

## Attitude, Time Management Work-Life Balance and Career Choices: A Mediating Effect of Protean Career Attitude among Medical Students in Malaysia

Chitra Devi Ainer<sup>1</sup>, Siti Nur Syuhada Musa<sup>1</sup>, Siti Raba'ah  
Hamzah<sup>1</sup>, Shamsul Bahri Md Tamrin<sup>2</sup>, Mohd Faiq Abdul Aziz<sup>1</sup>

<sup>1</sup>Faculty of Educational Studies, Universiti Putra Malaysia, 43400, UPM, Serdang, Selangor,  
Malaysia, <sup>2</sup>Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, 43400, UPM,  
Serdang, Selangor, Malaysia

Corresponding Author Email: syuhada.musa@upm.edu.my

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### Abstract

A thorough empirical approach to protean career attitude as a mediator has yet to be completely established, even though the relevance of this variable has been explored in the career management field for the past three decades. Most research looked at how a protean career functions as an independent variable and how it interrelates with other dependent variables such as career success, organizational commitment, employability, HRD practices, career mobility and career strategies. Due to this, our study examined the influence of the predictors such as protean career attitude, attitude, work-life balance, and time management towards career choices. This study also examines the mediating role of protean career attitude. With the support of social cognitive career theory and life-span, life-space theory, this study sought to determine the contribution of individual factors towards career choices. The respondents for this study are medical students from public universities in year 1 through year 5. This research used the descriptive and correlation design for quantitative research. This study uses a questionnaire to collect the data. The data were further analyzed using the Statistical Package for the Social Sciences (SPSS) version 26. The results showed that the mediating effect of protean career attitude has an influence on attitude and time management and no influence on work-life balance towards career choices. This research is significant as the findings contribute to the body of knowledge in developing research framework and enhances the knowledge of individual career choices, organizational practices, government policy, and theoretical development.

**Introduction**

A thorough empirical approach on protean career attitude as a mediator has yet to be completely established, even though the relevance of this variable has been explored in the career management field for the past three decades. Most research looked at how a protean career functions as an independent variable and how it interrelates with other dependent variables such as career success, organizational commitment, employability, HRD practices and career mobility, career strategies (Lo Presti et al., 2023; Gong et al., 2023; Tamontseva & Akkermans, 2024; Denyer & Rowson, 2024; Westerlund & López-Iñíguez, 2024). Similarly, there are few research conducted locally related to protean career attitudes to outcomes connected to career related variables. There is research available locally on career adaptability Hamzah et al (2021), career advancement Arokiasamy et al (2011), career success Ehido et al (2019), career aspiration (Hamzah, Musa & Mohamad, 2022), career satisfaction (Ab Malek et al., 2023), career expectation (Musa, Bernabé & Gallagher, 2016), career goal Ismail & Hoo (2014) and career management (Jayasingam & Yong, 2013). Particularly, job-related outcomes are surprisingly sparse when it comes to career success Akkermans & Tims (2017); Dlouhy & Froidevaux (2024), work orientation van Dierendonck & van der Gaast (2013), work-life balance Najam et al (2020), examining the importance of flexible career views. There are very few literatures on the contextual as well as individual interrelations that may influence a protean career (Denyer & Rowson, 2024; Lo Presti et al., 2023). Due to this, further study is needed to establish the relationship between protean career attitude s and other pertinent research factors. (e.g., attitudes, time management, work-life balance, and other job-related variables).

According to research that was conducted on senior medical undergraduates from a private clinical university showed that the larger part (75%) picked surgery, internal medication, pediatrics, orthopedics, and obstetrics and gynecology as their decision of career choices. According to Chew et al (2011), general medicine was among the lowest to be selected by the senior medical undergraduates. One more study on factors influencing first-year medical students in undergraduate's decision on future specializations or making career choices done in Malaysia, China, India, Nepal and Sri Lanka has showed that their ideal specializations were in surgical, internal medication, pediatrics and obstetrics and gynecology (Kumar et al., 2011). A survey published on the awarenesses of Malaysian medical undergraduates in the earlier years in critical consideration revealed mixed perceptions, with some undergraduates seeing vital consideration as a "non-discipline" that lacks profundity and is associated with delicate skills like communication skills rather than fundamental information. Students lost interest in family medicine as a result of their observations to the differences between theoretical teaching and its implementation (Ng et al., 2005). In March 2019, Malaysia's Health Service stated that the family medicine fraternity should work harder to advance and encourage young specialists to choose family medicine as their future career pathway.

**Career Choices**

The process of decision-making technique of specialty career choices differs from every one individual. It is recommended that more research be conducted among medical students or undergraduates on career choices and their associated determinants in developing nations where expected shortages of workers exist (Boniol et al., 2022). The availability and diversity of the medical staff depends on the specialization of upcoming medical doctors (Ossai et al., 2016). There is no research in Malaysia investigating medical student's intention and their

view on specialization as a career choice (Nadarajah et al., 2022; Chew et al., 2011). Choosing a Medical specialty is a tough decision that has implications on health system effectiveness, community wellness, and physicians' lifestyles. It is critical to understand the important elements that influence the choice of specialty for evidence-based decisions. House officers (HOs) in Malaysia get training in several disciplines following graduation. The recent rise in admission into postgraduate training programs through established pathways has resulted in the increasing numbers of medical graduates from about 1000 fresh specialists in 30 areas each year. However, an uneven distribution of specialists across the public and private sectors, as well as the geographical distribution and relatively low number of specialist doctors has harmed treatment quality and impeded young doctor training. Similar to the internships in other Commonwealth nations, Malaysian medical graduates are required to complete 2 years of houseman ship upon completing their medical degree. After completing their houseman ship, they may be appointed as medical officers, which will eventually lead to government-sponsored postgraduate training. Many private medical universities were established lately resulting in a surplus of medical graduates. Approximately a thousand graduates must wait nearly a year for job placements, and only 45-50% of those completing houseman ship will be awarded a permanent post. The vast majority of medical officers (MO) are hired on a contract basis and therefore may not be eligible for government funding after graduation. These factors may impact medical graduates' career choices.

According to a study Ibrahim et al (2022), conducted on Malaysian pharmacy students on the influence of career choices in the pharmaceutical sector, the number of students who prefer a position in the pharmaceutical sector climbed from 21.3% to 38.8%. As per the study this increase was based on the change of government policy which allows the students to conduct their one-year training on Provisional Registered Pharmacist (PRP) at any private pharmaceutical company. With this policy being implemented many students were exposed to career choices in the pharmacy area which eventually increased their interest in the said field. Besides this, work-life balance, job security and work environment were also considered to be the determinants which influence students upon their graduations.

Burnout and other related factors were mentioned in one of the research projects conducted among medical students in a public university in Selangor, Malaysia. It was reported that every tenth of medical undergraduates are suffering from burnout due to having smartphones, having problems with family, selecting medical field due to family pressure and also against their interest (Thew et al., 2023). Adolescents rely on study years as they transition from university to employment. Recently, there has been a lot of interest in the career choices of undergraduates and recent graduates. Making the wrong professional decision might lead to unemployment. As students complete their studies and enter the employment market, competition among unemployed individuals will intensify. Making poor career choices might hinder employment opportunities and contribute to the unemployment rate. A study on final semester undergraduates of business management faculty in one of Malaysian public university on factors that influence career choices stated that environment, peer, influence from family and career advisors has more implication on student's career choices. It was also mentioned that economic and opportunity was not an influencing factors of career choices (Omar et al., 2021).

**Attitude of Medical Students on Career Choices**

Medical student attitude towards longer waiting times and a "glut" of medical graduates in recent years, with a startling 20% dropout rate among those who enroll in the horsemanship, as a result of several unsolved concerns relating to housemen in Malaysia. This seems to represent how millennials who make up this generation, are adapting to the changing times, attitude, and expectations of the workplace, requiring the need to think about career choices, and transfers, particularly in these unsettling times (Naicker et al., 2021). Healthcare quality has been compromised by a shortage and unequal distribution of medical professionals. The future composition of healthcare systems is determined by the specialty careers choice made by houseman in Malaysia (Nadarajah et al., 2022). In addition to attitude, other factors such as learning environment play an important role in encouraging pupil to advance their knowledge. To foster lifelong learning skills, universities must provide learning environments (Laal & Salamati, 2012). To educate graduates for the actual and dynamic business environment, a highly competent learning environment must also be capable of facilitating effective individual learning efforts (Foong & Khoo, 2015). However, many colleges continue to provide students with direction using traditional curricula. Along with the changing times, the curriculum should have been modified to include integrated competences and more active teaching and learning (Pincus et al., 2017).

**Time Management of Medical Students on Career Choices**

Time management is an important skill for doctors. The lack of emphasis on time management in graduate or undergraduate medical education courses frequently causes students to develop poor time management skills early in their careers. Enhancing time management skills may enable doctors to work harder and more productively while experiencing less stress. Effective time management is crucial for improving performance and achieving goals. Individuals' ability to manage their time to align with their daily routines is crucial to all of these factors. Encouraging settings and environments, along with effective lectures, can lead to great outcomes for students. Effective time management is essential for academic success. However, some students lack this talent, which can significantly impact their life and academic performance. A study on students that employ a shallow learning style suffer in undergraduates' level, whereas deep learning techniques in short and long-term plans may not necessarily improve their performance. Nevertheless, better time management skills do not ensure high academic performance. It was suggested in past research that further research is needed to identify other significant elements, such as socio-demographic traits, that may impact the result, especially during current epidemic (Saat et al., 2022)

As physician stress rates go up, it might become more crucial to teach effective time-management skills. A survey of far more than 14,000 doctors found that from 2013 to 2017, burnout rates rose across all disciplines (Pitre et al., 2018). Burnout was mostly attributed to "too many bureaucratic duties" and "working long hours." Both issues include components that have to do with time management. Therefore, as health care organizations attempt to address systemic issues that contribute to burnout, medical education must incorporate training programs that improve time-management skills (Gordon & Borkan, 2014). When activities are properly and efficiently completed, there is greater job satisfaction and less stress. This is known as effective time management. In accordance with the European Working Time Directive, the advent of shift work has led to doctors working fewer hours,

which could disrupt the continuity of patient care. Improved focus leads to better time management, which in turn enhances decision-making. This improves productivity, expedites task completion, and improves job satisfaction. The secret to success is time management, which enables freshly trained doctors to take charge. According to a study on over 5000 medical students in Florida, 1137 of them answered to the survey, and 285 of them expressed worries regarding time obligations and work-life balance. They mentioned having trouble managing their time and not having enough time to finish necessary duties. Students in the clinical years expressed issues about competing duties having to manage work hours during some clerkships, whilst those in the preclinical years expressed concerns about giving up time they felt could be better spent on other activities. i.e., 80 hours during surgery and scheduling study time. They bemoaned the absence of personal time, observing that when time was limited, they tended to give school priority. The absence of balance in their lives was acknowledged by the students, who noted that it appeared to be implicitly expected or encouraged. As a result, a lot of students claimed that their interpersonal ties had suffered. Others had to postpone important family gatherings or "put off life activities until after school" because of medical school.

### **Work-life Balance of Medical Students on Career Choices**

Contextual factors have a significant impact on how Malaysian women medical doctors experience work-life balance. Gender conventions force women to shoulder the load of both career and family obligations, which interferes with work-life balance (Dousin et al., 2022). Due to the growth of medical tourism, the Malaysian healthcare sector has seen increased patronage in recent years (Habibu, 2020). There is a significant mismatch between the supply and demand of medical professionals because of this sudden increase in demand. The World Health Organization (WHO) guideline for staff ratio is not met by Malaysia's medical professional sector, indicating severe personnel shortages (Kanchanachitra et al., 2011). Although there are more and more women participating in the Malaysian labour force, there is still an imbalance in WLB since these women frequently struggle to manage their job and family obligations which leads unevenness of work-life balance (Irwan & Azaian, 2011). The first MCO in Malaysia was widely judged to be efficient in controlling the spread of COVID-19; however, absolutely nothing is known about how it influenced the psychological results of undergraduate students. In terms of negative psychological signs, the majority of students appear to have ordinary levels of stress. However, a major source of fear was that roughly a quarter of students had moderate to extremely severe symptoms of depression and anxiousness. Notably, approximately 40% of students have moderate to severe symptoms of anxiety and despair. In a study on Malaysian undergraduates stated that despite an absence of discussion on this issue among the students, the findings of a research provided persuasive evidence that students, like the working population, are facing interference from work-life balance. Work-family conflict is defined as pressure from one aspect of life that negatively impacts the other (Yunus et al., 2021). It was highlighted that undergraduates give importance more to work-life balance after the impact of Covid-19.

A survey by the Ministry of Health, Labour and Welfare (MHLW) of Japan, revealed a temporary decline in the female labour participation rate between the ages of 25 and 40 (Gender Equality Bureau Cabinet Office), suggesting that women may temporarily leave their jobs due to marriage, childbirth, and or childcare. This finding is in line with a study on the work-life balance done in Japan on medical students. Previous research revealed that country culture and family influences both have an impact on the career advancement of female



doctors (Alwazzan et al., 2016; Alers et al., 2014). While it would be ideal to provide environmental assistance to keep female labor participation rates from declining regardless of age, not all women want to work their entire lives or get married and have children.

Supporting stereotypes won't raise the percentage of women who work overall. Additionally, studies on barriers to women's job progress have come from other nations (Williams et al., 2015). In their fourth year, shortly before they begin their clinical training, a programs relating to gender equality gives medical students the chance to think about their future work-life balance. Even in the first year, female students preferred a different work arrangement than male students did; a higher proportion of female students thought about working part-time or temporarily quitting their occupations after having children (first-year female vs. first-year male). First-year female vs. first-year male: mean percentage of childcare burden.) The female students reported higher expected childcare and housework burden than the male students. Regardless of gender, first-year and sixth-year students had different concepts of work-life balance. The projected childcare burden disparity between the males and females that was observed in first-year students was nearly nonexistent in sixth-year students (Kawamoto et al., 2016). The same might be said of taking time off to care for children. Regarding what they expected from their relationship, a higher proportion of male students wished that their spouses would focus only on taking care of the home and the children after getting married or having children. Regarding the workplace, the first year and sixth-year students of both genders evaluated gender-related advantageous treatment at the workplace in various ways. A higher proportion of female students would make professional decisions based on the likelihood of getting married and having children. Even in the first year, there were differences between the male and female students in terms of potential reasons to leave one's employment in the future. More female students indicated in their responses that they would quit their careers due to being pregnant or giving birth (first-year female vs. first-year male) (Takahashi et al., 2017).

### **Protean Career Attitude as Mediating Factors**

A protean/boundaryless career notion describes how individuals are becoming increasingly self-directed and adaptive in managing their careers because of societal shifts in their employment arrangements. The topic of flexible/boundless career orientations and inclinations has generated a sizable body of literature. Over the past few decades, substantial sociological and economic changes have had a big impact on how individuals should approach their careers and deal with their employment (Sullivan & Baruch, 2009). Since job security has been eroded by globalization and rapidly developing technologies, workers must be adaptable in managing shifting employment demands (Savickas et al., 2009; Hall, 2004).

While psychological contracts between businesses and people have grown more transactional, individuals are no longer particularly dependent on their organizations for finances, long term employment, or possibilities for progress as they once were (Guest, 2004; Samson & Swink, 2023). Better job outcomes are attained by people who can adjust to these erratic situations (Sullivan & Baruch, 2009). People who control their own careers and select occupations based on personal principles rather than organizational needs or simply to make money are referred to as "protean careers" in this context. (Briscoe & Hall, 2006; Hall, 1996). When employees pursue opportunities or resources outside of their current employer, whether by changing jobs or building an externally professional network in reaction to

declining organizational resources, this career trajectory is referred to as having a "boundaryless career (Arthur, 2014; Arthur & Rousseau, 1996). The idea of a boundaryless and versatile profession has generated a lot of research (the seminal books and articles introducing these concepts have been cited more than 7,000 times). A variety of metrics, which include job satisfaction and objective success, have been studied by career researchers to determine the impact of behaviors related to flexible and boundary-less career options (e.g., career self-management behaviors; frequency of switching institutions (Hirschi & Koen, 2021; King, 2004). One part of this field's research focuses on individual variations in predisposition for it or orientation into protean and boundaryless career formations. These professional inclinations are known as "protean and boundaryless career orientations" (Waters et al., 2015; Wiernik & Kostal, 2019).

An in-depth analysis of current employability research revealed that proactive career perceives, and self-regulation are crucial for career choices and employability (Sultana et al., 2020). One of these attitudes is the protean career attitude (PCA), which is the extent to which one manages one's career in a "self-directed" and "values-driven" manner (Briscoe & Hall, 2006). According to Rahim and Siti (2015), a study on Indonesian and Malaysian students and found that protean career attitude has a positive effect on career choice. Based on the above statements, the researcher would be examining whether there is any relationship between individual factors such as the attitude of medical students, time management and work-life balance, protean career attitude, and career choice? To what extent is the level of contribution of these factors towards career choices? Which factor contributes the most towards career choices? In addition, the researcher would examine whether there is a mediating role of protean career attitude between these factors and career choices? Also to fill a gap in the career literature by distinguishing and validating the involvement of three elements (both external and internal) in the link between protean career attitude and career choices.

### Research Framework

Figure 1 shows the mediating effect of protean career attitude on the relationship of attitude, time management and work-life balance, with career choice among medical students.

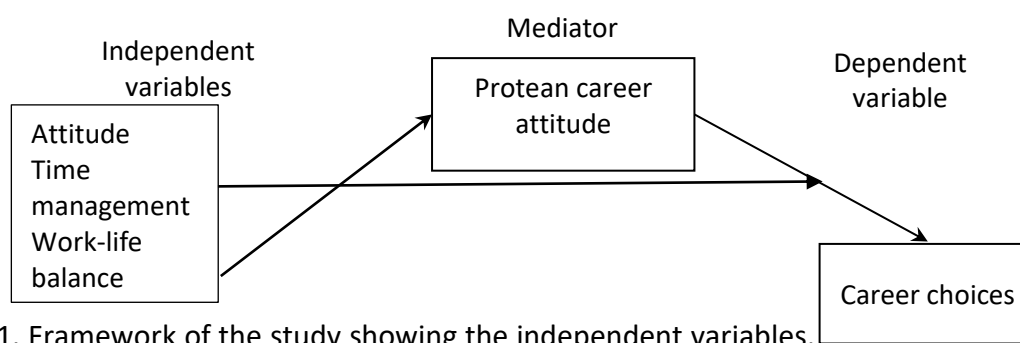


Figure 1. Framework of the study showing the independent variables, the mediator, and the dependent variable.

The conceptual framework consists of three independent variables, namely attitude, time management and work life balance. The intervening variable is protean career attitude that will be tested as a mediator in this study. Career choices constitute the dependent variable.

**Methodology**

A cross-sectional study was conducted among 356 medical students in Malaysia. The protocol of this study was approved by Ethic Committee for Research Involving Human Subject (JKEUPM-2023-1318). The respondents in this study were selected using the random sampling technique from a list of all eligible in medical program from the selected public universities. The data were collected by employing self-administered questionnaires to obtain information on demographics, attitude, time management, work life balance, protean career attitude and career choices. Written consent was obtained from all respondents before they participated in this study.

**Sample Size Calculation**

Sample size was determined by G Power, a tool that can perform accurate statistical power analysis for common statistical tests in the behavioural research field (Faul et al., 2007). The analytical parameters were as follows:  $f^2 = 0.15$ ;  $\alpha = 0.05$ ; power = 0.95; number of tested predictors = 4. A medium effect size ( $f^2 = 0.15$ ) was set according to Erdfelder et al. (1996). Based on the G power analysis, the minimum sample size for running the Pearson Product Moment Correlation Coefficient and the Multiple Linear Regression was 115 and 119, respectively. However, the researcher sampled additional subjects to ensure the reliability of the study and as a precaution against non-response error. Hence, in the final cluster of the random sample, there were 356 respondents, comprising 70 (19.7%) females and 286 (80.3%) males of a mean age of 23.0 years ( $SD = .875$ ). These students were in the first until fifth year of the bachelor degree program in medicine or medical program.

**Data Collection Procedure**

Each of the respondents was contacted through email. As 356 participants were involved, data collection took almost six months, from April 2023 until October 2023. Before collecting the data, the respondents were briefed about the objectives of the study. Each questionnaire handed in was checked for completeness.

**Instruments**

Attitude in this study was measured adapted from (Wilson et al., 2006). This section consists of nine items designed to measure a student's attitude towards the medical profession. Example of item to measure attitude: "if I could pick a different field of study", "I definitely want a career in medical", "if I could do it all over again. To measured work-life balance this study adapted from Daniels and McCarraher (2000) which consisted of ten statements about work-life balance. Sample of item to measure work-life balance: "working close to home", "having a supportive manager" and "flexible working hours". Time management was measured and adapted from (Britton & Tesser, 1991). This section consists of 19 items. Sample of item to measure time management: Short Range Planning "do you make a list of the things you", "do you plan your day before", "do you make a schedule", "do you often find yourself", "do you feel you are in charge". Each item in for attitude, work life balance and time management were measured using a five-point Likert scale ranging from 1(strongly disagree) to 5(strongly agree).

Further, protean career attitude with questions assessing mediating variables was adapted from Briscoe and Hall (2006) with 8 items. Each item in this section was measured using a five-point Likert scale ranging from 1(to little or no extent) to 5(to a great extent). Sample of item to measure protean career attitude: "I am in charge of my own career", "ultimately, I



depend upon myself” and “I am responsible for my success”. To measure career choices this study adapted from Vaglum & Ekeberg (1999) which consist of 18 items that address six dimensions of career choices of medical students. Each item in this section was measured using a five-point Likert scale ranging from 1(strongly disagree) to 5(strongly agree). An example item to measure career choices: “high professional status”, “prestigious social” and “provides a secure career.”

### Statistical Analysis

The data collected in the study were analyzed using SPSS version 26. Descriptive statistics such as frequency, percentage, measurement of central tendency, and measure of variability were used to characterize the level of variability in this study. Inferential statistics was used as the frame of statistical computations applicable in making inferences from the findings. The Pearson product moment correlation was used to establish the direction and magnitude of relationship between two variables (Babbie, 2010). Guildford’s (1973) Rule of Thumb was used to determine the strength of the relationship between variables. A multiple linear regression analysis was executed where the standardized regression coefficients, beta, of the independent variables (attitude, time management, work life balance) reflected their respective potential influences on the dependent variable, career choices. The mediation role of protean career attitude was analyzed using PROCESS IBM SPSS 26 as suggested by Preacher and Hayes (2004, 2008). This method examines the total direct effect and the indirect effect of protean career attitude as mediator in the relationship between the independent variables and career choices. It is also deemed superior to the method of Hu, Hood and Creed (2018) used in their research on career goal importance and the relationship between career feedback and career-related stress. The PROCESS procedure constructs bias-corrected percentile and Monte Carlo Confidence Intervals (CI for indirect effects).

### The Results

#### Simple regression analysis explaining variation in career choices

The relationships of attitude, time management, work life balance, protean career attitude and career choices among medical students’ level were analyzed using the Pearson Product-Moment correlation. Further, Cohen’s (1988) categorization of effect size was used to interpret the strength of the correlation between the study variables. Preliminary analyses were performed to ensure that there were no violations of the assumptions of normality and linearity. Table 1 shows a strong and positive correlation of attitude ( $r=.344$ ,  $p<.000$ ), time management ( $r=.176$ ,  $p<.000$ ), work life balance ( $r=.006$ ,  $p<.000$ ) and protean career attitude ( $r=.243$ ,  $p<.000$ ) with career choices.

Table 1

*Bivariate correlations between attitude, time management, work life balance, protean career attitude and career choices among medical students (n=356)*

Variables	1	2	3	4	5
1. Career choices	1.00				
2. Attitude	.344**	1.00			
3. Time management	.176**	.422**	1.00		
4. Work life balance	.006	.298**	.238**	1.00	
5. Protean career attitude	.243**	.571**	.396**	.548**	1.00

Note: \*\* indicates levels of statistical significance:  $p < 0.001$  level (2-tailed)

### Mediation Analysis

Table 2 presents the results of the mediating effect of protean career attitude (PCA) mediates the influence between attitude (AT), time management (TM) and work-life balance (WLB) towards career choices (CC) among medical students in public universities. The determination of protean career attitude mediation is based on “zero” (0) value location in the confidence interval (CI) (Hayes & Shaky, 2013); if CI does not encompass a “zero” (0) value, the indirect or mediation effect is statistically significant.

Table 2

*Results of the PROCESS method to analyse for mediation by protean career attitude*

	Point estimate ( $\beta$ )	t-value	Bootstrapping percentile 95% CI		BC
			Lower	Upper	
Attitude	.481	13.184	.409	.5503	
Time management	.123	2.547	.028	.218	
Work life balance	-.203	-3.698	-.310	-.094	

Note: BC, bootstrap confidence; CI, confidence interval. Indirect effect is significant if 0 value falls outside the lower bound and upper bounds of BC Percentile 95% CI.

Table 2 below shows the results of the bootstrapping analysis, demonstrating that the indirect effect  $\beta = .481$  was significant with t-value of 13.184. Preacher and Hayes (2008) designate that when the 95% Boot CI (LL = 0.409, UL = 0.5503) does not straddle a 0 value in between, this indicates the presence of mediation. Thus, this study concluded that  $H_1$  was supported. The mediation effect of protean career attitude was statistically significant. In this research the mediation effect between these variables shows that the results of the direct model and the mediation model were compared, and the direct model and mediation model showed significant results (both p-value <0.05). Hence, it is concluded that protean career attitude mediated the role between attitude and career choices at 5% significance level.

As shows in Table 2 the results of the bootstrapping analysis, demonstrating that the indirect effect  $\beta = .123$  was significant with t-value of 2.547. Preacher and Hayes (2008) designate that when the 95% Boot CI (LL = 0.028, UL = 0.218) does not straddle a 0 value in between, this indicates the presence of mediation. Thus, this study concluded that  $H_2$  was supported. The mediation effect of protean career attitude was statistically significant. In this study, the mediation effect between these variables was compared and the results shows that both the direct model and the mediation model were significant, results (both p-value <0.05). Hence, it is concluded that protean career attitude mediated the role between time management and career choices at 5% significance level. Table 2 also shows the results of the bootstrapping analysis, demonstrating that the indirect effect  $\beta = -.203$  was not significant with t-value of -3.698. Preacher and Hayes (2008) designate that when the 95% Boot CI (LL = -.310, UL = -.094) does no straddle a 0 value in between, this indicates the presence of mediation. Thus, this study concluded that  $H_5$  was not supported. The mediation effect of protean career attitude is not significantly influencing between work-life balance and career choices.

The study on the mediation between protean career attitude on work-life balance towards career choices was done by comparing the direct and indirect and the mediation model and the results shown as it is not significant. Therefore, it can be concluded that there was no

mediating effect of protean career attitude on work-life balance influencing career choices at 5% significance level. These results contradict the past research which hypothesizes that protean career attitude mediates work-life balance. Nevertheless, the non-significant result is expected as findings and was reported. Therefore, based on the mediating effect of protean career attitude has an influence on attitude and time management and no influence on work-life balance towards career choices.

### **Discussion**

Based on the findings, it can be observed that there exists a positive association between attitude (AT) and career choices. Malaysian medical students chose community pharmacy (Hasan et al., 2018) which is consistent with the findings of the current study whereby the medical student's attitude in making career choice upon graduating has a positive influence. Attitude is important for career choices in both theoretical and practical ways, including obtaining success in labor market and dealing with difficult work situations. People pick specific jobs or change of careers for a wide range of reasons which were labeled as career anchors (Schein, 1996). According to Schein (1996), there are eight taxonomy of career anchors. At least three, including autonomy, determination, and true challenges, are found in the concept of values and attitude (Rodrigues et al., 2013). This demonstrates the significance of attitude in comprehending professional preferences and career choices. According to Lent, Brown & Hackett, 1994), the importance of attitude in understanding occupational desires and career choices. They define attitude in terms of likes, dislikes, and apathy; thus, career interests are a subject of attitude, which ultimately determine one's career decisions. In determining career choices, the socio-cognitive approach emphasizes a triadic interaction of environmental, personal, and cognitive elements (Lent et al., 2000; Lent et al., 1994). On this basis, cognitive processes modulate the impact of personal and socialization factors on future career choices. Students' attitudes have a big impact on whether they want to learn more. According to Zint (2002), attitude is the component that can be used to predict behavior intention the most. Other empirical research confirms that an individual's attitude has a significant impact on their intention, which in turn has an impact on their behavior and job performance. Students' attitudes are influenced by those around them, especially teachers, in addition to by themselves (Blazar & Kraft, 2017). Teachers are the individuals who have a significant impact on the entire educational process. Their main duties are to instruct, mentor, direct, and set an example for their students. For students to be exceptional and successful graduates, educators can change students' attitudes and perceptions of knowledge to more positive outlooks and boost students' enthusiasm in careers (Umar, 2014).

Based on the findings, there exists a correlation between time management and career choices. Students' use of time at higher education institutions is determined by their daily routines and activities. Their time management skills might also have an impact on their stress levels because they must balance their work and personal successes (Arumugam et al., 2020). Physicians constantly struggle with time management on both a personal and professional level. Doctors frequently struggle with time management due to a unique professional commitment known as patient responsibility. Due to interruptions, unplanned alterations in healthcare management, mental and physical tiredness, and variable schedules or work assignments, it may not always be feasible to completely control or change the uncertain character of work (Pitre et al., 2018). Time management requirements resulting from patient duty are frequently not fully met by resources available from other industries or

major businesses. Consequently, the suggested framework for time-management methods presented in this workshop draws on both these company theories and, more importantly, published research that shows how time management tactics may be tailored to the context of both clinical and academic medicine contexts.

The negative correlation coefficient suggested there is no association between work-life balance and career choices. Hence, a negative correlation exists between a perception of work-life balance and the likelihood of making career choices. Therefore, there is no influence between work-life balance and career choices. According to Demerouti et al., (2012), one's professional responsibilities, individuals are also children, brothers and sisters, acquaintances, members of social organizations, and ultimately spouses/partners, and finally parents, therefore the significance of these work and nonwork roles change and shift over the stages of life. Studies acknowledge that work and personal life areas can affect each other in both good and negative ways (Grawitch et al., 2010). Studies on WLB in Malaysia are expanding at the same time that the number of women in the workforce is growing. Research on WLB concerning working women spans a range of topics. According to Fritz and Van Knippenberg (2018), WLB and career choices chances for women are crucial for retention and to inspire women to pursuit of higher positions. Anecdotal proof of the medical industry in Malaysia typically depicts one of two situations either an excessive workload caused by staff shortages and poor infrastructure or overworked doctors reducing WLB which emphasizes doctors in need of WLB (Vivek, 2019). Work-life balance represents a person's orientation towards career and non-career life roles, and a conflict between work and life is viewed as an inter-role imbalance. As research conducted in Malaysian settings are relatively sparse, further studies are encouraged to investigate the longitude influence of other characteristics of the work environment on the work-life balance of employees. A study on graduates pursuing a profession in healthcare, modern-day school graduates have various choices. Choosing the correct job is crucial for a student's future. Students pick jobs depending on a various criterion, which differ by countries.

According to the results of this research, protean career attitude (PCA) has a significant mediating impact on career choices. It means that, protean career attitude (PCA) as a mixture of the attitude of both the employees and the administration on career choices. According to Sultana and Malik (2020), protean career attitude has a positive correlation and mediate the Career/job-related variables. The outcome of the research is in line with the hypothesis that there is a positive influence between mediating effect of protean career (PCA) on attitude (AT) and time management towards career choices. As for the work-life balance, protean career attitude (PCA) has no significant mediating impact on career choices. The outcome of the research is not line with the hypothesis that there is a negative influence between mediating effect of protean career attitude (PCA) on work-life balance (WLB) among medical student in public universities. The large number of doctors especially females in the organization appears to favor the introduction of measures that promote work-life balance; nevertheless, the decision to invest in work-life balance policies may be functional and sustainable. Therefore, work-life balance is not any predominant factor in making a career choice.

**Implications of the Study**

The study has various practical consequences for individuals as well as organizations. First, in an age of changing employment relationships, employees have to comprehend the significance of self-managing their careers based on their values, as well as how a career management can assist them to achieve greater levels of career success (both intrinsic and extrinsic). Displaying higher work performance, consequently benefiting themselves and their organizations. Employees who want to self-manage their careers, on the other hand, should fully understand the importance of having a strong career insight, networking with people both inside and outside their organization, and engaging in continuous learning activities for achieving desired career outcomes and reciprocating the organization through more effective work ethics. In addition, the department should encourage students to take ownership of their careers and assist them in obtaining the necessary career skill sets. In this regard, institutions could establish career counselling programmes to help students discover certain careers and understand their own strengths and shortcomings. Organizations should also allow their staff to form networks with people both inside and outside the organization. In the context of higher education institutions students may benefit from networking possibilities by organizing conferences, seminars, and workshops to which relevant academic, government, and business professionals are invited. One must also completely participate in such professional activities as well as social gatherings to expand their social networks. Employees are also encouraged to boost their internal visibility by accepting new and difficult job tasks. Furthermore, organizations should give their staff with opportunities for ongoing learning and development. These chances can be offered in higher education institutions by giving research grants and scholarships for higher education, including postdoctoral study. Finally, and most significantly, organizations in which conventional career pathways are becoming more uncommon should encourage and recognize versatile employees.

**Limitations of the Study**

This study investigated career choices among medical students in only in selected public Malaysian university. It is suggested that similar studies should be conducted with students from various other public and private higher education institutions in Malaysia.

A cross-sectional self-reported data collection technique was used for the current study to assess career choices among medical students. The sample size selected in this study was limited. Perhaps a larger sample size would provide greater confidence in conclusions drawn from this study. The findings of this study require more medical university students to participate in repeated tests for acceptance of the universality of our results.

**Conclusion**

This research is significant as the findings contribute to the body of knowledge on Career choices among medical students using all the reliable predictors with the support of the most suitable theory as the base of this study. The study elucidates on individual career choices, organizational practices, national policy, and theoretical development. This study examines the predictors that applicable in the Malaysian context. The purpose of the current study was to add to the body of knowledge regarding career options. Specifically, to provide a more concrete explanation of the protean career mentality in the context of Malaysia. By emphasizing pertinent individual, organizational, and work-related elements toward a flexible career attitude, the current study advances research on SCCT.



The research also looks at how career choices affect the link between the independent and dependent variables. The research's pertinent human, organizational, and employment-related characteristics also demonstrate their capacity to forecast how professionals' protean career attitudes will develop at Malaysian private institutions. The study acknowledges that career choices, which were excluded from the SCCT model, are an essential factor to determine the effect of job-related characteristics on protean career attitude (Lent et al., 1994). The theoretical idea is stated in a different theoretical framework; however Lent and Brown (2006) only acknowledged the relationship between work conditions (i.e., working hours) and an individual's engagement in goal-related activities (i.e., work-life balance).

This research has also verified the theoretical framework used to examine Protean career attitude as the mediator between career choices and the predictor. Social Cognitive Career Theory (SCCT) and Life-Span, Life-Space theory (LSLST) was used as the underpinning theories to explain the research framework. It is to be highlighted that this study is the first to investigate the role of a protean career attitude as a mediator between independent variables and career choices. The examination of this approach aimed to fill the research gap that exists since there is insufficient empirical data to show how independent variables and career choices interact. The emphasis on protean career attitude will raise employees' knowledge and preparation for proactive career choices. It is essential to mention that through training and development initiatives put forth by organizations and the government, employees are actively obtaining the necessary skills, information, and chances. Employees who actively engage in training and development initiatives will optimize information transfer during the learning process and improve their competencies for professional advancement.

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