shown to be predictive of decisiveness, dysfunctional beliefs, and a lack of or inconsistent information in career decisions (Hillen et al., 2017). Additionally, it moderated the prediction of inconsistencies in environmental exploration (Xu & Tracey, 2014). According to Koçak et al. (2021), Turkish students' work and academic satisfaction are influenced and supported by their families. The association of family influence and academic satisfaction with happiness through career decision self-efficacy was significant when gender, age, income, and parents' education were used as predictors. Family involvement and academic contentment were related to self-efficacy and contentment in making career decisions (Koçak et al., 2021).

In Saudi Arabia, many parents emphasize the importance of education for their children (Almalki et al., 2021). The Saudi Ministry of Education launched the Ertiqa program to strengthen parental involvement in their children's education. The Ertiqa program aimed to enhance the bond between school and home to improve the quality of teaching and students' performance (Ertiqa, 2019). Although, the degree of positive parental involvement varies by family background and socioeconomic status (AlMakadma & Ramisetty-Mikler, 2015). Parental involvement is affected by a lack of communication, time constraints for working parents, and parental unwelcomeness in schools (Almalki et al., 2021). As a corollary, Saudi women are widely believed to regard their reliance on and deference to male relatives as a cultural good due to their culture and religion (Muaygil, 2018).

Theoretical underpinning

We used three career development theories to support the findings in our study. These are Roe's theory of personality development and career choice (Roe & Lunneborg, 1990), Donner and Wheeler's (2001) career planning and development model, and the career self-efficacy theory of Betz and Hackett (1981).

Roe and Lunneborg's (1990) personality development and career choice theory comprise two components: personality theory and occupational classification. Maslow's hierarchy of needs influenced the

personality theory (Roe & Lunneborg, 1990). The personality theory was influenced by Maslow's hierarchy of needs (Roe & Lunneborg, 1990). The parental-child interaction patterns were into three categories: emotional focus on the child (overprotective or excessively demanding), avoidance of the child (emotional rejection or neglect), and acceptance of the child (casual or loving). Roe and Lunneborg (1990) believed that children developed a preference for or against people based on their parent-child interactions. Roe (1956) set out to create a comprehensive classification system that would allow her to compare the individual to a wide range of occupations. A two-dimensional system of occupations was designed, with eight categories (business contact, technology, outdoor recreation, and science) and six levels (professional, managerial, semiprofessional, small business, skilled, semiskilled, and unskilled) within each category.

Donner and Wheeler's (2001) career planning and development model established a five-stage career model for nurses: learning, entry, commitment, consolidation, and withdrawal. Each stage has a name and a purpose. The first stage for novices is learning about nursing as a profession. It is part of the basic education program. The second stage is entry, which begins with newly graduated nurses choosing their first job. During this stage of a nurse's career, they start thinking about different work options and possible fields of practice that they enjoy. In the third stage, commitment, nurses must express their preferences for clinical areas, locations, and professional life. With their chosen job path and personal-professional connection, nurses reach the fourth stage, consolidation. In the fifth stage, withdrawal, nurses prepare for retirement. The process has five phases: scanning the environment, self-assessment, and reality check, creating a career vision and strategic career plan, and promoting oneself (Donner & Wheeler, 2001).

Betz and Hackett's (1981) career self-efficacy theory purports that self-efficacy expectations influence career choices, performance, and persistence. It was postulated that typically female ideology led to lower self-efficacy expectations for male-dominated professions, especially math and science. Betz and Hackett (1981) asked undergraduate women and men if they thought they could complete various degrees. While men and women had similar talents, their self-perceived abilities varied greatly. A lack of self-efficacy was linked to a lower likelihood of choosing an unorthodox (male-dominated) profession, according to Betz and Hackett (1981). The authors also discovered that mathematics self-efficacy influenced scientific career choice (Betz, 2004). Their findings support Bandura's (1977) approach/avoidance consequence model for educational and career decisions (Lent & Hackett, 1987).

Numerous studies on the influence of parental roles on adolescents and high school students' career choices have been published in Saudi Arabia (AlMakadma & Ramisetty-Mikler, 2015; Almalki et al., 2021), China (Xing & Rojewski, 2018), the United Arab Emirates (Labib, 2021), Romania (Paloş & Drobot, 2010), and Switzerland (Neuenschwander & Hofmann, 2021). However, to the best of our knowledge, no study has ever been conducted to determine the parental authority influence Saudi students' career choice to become nurses, emphasizing the role of parental authority as a mediating factor between their career choice, ambiguity, and self-efficacy. Therefore, our study aimed to investigate the parental role in influencing Saudi students' decision to pursue nursing. Additionally, we examined the role of parental authority in mediating the relationship between career choice, career decision ambiguity, and career decision-making self-efficacy.

Hypothesized model

The following hypotheses guided our study (Figure 1). The first hypothesis claims that career decision-making self-efficacy influences parental authority and nursing career choice. The second hypothesis posits that career decision ambiguity tolerance affects parental authority and nursing career choice. The last hypothesis indicates that parental authority influences nursing career choice.

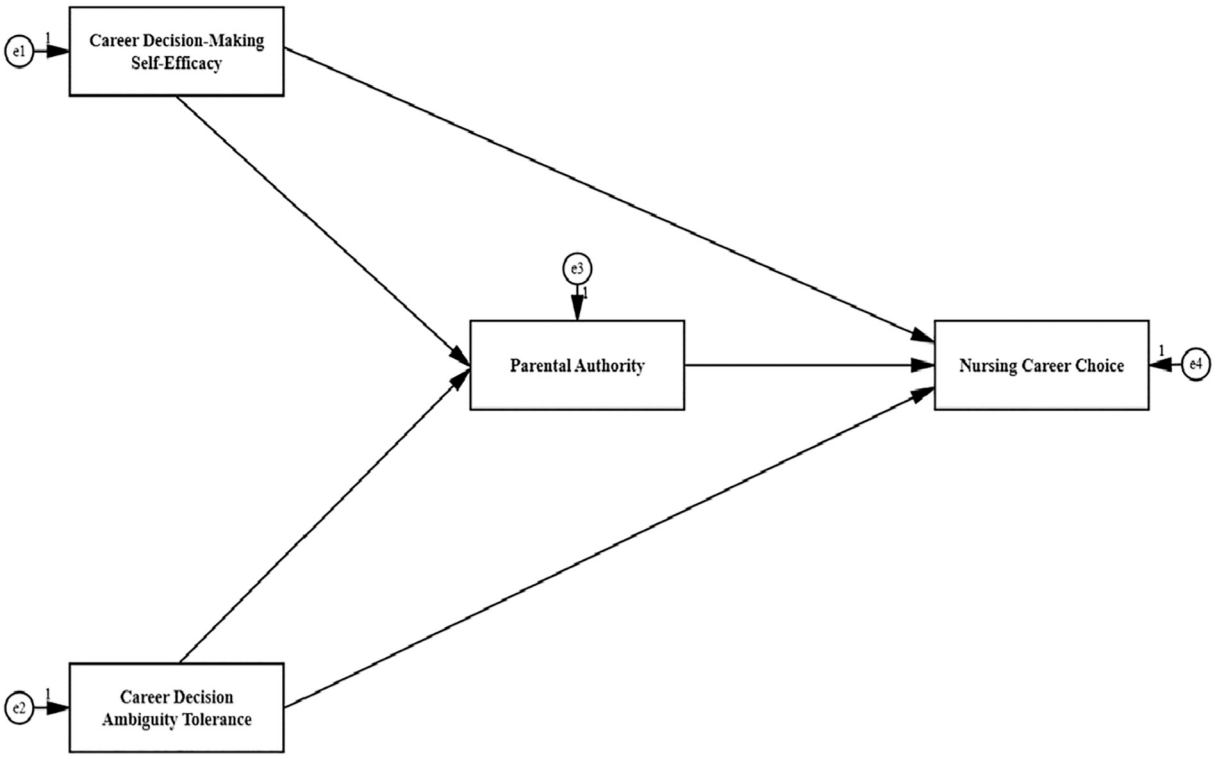

Fig. 1. Hypothesized model of the interrelationship of career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice (n = 378).

Methods

Research design

We used a quantitative cross-sectional design. Four survey instruments were employed to evaluate the mediating role of parental authority in the association of career self-efficacy, ambiguity tolerance, and career choice to be a nurse among Saudi nursing students.

Participants and sampling

We employed total enumeration sampling or census for our study. The four questionnaires were distributed to student participants who met the eligibility criteria via a Google online form. Nursing students in their second to the fourth year enrolled during the first semester of the academic year (AY) 2021–2022, belonging to either the male or female campuses of the research setting, and voluntary participation in the study were used as eligibility criteria.

Our participants were enrolled in a five-year baccalaureate nursing program. First-year is the preparatory year for the nursing program; they are not yet classified under the nursing program, while the fifth year is the internship year. During the fifth year, students do not attend the regular classes. They only attend to their clinical duties.

Social media platforms such as Facebook, WhatsApp, and Twitter were used to distribute the online form. Classes were permitted to be held face to face in the research setting during the first semester of AY 2021–2022. As a result, we spent at least five minutes at the end of each class checking to see if students received the online forms and had any questions or difficulties answering them. The student participants were not provided the Google link during the authors' classes to avert any fear, intimidation, or feeling that might require them to finish the Google survey form immediately or influence their responses.

Instruments

This study employed four validated and standardized instruments. The authors provided permission to use these instruments after we requested their approval.

Parental Authority Questionnaire (PAQ)

John Buri (1991) developed the Parental Authority Questionnaire (PAQ). It contains 30 items that assess Baumrind's (1971) three prototypes of parental authority: permissive, authoritarian, and authoritative. The PAQ is scored on a five-point Likert scale, with 1 indicating "strongly disagree" and 5 indicating "strongly agree." The six distinct subscales are (1) mother's permissiveness, (2) father's permissiveness, (3) mother's authoritarianism, (4) father's authoritarianism, (5) mother's authoritativeness, and (6) father's authoritativeness, can result in a possible score ranging from 10 (lowest) to 50 (highest), with a higher score indicating a greater perceived presence of parental influence by students (or participants). The Cronbach alpha of the subscales is 0.75, 0.85, 0.82, 0.74, 0.87, and 0.85, respectively.

Short-Form Career Decision-Making Self-Efficacy Scale (SFCDMSE)

The SFCDMSE was created to assess "an individual's degree of belief that he or she can complete tasks necessary to making career decisions" (Betz & Luzzo, 1996, p. 413). This scale consists of 25 items divided into five subscales, each with five items: self-appraisal, occupational information, goal selection, planning, and problem-solving. Each item is scored on a Likert scale ranging from 1 (no confidence at all) to 5 (complete confidence), with a possible score range of 25 to 125, indicating that a higher score indicates greater career decision-making self-efficacy. Cronbach's alpha score for the SFCDMSE is 0.94, indicating high reliability (Betz & Luzzo, 1996).

Career Decision Ambiguity Tolerance (CDAT) Scale

The CDAT scale is an 18-item measure designed to assess an individual's evaluation and response to the career decision process (Xu & Tracey, 2015), based on Budner's (1962) tripartite model. The CDAT scale is divided into three domains: preference (e.g., "It is interesting to discover new strengths and weakness"), tolerance (e.g., "I am tolerant of the potential difference between my perception and the reality of a career"), and aversion (e.g., "I find it difficult to make career decisions as things cannot be predicted clearly"); each domain contained six items. The preference, tolerance, and aversion factors have Cronbach's alpha values of 0.83, 0.70, and 0.81, respectively, indicating high reliability (Xu & Tracey, 2015). Finally, the CDAT is scored on a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) (strongly agree). The minimum and maximum scores range is 18 and 126, respectively. The higher the CDAT scores, the more tolerant participants of ambiguous career decisions. The participants experience career decision ambiguity if their scores are lower.

Nursing as a Career Choice (NCC) Questionnaire

The NCC instrument (Liaw et al., 2017) was developed following the Indiana Instrument (Matutina et al., 2010) to assess the change in perceptions between "ideal career" and "nursing as a career" to understand better which career attributes of nursing were perceived as less desirable. It is scored on a 5-point Likert scale, with 1 denoting "strongly disagree" and 5 indicating strong agreement. The possible total range of scores for nursing as a career choice is 35 to 175. Higher scores denote more influential career attributes, and lower scores represent less significant career attributes.

The NCC instrument is composed of 35 items divided into six factors. The first factor, personal interest, refers to the students' interest in their chosen professions. The second factor is prior healthcare exposure, which reflects how previous healthcare experiences may have influenced their decision to pursue a career in healthcare, both positively and negatively. Self-efficacy, the third factor, is a set of self-beliefs about one's ability to perform the required actions to produce results in specific domains, such as academic performance. The fourth factor is "job prospects," which considers the practical aspects of a healthcare career that may influence one's decision. The fifth factor, "perceived nature of work," relates to how students perceived the characteristics of healthcare careers that influenced their choice of career job prospects. Finally, the sixth factor, "social influences," includes social status, gender type, and significant others that have substantially impacted a student's career decision-making process. The Cronbach's alpha of the six factors ranged from 0.78 to 0.89, while the overall alpha was 0.94 (Liaw et al., 2017), indicating good and high reliability, respectively.

We pilot tested each of the four instruments used in the study with 10 % of the total participants, and those participants are no longer included in the study's actual participants. The PAQ has a Cronbach's alpha score of 0.87 (good reliability); SFCDMSE has an alpha score of 0.84 (good reliability); CDAT has an alpha score of 0.82 (good reliability); and NCC has an alpha score of 0.90 (high reliability), according to the results of the pilot test conducted.

Data collection

The data collection period began on August 16, 2021, and ended on December 10, 2021. 500 online forms were sent out, with 428 responses (85.6 %). Only 75.6 % percent of the forms received were found suitable for data analysis after thoroughly inspecting the data for inaccuracies and clarity using the prescribed data cleaning procedure and carefully verifying questionnaires for completeness and consistency (Polit & Beck, 2018). Therefore, a total of 378 participants were included in the study. Additionally, we screened returned survey forms for outliers and odd codes to guarantee that statistical analysis was performed on only error-free data (Polit & Beck, 2018).

Statistical analysis

Analysis was conducted using IBM Statistical Package for Social Sciences (SPSS) version 27.0 (IBM Corp., Armonk, NY, USA). A *p*-value of ≤0.05 was considered statistically significant. Descriptive statistics included mean, standard deviation, frequency, and percentage to summarize the study outcomes. Correlation analyses using Pearson's Correlation Coefficient were also initially conducted to identify associations among the study variables. On the other hand, the covariance-based structural equation model (CB-SEM), using maximum likelihood estimation, was utilized to determine the interrelationship of career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice. In addition, path analysis was employed to determine the indirect or mediating effects of parental authority. Model fit was appraised using the following indices: $\chi 2/df$ ≤3.00, root mean square error of approximation (RMSEA) ≤0.08, comparative fit index (CFI) ≥0.90, goodness-of-fit index (GFI) ≥0.90, and a higher parsimonious normal fit index (PNFI) (Byrne, 2010).

Ethical considerations

The ethics review committee of University of Hail granted ethical approval to this study after the necessary documentation and protocols were submitted (reference no.: H-2021-87; approved: March 29, 2021). The purpose, benefits, potential risks of participating in our study, and the participant's rights were explained in detail via the consent form. These instrument details were found in the first section of the online form. Filling out the online form and returning it to the researchers signified their implied and voluntary participation.

To protect participants' anonymity, we did not collect any personal information (e.g., name, student ID number, social media accounts/email, birthday) that could be used to identify them. The collected data were stored in a password-protected Google drive that was only accessible to the three researchers directly involved in data collection and analysis. After the manuscript is published in a journal, the data will be deleted.

Results

Demographic characteristics of the participants

Table 1 illustrates the demographic profile of the participants. It can be noted that most of the participants were female (68.80 %), were third-year students (40.50 %), and had a grade point average (GPA) of B+ or B (57.70 %).

Descriptive statistics and correlation matrix among career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice

The descriptive statistics and correlation matrix of the study variables are presented in Table 2. It can be noted that the mean career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice scores were 72.38 (SD = 6.46), 4.37 (SD = 0.57), 109.03 (SD = 8.63), and 3.16 (SD = 0.17), respectively. Results also showed that all variables were significantly associated ($p < 0.05$).

Table 1
Demographic profile of the participants (n = 378).

Patient characteristics	Frequency (f)	Percentage (%)
Sex		
Female	260	68.80 %
Male	118	31.20 %
Year level		
Second Year	101	26.70 %
Third Year	153	40.50 %
Fourth Year	124	32.80 %
Grade point average (GPA)		
D+ or D	8	2.10 %
C+ or C	95	25.10 %
B+ or B	218	57.70 %
A+ or A	57	15.10 %

Hypothesized and emerging model of the interrelationship of career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice

The hypothesized model of the study is illustrated in Figure 1. Initial model analysis indicated poor model fit parameters (Table 3). Moreover, initial results showed that career decision ambiguity tolerance did not significantly influence parental authority ($\beta = 0.08$, $p = 0.184$, 95 % CI = –0.03–0.18) and should be removed from the model. Modification indices also suggested a path between career decision ambiguity tolerance and career decision-making self-efficacy (MI = 40.49, Par. Change = 3.70). As such, the hypothesized model was trimmed and re-specified.

After model re-specification, the emerging model depicted in Figure 2 showed acceptable model fit indices (Table 3). Results showed that career decision-making self-efficacy positively and directly influenced parental authority ($\beta = 0.45$, $p = 0.004$, 95 % CI = 0.38–0.53) and nursing career choice ($\beta = 0.35$, $p = 0.004$, 95 % CI = 0.25–0.44). Likewise, career decision ambiguity tolerance had a direct, positive effect on career decision-making self-efficacy ($\beta = 0.33$, $p = 0.004$, 95 % CI = 0.24–0.41) and nursing career choice ($\beta = 0.10$, $p = 0.033$, 95 % CI = 0.01–0.20). It can also be gleaned from Figure 2 that parental authority had a direct, positive effect on nursing career choice ($\beta = 0.11$, $p = 0.042$, 95 % CI = 0.01–0.22).

Mediating role of parental authority on the relationship between career decision-making self-efficacy, career decision ambiguity tolerance, and nursing career choice

Results of the path analysis indicated that PA mediated the relationship between career decision-making self-efficacy and nursing career choice (Figure 2; Table 4). In particular, career decision-making self-efficacy had a positive, indirect effect on nursing career choice ($\beta = 0.13$, $p = 0.042$, 95 % CI = 0.01–0.10) through the mediation of parental authority. It is also interesting to note that although career decision ambiguity tolerance did not directly influence parental authority, it had a positive, indirect effect ($\beta = 0.15$, $p < 0.01$, 95 % CI = 0.11–0.19) through the mediation of career decision-making self-efficacy.

Discussion

According to the findings of our study, career decision-making self-efficacy had a positive and direct influence on parental authority. Wang

Table 2
Descriptive statistics and correlation coefficients among career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice (n = 378).

	1	2	3	4
1. Career Decision-Making Self-Efficacy	–			
2. Career Decision Ambiguity Tolerance	0.33†	–		
3. Parental Authority	0.45†	0.22†	–	
4. Nursing Career Choice	0.43†	0.24†	0.29†	–
Mean	72.38	4.37	109.03	3.16
Standard deviation	6.46	0.57	8.63	0.17
Possible score range	25–125	18–126	30–150	35–175

† Significant at 0.01 level.

Table 3
Model fit parameters of the hypothesized and emerging models (n = 378).

Model	CMIN			RMSEA 90 % CI			CFI	GFI	PNFI
	χ^2	df	χ^2/df (p-value)	RMSEA (p-value)	Lower Bound	Upper Bound			
Acceptable Threshold	–	–	≤3.00 (>0.05)	≤0.08 (>0.05)	–	–	≥0.90	≥0.90	EM > HM
Hypothesized Model	42.84	1	42.84 (0.001)	0.333 (0.001)	0.252	0.422	0.802	0.949	0.134
Emerging Model	2.49	1	2.49 (0.115)	0.063 (0.278)	0.001	0.166	0.993	0.997	0.165

Abbreviations: CMIN or χ^2 = Chi-Square Fit Statistics; df = degrees of freedom; RMSEA = Root Mean Square Error of Approximation; CFI = Comparative Fit Index; GFI = Goodness-of-Fit Index; PNFI = Parsimonious Normal Fit Index; EM = Emerging Model; HM = Hypothesized Model.

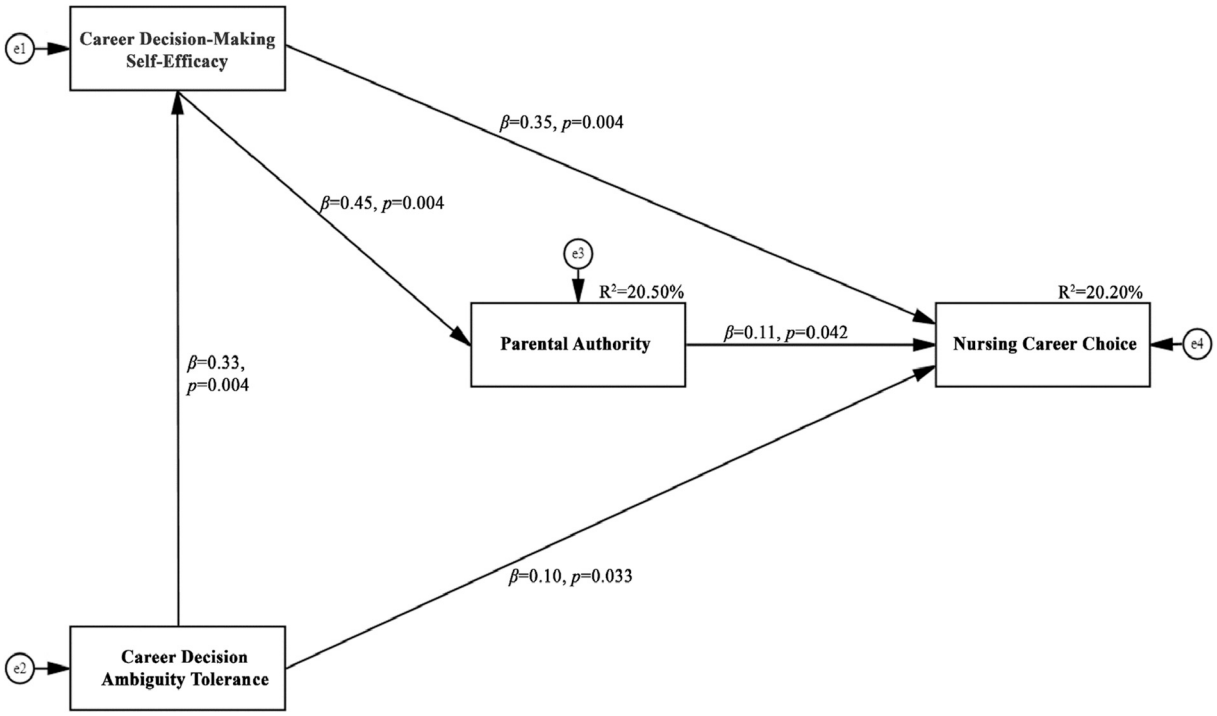

Fig. 2. Emerging model of the interrelationship of career decision-making self-efficacy, career decision ambiguity tolerance, parental authority, and nursing career choice (n = 378).

Table 4
Path analysis of the interrelationship of career decision ambiguity tolerance, career decision-making self-efficacy, parental authority, and nursing career choice (n = 378).

Predictors	Career decision-making self-efficacy			Parental authority			Nursing career choice		
	Indirect	Direct	Total	Indirect	Direct	Total	Indirect	Direct	Total
Career Decision Ambiguity Tolerance	–	0.33†	0.33†	0.15†	–	0.15	0.13†	0.10*	0.23†
Career Decision-Making Self-Efficacy	–	–	–	–	0.45†	0.45†	0.05*	0.35†	0.40†
Parental Authority	–	–	–	–	–	–	–	0.11*	0.11*

* Significant at 0.05 level.
† Significant at 0.01 level.

et al. (2018) posited that self-efficacy is a predictor of a nursing student's future role as a professional nurse and an essential requisite in making career choices. Our finding is supported by Wang et al. (2018). They reported that career decision-making self-efficacy significantly affects nursing students' professional commitment and advancement, motivating them to pursue advanced nursing degrees and participate in professional development activities (Wang et al., 2018). According to Bandura's (1977) theory of self-efficacy, when people make life choices, they must have a firm grasp on the requirements of the tasks necessary to accomplish their career goals (Chen, 1997). Parental authority affects the person-environment congruence (Donner & Wheeler, 2001; Lent & Hackett, 1987), where self-efficacy affects life domains such as academic achievement, career options, and the influence of parents on these life events (Farmer & Tierney, 2017; Schunk & DiBenedetto, 2021). As a result, it is necessary to understand the relationship between self-efficacy and parental authority's influence on career decisions (Xing & Rojewski, 2018), as the two cannot exist independently (Betz, 2004; Chen, 1997).

Our study revealed that career decision-making self-efficacy is similarly strongly associated with nursing career choices. Fillman (2015) compared undecided high school students to those already enrolled in nursing regarding career self-efficacy. It was discovered that those already enrolled have a heightened sense of career decision self-efficacy. However, in terms of their perceptions of the nursing profession, there was no difference between the two groups. Furthermore, promoting the nursing profession in diverse ways, such as career

orientation programs, can help increase recruitment and career decision self-efficacy among high school students who want to pursue nursing as a career choice (Fillman, 2015). To increase nursing students' career self-efficacy with the nursing program, it is necessary to develop practical career support activities tailored to their choice, gender, academic record, and career decision factors such as peer and family influence (Kim, 2016). Parental control, implicit and explicit, is ingrained in Arab countries, including Saudi Arabia (AlMakadma & Ramisetty-Mikler, 2015; Almalki et al., 2021), by sociocultural and gendered notions of appropriate careers, for example, among Arab women (Labib, 2021). Unlike explicitly controlled women, those implicitly controlled generally agreed with their parents' guidance during their career decision-making. Women retain autonomy over their career choices but must be consistent with their parent's values and beliefs (Labib, 2021).

We found a strong link between career ambiguity and self-efficacy among Saudi nursing students. An identical task can have two completely different perceptions and outcomes due to ambiguity (Hillen et al., 2017; McLain et al., 2015). It could be the notion that the world is not monochrome and that different interpretations, meanings, and perspectives on the same subject exist (Martínez-Díaz et al., 2020). Because dealing with unfamiliar, complex, or inconsistent information is a crucial aspect of the career decision-making process (Kasperzack et al., 2014; Kim, 2016; Kusumawati & Wahyuningsih, 2020), ambiguity tolerance is an essential individual characteristic (Endres et al., 2009; Nakhostin-Ansari et al., 2021). There has been empirical evidence supporting the favorable connection between ambiguity tolerance and career decision-making, either indirectly or directly (Xu & Tracey, 2014). Establishing an effective and structured career orientation program could be an approach to address this concern. A study of ambiguity tolerance among medical students found that those with less ambiguity tolerance have a lower proclivity to violate ethical standards, lower life satisfaction, negative affect, anxiety, worry, and lower self-efficacy (Nakhostin-Ansari et al., 2021). Additionally, it was associated with stress, emotional exhaustion, and psychological problems (Nakhostin-Ansari et al., 2021). Nursing students, like medical students, face rigor in their academic and clinical responsibilities, such as interactions with professors, patient care approaches and activities, planning appropriate care, and monitoring patients' responses to therapy (Dos Santos, 2020; Önder et al., 2014), all of which can negatively impact their education and future professional careers (Marcinowicz et al., 2016; Wang et al., 2018).

Ambiguity tolerance theory suggests that individuals would be more satisfied in their work if their tolerance level matches the amount of ambiguity they face (Budner, 1962). It is critical for students entering college to participate in career programs that enhance their career decision-making abilities. These programs will help them understand better their career options and identify social and familial barriers and other factors affecting their career decision (Kusumawati & Wahyuningsih, 2020). Accordingly, Hillen et al. (2017) reported that a person with a high tolerance for ambiguity might be uniquely suited for careers that require critical thinking. In contrast, a person with low tolerance may fit better in careers that only can provide experience patterns and form prototypes to be used in the job when required (Hillen et al., 2017; McLain et al., 2015). Ambiguity tolerance theory suggests that individuals would be more satisfied in their work if their tolerance level matches the amount of ambiguity they face (Budner, 1962; Hillen et al., 2017), which would be an interesting topic for future research.

Understanding the impact of family on career choices is critical. However, due to a lack of research on the effects of family on students' career choices, it is impossible to assess the impact of family influence on career choices and population disparities, particularly in how students make career choices. In a study of Malaysian undergraduate students, it was discovered that parental influence is significantly associated with pursuing careers in Science, Technology, Engineering, and Mathematics (STEM; Yean & Chin, 2019), which are also similar to the results of Vilanova and Puig (2016) and Guan et al. (2018) that parental influences are critical in determining their children's career choice intention. Turkish students, like Malaysian students, were influenced by family, academic satisfaction, parents' education level, and working experiences, which significantly impacted career decision self-efficacy and happiness (Koçak et al., 2021). In addition, it was discovered that self-efficacy in career decisions had a mediating effect, and parental education had a moderating effect on the studied variable (Koçak et al., 2021). Mediation is the relationship between an independent and dependent variable through the partial or complete effect or facilitation of a third variable, the mediator (Byrne, 2010). In the simplest sense, the mediator bridges or facilitates, either fully or partially, the relationship from the independent variable to the dependent variable, which may alter the strength of the relationship between the two variables. In Spain, Tziner et al. (2012) found that the parent-offspring relationship mediates parents' influence on young people's career choices. A closer relationship causes youngsters to choose a job similar to their parents, particularly among mothers and daughters (Tziner et al., 2012). Choosing a career is an essential task in a person's life. The reality is that the decision-making process begins very early on, with family influences modeling a child's decisions. Unlike the father, the mother is more involved in career-related plans, initiating concrete actions and providing psychosocial support (Paloş & Drobot, 2010). As a result, parenting styles can help students maintain emotional stability and mitigate the impact of poor career choices. Overprotection from parents does not promote healthy career choices, but a functional parent-child relationship can help students overcome anxiety and make more informed career choices (Tian et al., 2021).

Limitations

Our study only included one state-run public nursing school. If we had utilized a national sample from public and private nursing schools, the analyzed data could have been more generalizable among Saudi nursing students. Another limitation is the cross-sectional design of our study. This design can only describe the current state of the variables and cannot infer changes over time (Polit & Beck, 2018). We cannot refuse to acknowledge that Roe's theory of personality development and career choice (1956), and Betz and Hackett's theory of career self-efficacy (1981), are classic theories. However, they are the only theories that can accurately and explicitly explain, support, and provide a rationale for our study's results. No other theories could have better exemplified the significance of our study's findings.

Recommendations

Our research found a direct link between career decision-making self-efficacy, career decision ambiguity tolerance, and nursing career choice, mediated by parental authority. Future research utilizing the same variables should include nursing students, students in allied health programs and medicine, and students in engineering, business, the arts, and the sciences to determine if the same outcome is found. If feasible, a national sample of Saudi nursing students could be used to generate more representative and conclusive data regarding the relationship between the variables and concepts in this study. A career orientation program for senior high school students can be developed to properly guide them on the best career path suited to their abilities, academic performance in high school, interests, and skills. Parental factors may also be considered when developing a career orientation program.

We recommend that faculty members be more conscientious when using examples relating to the career choice of nursing students and become more sensitive to the possibility that nursing students may have chosen the career path related to parental influence. Students who struggle to comprehend certain nursing concepts, particularly the most difficult ones, may have a lack of motivation because nursing is not their personal career choice but rather due to other factors, including parental influence. By understanding the situation, nurse educators can

customize their teaching strategies to increase student motivation and help them realize that nursing is an ideal career for them regardless of who or what influenced them.

Conclusion

The strong and direct correlation between career decision-making self-efficacy, career decision ambiguity tolerance, and nursing career choice demonstrated in our study indicates that parental authority strongly influences nursing students' career choices, whether it is their mother, father, or both. Parental authority has a direct relationship with the other variables. Still, it was also a significant mediator in the career decision-making self-efficacy, career decision ambiguity tolerance, and nursing career choice association. Saudi parents' parental authority over their children is highly predictive of their children's career choices, but other factors may also influence the students' choices. Factors such as the environment, peers, social media, culture, and belief systems can impact a student's decision.

Nonetheless, their parents' involvement can affect these factors in multiple ways. Nursing as a career choice may be advantageous for others at this time because they view it as a noble profession that saves lives and is well-loved in Saudi society for its services. On the other hand, fear may be a factor due to the high number of frontline workers who died due to the pandemic. While parents' perceptions of the nursing profession during and after the pandemic may differ, parents will always want the best for their children.

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Data sharing statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Declaration of competing interest

The authors declare that there are no conflicts of interest.

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