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MODELING OF CAREER CHOICE BEHAVIORS IN INDONESIAN DENTISTRY STUDENTS

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KEYWORDS

Behaviors, Career Choice, Dentistry, Indonesia, Students

ABSTRACT

Introduction: The increasing number of dentists shows that this profession is one of the most popular career choices in Indonesia. The type of dentist professional development varies so that career planning is an important thing that has a big influence on one's future. The social-cognitive career theory (SCCT) perspective explains that there is a relationship between career self-efficacy, career outcome expectation, career intention, and career exploration in the career selection process. By using SCCT, this study aimed to determine the career exploration-related behavior relationship, which consists of career self-efficacy, career outcome expectations, career intention, and career exploration, in the career determination for dentistry students in Indonesia. **Methods:** This research is an observational analytic study of 505 samples of undergraduate and professional students of dentistry who have filled out an online questionnaire from March to June 2019. An online questionnaire consisting of a Career Decision Making Self-Efficacy-Short Form (CDMSE-SF), Career Decision Outcome Expectation (CDMOE), Career Exploration Planning or Intention Questionnaire (CEPI), Career Exploration Survey-Revised (CES-R), which has translated and validated. All models are analyzed using the maximum possible estimation of the AMOS application. **Results:** This research showed that there was a significant relationship between having a career plan and a father's job. This study concluded that self-efficacy, outcome expectation, and career intention influence the career exploration of dentistry students significantly both directly and indirectly.

INTRODUCTION

The dentistry study program is one of the favorite choices for prospective students registering for the state university entrance examinations (SBMPTN) in 2019. the Dentistry Study Programme of Sriwijaya University with a capacity of only 40 students, has a total interest of 1,246 in 2018 so that competitiveness is estimated to reach 0.03%.[1] The trend of career selection to the next level has begun since students choose a study program. Every year there are around 1000 fresh graduates from the faculty of dentistry in Indonesia. Based on the recapitulation of health human resources according to the type of staff and province in 2017 by the Ministry of Health of the Republic of Indonesia (Kemenkes RI), 12,501 dentists with 1,954 people are the specialist dentist.[2] Data of the Indonesian

Ministry of Health's, the number of dentists has raised 2 times from 10,164 in the previous year to 26,262 dentists in 2012.[3] When compared to the Indonesian population, the ratio of dentists tends to be around 4-5 dentists per 100,000. This shows the increasing interest in choosing dentistry as one of the professional choices.

The profession of a clinical dentist who works right away after graduated is the choice most often taken by dental students. There are not many dental students who wish to choose to continue their education first or plan to become teaching staff. Following the National Standard for Medical Education, dental education consists of a dental program, a specialist dental program, and a subspecialty dentist program. This type of development in the dental profession is still largely unknown to dental students even though career planning is an important thing that has a big influence on one's life. Students who are not very aware of variations in career selection often experience difficulties in planning for the future after graduation.

Problems in choosing a career after completing college can be caused by various factors. Factors that influence the selection of a graduate career are complex from consideration of individual clinical abilities, future employment opportunities, information that is known about the career, and economic benefits to be gained.[4] Based on research conducted in Japan with total respondents of semester 4 (n = 3089) and 6 (n = 1370) medical students and young doctors spread across 342 hospitals (n = 5320), five main factors influence specific career selection namely fulfillment of life needs and job certainty, interest in biosciences, advice from others, experience during education and personal reasons.[5] Besides, exposure to the dental career for dental students that occurs during college can lead to career selection gaps. The development of one's academic and career interests is a process that occurs continuously starting at a young age, with self-efficacy, outcome expectation and goals are the core of the process of developing one's academic interests and one's career exploration.[6]

The social-cognitive career theory perspective

SCCT generally explains that self-efficacy (a person's belief in his ability to do an action), outcome expectations (the belief that effort will produce results according to consequences) and goals, are three important keys in determining a career.[6] This variable also relates to individuals, contextual and other variables to motivate actions such as career planning and exploration. Factors that play an important role in learning and influence each other which includes social, personal (cognitive), and behavioral factors.[7] When one behavior occurs, it is caused by an interaction between these three factors. The emphasized cognitive factors are self-

efficacy, outcome expectation, and self-regulation which later became the basis of SCCT.[7] The SCCT itself aims to explain two things related to career development, namely: the development of interests and the way a person determines academic and career choices.[6]

The study concluded that there are factors that influence career choice in each individual apart from the characteristics, but also influenced by self-efficacy, outcome expectation, career intention, and career exploration as outcomes of this study. Self-efficacy is the belief that individuals can do the things they need to achieve the desired career.[8] So that individuals can make career decisions as complex tasks with confidence. Self-efficacy can be obtained, changed, enhanced or decreased, through one or a combination of four sources, namely performance experience, vicarious experience, social persuasion, or emotional state.[8] Outcome expectation is the belief that is owned by the consequences of certain actions choices.[6] Three types of outcome expectations are social anticipation (such as approval and recognition from the family), material (such as financial income), and results for oneself (such as personal satisfaction).[7] Career intention, or intention and attitude, is a reflection of the main choices of one's career, which can take the form of intention and planning.[9]Career exploration can be defined as the behavior of providing access to information relevant to career development.[9] This means that these individuals can search, analyze, and investigate information that is relevant to the career they want so they can adapt well to career choices later.

METHODS

This study was an observational analytic study with a cross-sectional research design. Participants were 505 active students in undergraduate programs or the profession of dentistry in Indonesia. The study data was collected from an online questionnaire conducted from March to June 2019. The online questionnaire consisted of a Career Decision Making Self-Efficacy-Short Form (CDMSE-SF), Career Decision Outcome Expectation (CDMOE), Career Exploration Planning or Intention Questionnaire (CEPI), Career Exploration Survey-Revised (CES-R), which has been translated and validated. This research is ethically feasible and approved to be implemented based on the ethical approval certificate number 106/kepk***/2019.

Self-efficacy

Self-efficacy is assessed by using 24 items of the Career Self-Efficacy Sources Scale (CSESS) that have been translated into Indonesian and is a modification of the Career Decision-Making Self-Efficacy Scale-Short Form (CDMSE-SF) that combines Bandura's self-efficacy theory with the theory of Career Maturity Crites.[10] Self-

efficacy is an individual's belief in his abilities which influences the way an individual reacts to certain situations and conditions. Self-efficacy is the individual's belief in evaluating his ability to achieve goals, overcome obstacles and complete certain tasks. The items given are in the form of giving answers on a scale of 1-5 (1 = very unsure and 5 = very sure) on questions such as "Determining the ideal career for myself?". Higher scores are in line with the amount of individual confidence in his abilities.

Outcome Expectation

Outcome expectation is the belief in the consequences or results obtained from an action. In the career context, the outcome expectation is a belief in the consequences that will be obtained if someone does career-related behavior. Outcome expectations were assessed using 9 items of Career Decision Making Outcome Expectation (CDMOE) that had been translated into Indonesian and were adaptations of Bieschke's instruments.[9]Students will respond to statements given such as "If I get good grades during lectures, I will get the career I want" on a scale of 1-5 (1 = strongly disagree and 5 = strongly agree). Higher scores relate to the amount of confidence they have towards the results of their careers.

Career Intention

Career intention is defined as the individual's intention to take actions related to career exploration such as plans to seek information or take part in certain activities related to the career he wants. Career intention was assessed using 5 items of questions from the Career Exploration Planning or Intention Questionnaire (CEPI) which had been translated into Indonesian.[9] Responses given to questions such as "Looking for opportunities to show and practice my abilities" are in the form of a scale of 1-5 (1 = strongly disagree and 5 = strongly agree). Higher scores relate to the amount of intention to explore the desired career.

Career Exploration

Career exploration is an important stage in the development and decision making related to careers that include career-related behaviors, such as: finding more specific information about careers, discussing with others about opportunities, learning new skills needed, and registering for personal skills improvement. Career exploration was assessed using a questionnaire which was a modification of the Questionnaire-Revised Career Exploration (CES-R).[11]Students will respond in the form of answers to questions such as "Finding out various career possibilities that I might choose" using the frequency on a scale of 1-5 (1 = never and 5 = very often). Higher scores are in line with

the high interest in exploring existing interests.

Statistical Analysis

All models were analyzed using the maximum likelihood estimation in AMOS. The parameters are x^2, Goodness of Fit (GFI), the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), and the Root Mean Square Error of Approximation (RMSEA). With 505 participants observed, a significant or a non-significant x^2, x^2/df values > 3, RMSEA > 0.07 showed that this data was poor fit, GFI values > 0.90, TLI values > 0.90, NFI and CFI values > 0.90 showed acceptable fit.

The mediation pathways are examined using two models. The effects to be tested are both direct and indirect. Calculation of standard errors (SEs) and 95% confidence intervals (CIs) were performed for all direct and indirect estimates using AMOS bootstrapping. Mediation happens when the predictor is correlated with the mediator and outcome, and the 95% CIs from the indirect effects via the mediator does not contain zero. Full mediation happens if the direct effect is decreased to zero when the mediator is included, and partial mediation happens when the direct effect is decreased significantly when the mediator is included.

RESULTS

From a total of 505 samples in the study, 85 (16.8%) samples were male and 420 (83.2%) samples were female. In the sample, 495 (98%) were single, while 10 (2.4%) were married. From the results of filling out questions about career choices after graduating from college, many students chose to work as dentists, with a total of 377 samples (74.7%).

Table 1. Characteristics of respondents; n=505

Variables	Frequency	(%)	p
Age			
Mean	21.17	-	0.282
Median	21.00		
SD	2.036		
Maximum	27		
Minimum	17		
Sex			
Male	85	16.8	0.935
Female	420	83.2	
Marital Status			
Single	495	98	0.224
Married	10	2	
Year			
2011	21	4.2	
2012	18	3.6	
2013	44	8.7	
2014	76	15.0	0.236
2015	89	17.6	
2016	121	24.0	
2017	76	15.0	
2018	60	11.9	
Levels of education			
Dental profession program	171	33.9	0.109
Dental undergraduate program	334	66.1	
Father's occupation			
Medic/paramedic	434	85.9	**0.001**
Non-medical	71	14.1	
Mother's occupation			
Medic/paramedic	103	20.4	0.727
Non-medical	402	79.6	
Family income			
< Rp 5.000.000,-	85	16.8	0.084
Rp 5.000.000 s/d	171	33.9	
Rp 10.000.000,-> Rp 10.000.000,-	249	49.3	
Already have a career plan	64	12.7	-
Not yet	441	87.3	
Already			
Total	**505**	**100.0**	

Based on the table showing the characteristics of participants and sociodemographic correlations with career choices. Father's occupation is statistically related to career exploration.

The measurement model were good fit statistics, x^2 (2, N = 505) = 336.338, p\.000, x^2/df = 168.169, CFI = .627, GFI = .804, TLI = -.119, RMSEA = .576. Factor loadings ranged from .151 to .661. Table 2 reported summary data, zero-order correlations, means, and standard deviations.

Table 2. Correlations, Means, and Standard Deviations

Variables	1	2	3	4	M	SD
Self-efficacy	-	0.626**	0.636**	0.618**	96.02	12.670
Outcome Expectation	0.626**	-	0.630**	0.516**	36.95	5.031
Career Intention	0.636**	0.630**	-	0.533**	20.20	2.997
Career Exploration	0.618**	0.516**	0.533**	-	86.20	17.080
Self-efficacy	-	0.626**	0.636**	0.618**	96.02	12.670

Note. ** p <.01

The following model involved career self-efficacy which gave a direct influence on career exploration, career outcome expectation influenced career exploration, career self-efficacy influenced career intention, and career intention influenced career exploration. The model showed a fit match, x^2 (2, N = 505) = 336.338, p\.000, x^2/df = 168.169, CFI = .627, GFI = .804, TLI = -.119, RMSEA = .576. In this model, all direct paths gave a significant effect seen from the value of standardized direct effect two-tailed significance p< 0.05 or p<0,01. This model accounted for 43.7% of career intention and 35.3% of career exploration. The total standard effect for self-efficacy was 0.661 (on career intention), self-efficacy 0.556 (on career exploration), outcome expectation 0.151 (on career exploration), and career intention on career exploration was 0.196. See Figure 1.

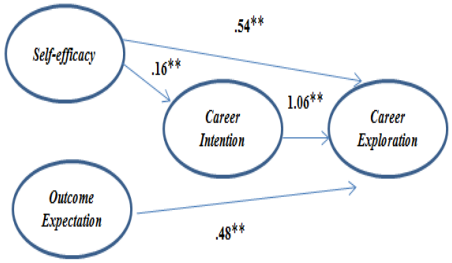

Figure 1. The final model with standardized regression weights included. Only significant paths are included to avoid visual clutter. * p \ .05,** p \ .01

By using 1000 bootstrap samples, a direct effect test was conducted on self-efficacy towards career intention (b=.661, p\.002), self-efficacy on career exploration (b=.426, p\.002), career intention on career exploration (b =.196, p\.008), outcome expectation on career exploration (b = .151, p\.006). The mediating effect of self-efficacy on career exploration was found (through career intention; CIs = 0.048 to 0.213). All indirect effects give insignificant results.

DISCUSSION

The study found father's work was statistically related to career exploration, with as many as 434 (85.9%) respondents having fathers who worked as medical/paramedic workers. One figure who is often a role model is a parent, so the profession of a doctor's parents may be influential in choosing a medical career itself.[12] A positive role model can make

students interested in taking part in career models, and negative role models make students unwilling to follow the role model's characteristics.[13] The highest component score of Indonesia based on Hofstede's research is 78 for power distance.[14] This shows that the character of Indonesian society depends on hierarchy, centralized power, and negative feedback is hidden. Father is considered to give more material, concrete, or financial support. conflicts faced by fathers especially because they want their children to follow the same career path from the field chosen by parents.[15] In addition, a culture that promotes collectivism provides space for persuasion from other people, especially parents, which play an important role in the selection of one's career.[14]In a career development study in adolescents as a family project, a father figure plays a crucial role in determining a child's career exploration.[16]

In this study group, the age range of respondents ranged from 17 to 27 years. Career stages consist of the pre-career stage, the early career stage, the middle career stage, and the late-career stage. When someone aged 15-22 years or in adolescence is the pre-career stage. At that age, someone tries to obtain an education, develops self-identity, finds needs, interests, and talents, so that it is referred to as the exploration stage. Furthermore, at the age of 22-30 years, someone will start entering the workforce. At that age, there is a development of self-confidence followed by exercises interacting and working together in the work environment. In the age range of 17 to 27 years, it represents a crucial moment for career selection.

In this study, the results showed that gender did not affect career choices. The academic environment emphasizes the centrality of gender role identity, so that gender is not a single factor that influences student career choice.[17]

This study aims to determine the career exploration-related behavior relationship, which consists of career self-efficacy, career outcome expectation, career intention, and career exploration, in the career choice of dental students. Samples obtained from filling out online questionnaires were analyzed using the SCCT framework. This theory has also been used previously to explain other career selection activities.

This study shows that self-efficacy, outcome expectation, career intention, and career exploration are interrelated and provide mutually significant effects. Career self-efficacy will improve adaptability, choices, and information about careers, and an understanding of one's ability to be applied in the career field.[9,18] Empirical research also supports that career self-efficacy as a construct is related but is separate from personality related to career exploration.[18] Outcome expectation plays a role in improving career exploration, especially if someone who has similar abilities is

successful in doing something related to his career.[6] Outcome expectation focuses on the results or consequences expected of someone when he performs a certain behavior, while self-efficacy is the individual's belief in evaluating his ability to achieve goals, overcome obstacles and complete certain tasks.[8,14] The development of one's academic and career interests is a process that occurs continuously starting at a young age, where self-efficacy, outcome expectation, and goals are at the core of the process of developing one's academic interests and one's career exploration. This study also found that career intention acts as a mediator that connects self-efficacy to career exploration. These results are relevant to previous research that self-efficacy influences career exploration directly or indirectly through career intention as a mediator.[19] Career intention is part of choice goals so that someone will have the attitude and intention to do something related to the development and selection of his career which can be directly influenced by self-efficacy or indirectly with career intention as the mediator.[20]

Career selection is influenced by the role of mentors, peers, and role models in the formulation of career expectations and career decision selection. To increase career exploration, it can be done to prioritize career and professional selection of dental students. Socialization will have a greater influence and help students better know what career choices they can choose.[20,21]

CONCLUSION

This study showed that many factors influence career choice in individuals other than socio-demography. This research showed that there was a significant relationship between having a career plan and a father's job. Based on the results and discussion of this study, it was concluded that self-efficacy, outcome expectation, and career intention influenced the career exploration of dentistry students significantly both directly and indirectly.

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