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Self-concept, Self-esteem, Self-efficacy and Career Beliefs as Correlates of Career Choice among Undergraduate Medical Students in Edo State, Nigeria

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Abstract

This study investigated the relationship between four psychological constructs (self-concept, self-esteem, self-efficacy, and career beliefs) and career choice among final-year medical students in Edo State, Nigeria. Career belief showed the strongest significant relationship with career choice. Self-esteem demonstrated no significant relationship with career choice. In the final model, only self-efficacy remained a unique and significant predictor when all variables were analyzed together. Furthermore, student's belief in their capabilities (self-efficacy) showed the most consistent link to their career intentions, meaning that other predictors of career choice were not as powerful as self-efficacy in the multivariate interactions in this study.

Keywords: Self-Concept, Self-Esteem, Self-Efficacy, Career Beliefs, Career Choice, Medical Student

Introduction

A career could be seen as a series of connected vocational knowledge and activities which spans throughout an individual's life. Lack of understanding and knowledge of vocation, interest, and potentials can foster challenges to career choices (Schmid & Haukedal, 2022), warranting carefulness and thoughtfulness to understand factors that influence a suitable choice (Rami, Zaini, & Aziz, 2021). Career choice should reflect personality style and self-constructs of an individual (Wangia, Waswa & Waudo, 2019; Abomah & Togoe, 2021). Thus, it is crucial to understand the factors that can influence career choice of medical students in order to guide medical education and the workforce (Soomro et al., 2022). Previous studies have identified a range of challenges with students' choices of areas of specialization like: parental influence, peer pressure and financial benefits (Adheke et al., 2023), change in curriculum (Ezegwui et al., 2022), anxiety (Wirkus et al., 2021), passion and interest (Sud et al., 2020), preferences for specialization areas determined by gender and family pressure (Falase, et al., 2022), and lack of information to guide choice of specialty for residency (Minsu et al., 2020). These challenges could pose significant challenges to career progression for medical students as some may end up choosing specialization areas that may not align with their psychological endowments.

Self-concept is the ideas students have about who they are physically, emotionally, socially, and spiritually (Huitt, 2004). According to Bandura (1997), self-concept influences the choices people make and the courses of action they pursue. Self-efficacy is a construct which roughly corresponds with the students' belief in their competences to achieve positive outcomes that align with their career goals (Petruzziello et al., 2021; Kanar & Heinrich, 2024). Self-esteem reflects an individuals' overall subjective emotional evaluation of their worth (Beck, 2008). Career beliefs are assumptions and generalization an individual holds about the self and the world of work which affects one's career choice and career development.

Previous reports affirm that self-concept could be a catalyst to career choice. Bi et al. (2023) found in a study positive significant relationship between self-concept and career decision among nursing students in China. Similarly, Huda et al. (2024) reported a significant positive correlation between self-concept and career choice among high school students who participated in the study in Semarang. Mwangi (2024) also reported that self-concept correlated with career choice of pre-service education students in Kenya. Iriani, et al. (2023) confirmed that there was a relationship between self-concept and career choice maturity.

On self-efficacy and career choice, Sandra and Mularsih (2021) observed that self-efficacy significantly related with career decision making among students in Jakarta. In addition, Yiming et al. (2024) suggested that higher self-efficacy led to better career

development. Kleine et al. (2023) confirmed that self-efficacy played a key role in students' career concern. In addition, Vingki and Rant (2023) also noted that self-efficacy related to the locus of control on students' career.

On the relationship between self-esteem and career choices, Iriani, et al. (2023) found among students in Indonesia that career choice maturity was influenced self-esteem. Dangwal and Mitra (2024) confirmed self-esteem related with career aspirations among students in Neemrana, Rajasthan, India, though not statistically substantial. Similarly, Okafor and Akpochafo (2022) found non-significant relationship between self-esteem and career decision-making among students in Bayelsa State, Nigeria. Also, Rehman (2024) found no significant correlation between self-esteem and career decision-making among university students in Malaysia.

Studies also revealed statistical relationship between career belief and career choice. According to McAlexander et al. (2022) career beliefs and intentions can foster participation in career across populations. Mwangi (2024) found among participants that socio-cultural beliefs correlated to career choice of pre-service education students in Kenya. Mansour (2025) found that cultural factor related to ethnicity shaped career preference, while perceptions and stereotypes positively correlated with career choices; but religious belief did not substantially relate to career choice. According to Luo et al. (2021) stereotypes could play a key role to influence career choices

Rationale of the Study

Career choice is a pivotal decision in the life of any individual, especially for undergraduate medical students whose future roles significantly will impact society's wellbeing. Despite the structured and competitive nature of medical education, many final year undergraduate medical students struggle with uncertainty or dissatisfaction regarding their career choices. While academic achievement is often emphasized, psychological and personal factors such as self-concept, self-esteem, self-efficacy and career belief also play critical roles in shaping these career choices. Previous research has explored career choice from cognitive and environmental perspectives, yet the influence of personal psychological attributes particularly on medical students on career choice and specialization remain under investigated, especially within Edo state, Nigeria. Furthermore, previous studies have concentrated on reporting how predictors related with career choices, neglecting reports on the interplay of the predictors and career choice in multifactorial investigations. Thus, this situation, has created a research gap that needs to be addressed. Previous studies (e.g., Bi et al., 2023; Huda et al., 2024; Dangwal et al., 2024; Sandra et al., 2021; Yiming et al., 2024) did not explore the joint influence of self-concept, self-esteem, self-efficacy, career beliefs on career choice in single studies. Thus, this study examined self-concept, self-esteem, self-efficacy and career beliefs as correlates of career choice among final year undergraduate medical students in public universities in Nigeria, and specifically, in Edo

state in a single study to cover this gap.

Hypotheses

1. There is no significant relationship between self-concept and career choice
2. There is no significant relationship between self-esteem and career choice
3. There is no significant relationship between self-efficacy and career choice
4. There is no significant relationship between career beliefs and career choice
5. There is no significant combined influence of self-concept, self-esteem, self-efficacy, career beliefs on career choice

Method

The researchers adopted the correlational design for this study. Correlational research design is a research methodology employed to investigate the relationships between two or more variables. It aims to identify whether a relationship exists between variables, the direction of the relationship, and the strength of the relationship. The use of a correlational design in this study allowed the researchers to determine the relationships and correlations existing between independent variables and the dependent variable.

Participant and Sampling Procedure

The population of the study comprised all undergraduate medical students in public universities in Edo State, totaling one thousand seven hundred and seventeen medical students (1717) as follows: Ambrose Alli University, Ekpoma (AAU) in Edo Central, constituted 367 (21.4%), University of Benin, (UNIBEN) Benin city in Edo South, constituted (900 (52.4%), and Edo University, Iyamho (EUI) in Edo North, constituted 450(26.2%).

Table 1: Distribution of the population of the study

S/N	Name Of University	Population	Percentage
1	Ambrose Alli University, Ekpoma	367	21.4%
2	University of Benin, Benin city	900	52.4%
3	Edo University, Iyamho	450	26.2%
	TOTAL	1717	100%

SOURCE: Information and Communication Technology Department of AAU, UNIBEN, & office of the Registrar, EUI (2025).

A sample size of 19.5% of the entire population (1717) was chosen. This yielded a sample size of three hundred thirty-five (335). Out of these sample size, AAU constituted

117 which was 34.9%, UNIBEN constituted 144 which was 43.0%, and EUI constituted 74 which was 22.1%. The researchers adopted a purposive sampling technique to select final year undergraduate medical students in the selected universities. Focusing on final year undergraduate medical students was crucial, as these students were at the point of completing their academic training and were likely had definite career beliefs, self-perceptions, and career choices in relation to their professional future.

Measures

Five instruments were used to collect data for this study. The instruments were: (1). Self-Concept Questionnaire (SCQ), (2). Self-Esteem scale (SES), (3), General Self-Efficacy Scale (GSES), (4). Career Belief Inventory (CBI), and (5). Career Choice Survey (CCS). First Instrument, "Self-Concept Questionnaire" (SCQ) is a standardized scale developed by Robson in 1989 and was adapted for this study. The original version of the instrument was adapted and modified to suit this study by reducing the test items from 30 to 15. The second Instrument," Self Esteem Scale" (SES) originally developed by Rosenberg, and adapted by Robins, Hendin, Trzesniewski, (2001) was adopted and used to assess the level of self-esteem of the students as regards their career choice. The scale is a 10-item, 4-point Likert scale measuring global self-worth, where respondents indicated their degree of agreement by ticking an option between strongly agree – '1' to strongly disagree – '4'.

The third Instrument, General Self Efficacy Scale (GSES) originally developed by Schwarzer & Jerusalem (1995), This instrument was adopted as adapted and used by Ohizu, & Okoiye, (2014), and Omodiale, (2015) both in Nigeria. The instrument consists of a 4-point Likert scale ranging from Not at all true (1), Hardly true (2), Moderately true (3) to Exactly true (4). The instrument consists of a total of 10 items measuring the degree of students' self-report on self-efficacy. The Fourth instrument, Career Belief Inventory (CBI) 0riginally developed by Krumboltz (1994) to assess career beliefs among undergraduate students in the University of Lucknow was adapted for this study. The scale was originally a 5-point rating scale consisting of a total of 25 items which covers five (5) dimensions (sub-scales) of career beliefs with each of the dimensions containing five (5) items each, namely: career confidence (items 1 -5), career activity (items 6 - 10), career independence (items 11 - 15), career flexibility (items 16 - 20), and career positivity (items 21 - 24).

The fifth instrument is the "Career Choice Survey" (CCS). The instrument which was developed by Borchert, (2002) was designed to identify to what extent these items played a role in career choice among high school students. The main adaptation that was further carried out by the researchers on this instrument was the removal of demographic items which were not relevant to this study. However, the original 4-point Likert-rating scale which began from positive to negative agreement of personal choices of ticking

preferred choices was adopted. All the instruments were validated by two experts in the field of Guidance and Counselling in Ambrose Alli University, Ekpoma, Edo State, Nigeria. Similarly, all instruments yielded over 0.8 Cronbach reliability alpha which was considered adequate for this study.

Method of Data Collection

Data preparatory exercise was undertaken. This involved recruitment of research assistants, training of the research assistants, and application for permission from the various faculty heads of the universities where the researchers had to carry out the administration of the instruments. Two research assistants were recruited for the exercise. Purposeful efforts were made to ensure that these research assistants are knowledgeable about research undertakings and instrument administration. A cover letter was attached to each copy of the instruments to explain the purpose of the research exercise to the respondents.

Method of Data Analysis

The data were collected through questionnaires and were analyzed using the descriptive statistics to analyze the mean score of the respondents on the variables of the study. Hypotheses 1, 2, 3 and 4 were tested using Pearson Product Moment Correlation Coefficient technique following the general rule of thumb to ascertain the degree of relationship (Arkkelin, 2014), and hypothesis 5 was tested using the Multiple Regression Analysis (MRA) to reveal the level of correlation of the independent variables on the dependent variable of the study. All these were tested at 0.05 level of significance, using IBM statistical package for social science (SPSS) version 20.0.

Results

To test hypotheses 1,2,3 & 4, the bivariate correlation was employed which showed the descriptive statistics, the scatterplot graph and the bivariate correlation which showed the correlation between the predictors and career choice. To hypothesis 5, the multiple regression analysis was used. This is showed in the histogram graph of regression, the p-plot of the regression, the model summary for hierarchical regression.

Hypothesis 1: There is no significant relationship between self-concept and career choice.

Table 2: Descriptive statistics for self-concept and career choice

	Mean	Std. Deviation	N
Self-Concept	45.0585	3.00303	325
Career Choice	27.0985	3.02604	325

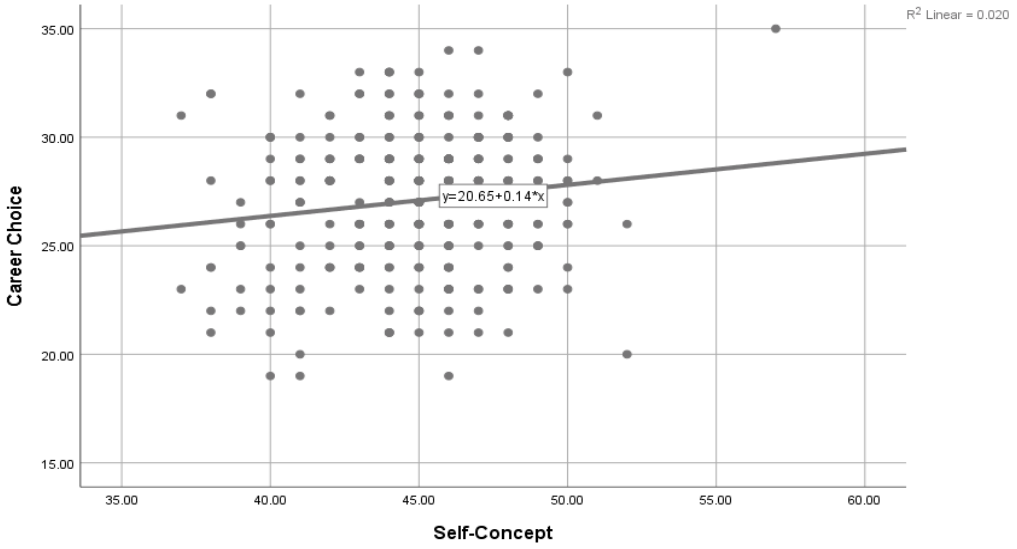

Figure 1: Scatterplot depicting the relationship between self-concept and career choice

Table 3: Bivariate correlation between self-concept and career choice

		Self-Concept	Career Choice
Self-Concept	Pearson Correlation	1	.142*
	Sig. (2-tailed)		.010
	N	325	325
Career Choice	Pearson Correlation	.142*	1
	Sig. (2-tailed)	.010	
	N	325	325
*. Correlation is significant at the 0.05 level (2-tailed).			

The descriptive statistics presented in Table 2 provided a foundational snapshot of the study's core variables for the 325 final-year medical students. The mean score for Self-Concept (45.06) is notably higher than that for Career Choice (27.10), suggesting that, on average, participants reported a relatively robust sense of self. Both variables, however, demonstrate a similar and restricted spread of scores around their respective means, as indicated by the low standard deviations (3.00 and 3.03). This limited variability implies that the students' responses were quite homogeneous, clustering closely around the

average, rather than being widely dispersed.

This initial picture is further illuminated by the correlation analysis in Table 3. A Pearson correlation coefficient of .142 reveals a statistically significant, positive relationship between self-concept and career choice. While this correlation is significant at the 0.05 level (p = .010), its strength is best described as weak. The positive direction indicates that as students' levels of self-concept increase, their scores on the career choice measure also tend to increase, albeit modestly. Therefore, the null hypothesis (Hypothesis 1), which posited no significant relationship, is therefore rejected.

Hypothesis 2: There is no significant relationship between self-esteem and career choice

Table 4: Descriptive statistics for self-esteem and career choice

Descriptive Statistics			
	Mean	Std. Deviation	N
Self-Esteem	27.6369	2.08549	325
Career Choice	27.0985	3.02604	325

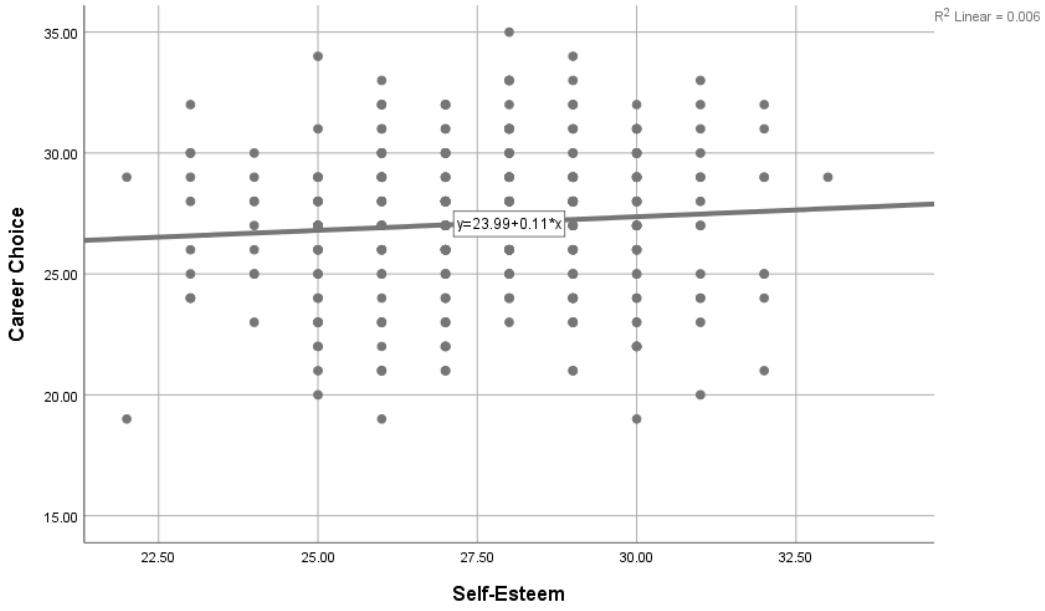

Figure 2: Scatterplot depicting the relationship between self-esteem and career choice

Table 5: Bivariate correlation between self-esteem and career choice

		Self-Esteem	Career Choice
Self-Esteem	Pearson Correlation	1	.078
	Sig. (2-tailed)		.163
	N	325	325
Career Choice	Pearson Correlation	.078	1
	Sig. (2-tailed)	.163	
	N	325	325

Table 4 outlined the basic descriptive data for self-esteem and career choice, revealing that the 325 students reported a moderate mean self-esteem score of 27.64, with their responses showing a fairly tight clustering around this average, as evidenced by the low standard deviation of 2.09. This suggests a notable consistency in how the cohort perceives their own self-worth.

The correlation analysis in Table 5, however, tells a more definitive story. The Pearson correlation coefficient between self-esteem and career choice is a mere .078, and this relationship is not statistically significant, with a p-value of .163. Since this value is well above the conventional threshold of 0.05, we must conclude that the observed link is likely due to chance. Consequently, the null hypothesis (Hypothesis 2), which stated there is no significant relationship, is upheld.

Hypothesis 3: There is no significant relationship between self-efficacy and career choice.

Table 6: Descriptive Statistics for self-efficacy and career choice

	Mean	Std. Deviation	N
Self-Efficacy	29.6954	1.93796	325
Career Choice	27.0985	3.02604	325

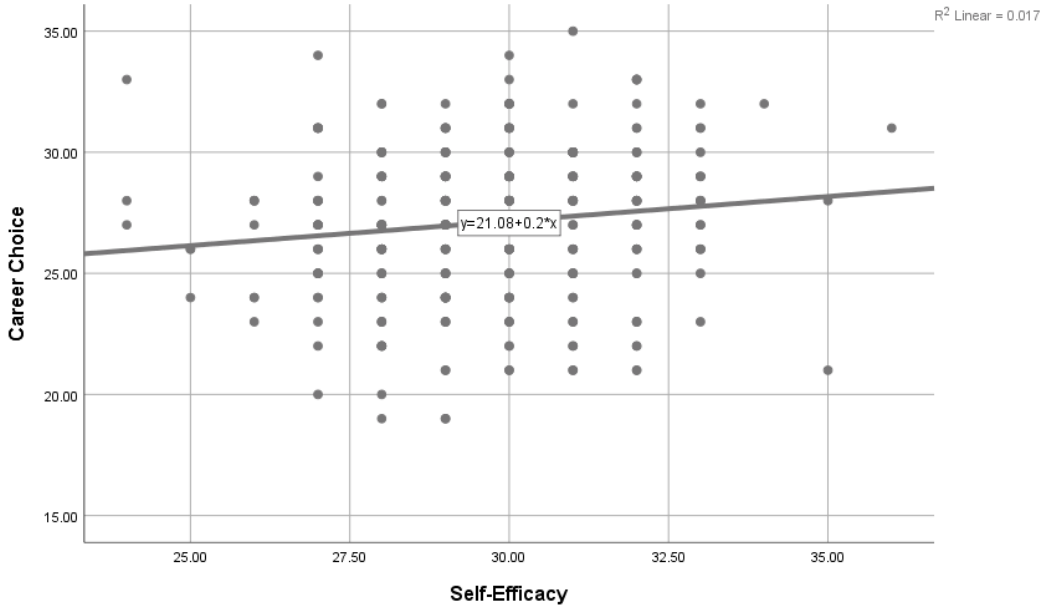

Figure 3: Scatterplot Depicting the relationship between self-efficacy and career choice

Table 7: Bivariate correlation between self-efficacy and career choice

		Self-Efficacy	Career Choice
Self-Efficacy	Pearson Correlation	1	.130*
	Sig. (2-tailed)		.019
	N	325	325
Career Choice	Pearson Correlation	.130*	1
	Sig. (2-tailed)	.019	
	N	325	325
*. Correlation is significant at the 0.05 level (2-tailed).			

The descriptive statistics in Table 6 revealed an interesting pattern in the students' scores. The mean for self-efficacy (29.70) is the highest among the psychological variables examined, and it also displays the smallest standard deviation (1.94). This indicates that the cohort of medical students not only reported a strong belief in their capabilities but did so with remarkable uniformity, suggesting a shared confidence in their ability to perform tasks and overcome challenges.

This shared confidence, however, translates into only a faintly discernible link with their career choices. Table 7 presents a Pearson correlation coefficient of .130, which is statistically significant ($p = .019$). This confirms that a weak, yet positive, relationship exists between self-efficacy and career choice, leading us to reject the null hypothesis (Hypothesis 3). In practical terms, this means that while higher levels of self-confidence

are associated with more defined or specific career choices, the strength of this association is quite modest.

Hypothesis 4: There is no significant relationship between career beliefs and career choice.

Table 8: Descriptive statistics for career belief and career choice

	Mean	Std. Deviation	N
Career Belief	33.2554	2.52873	325
Career Choice	27.0985	3.02604	325

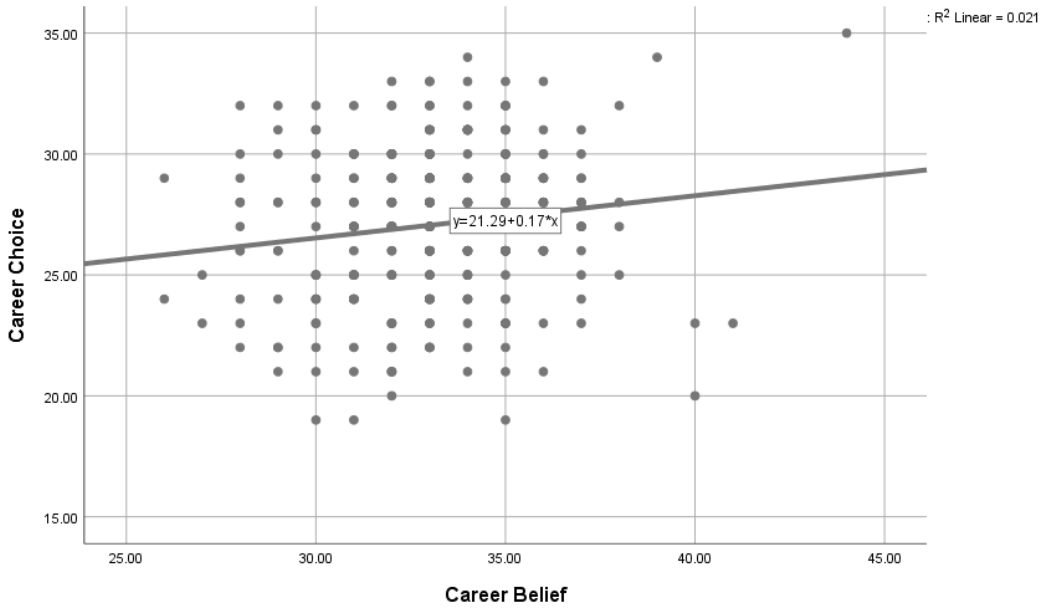

Figure 4: Scatterplot Depicting the relationship between self-efficacy and career choice

Table 9: Bivariate correlation between career belief and career choice

		Career Belief	Career Choice
Career Belief	Pearson Correlation	1	.146**
	Sig. (2-tailed)		.008
	N	325	325
Career Choice	Pearson Correlation	.146**	1
	Sig. (2-tailed)	.008	
	N	325	325
**. Correlation is significant at the 0.01 level (2-tailed).			

The data presented in Table 8 indicates that career beliefs, with a mean score of

33.26, represent the highest average measurement across all the psychological correlates studied. This elevated mean, coupled with a moderate standard deviation, suggests that the final-year medical students generally held strong and somewhat varied convictions about careers and their own professional paths. It is this variable, perhaps unsurprisingly, that demonstrates the most statistically robust connection to career choice. Table 9 reveals a Pearson correlation coefficient of .146, which is significant at the 0.01 level (p = .008). This signifies that the positive relationship between career beliefs and career choice, while still modest in absolute strength, is the most reliable one identified in this study. The strength of this correlation allows for a firm rejection of the null hypothesis (Hypothesis 4).

Hypothesis 5: There is no significant combined influence of self-concept, self-esteem, self-efficacy, career beliefs on career choice.

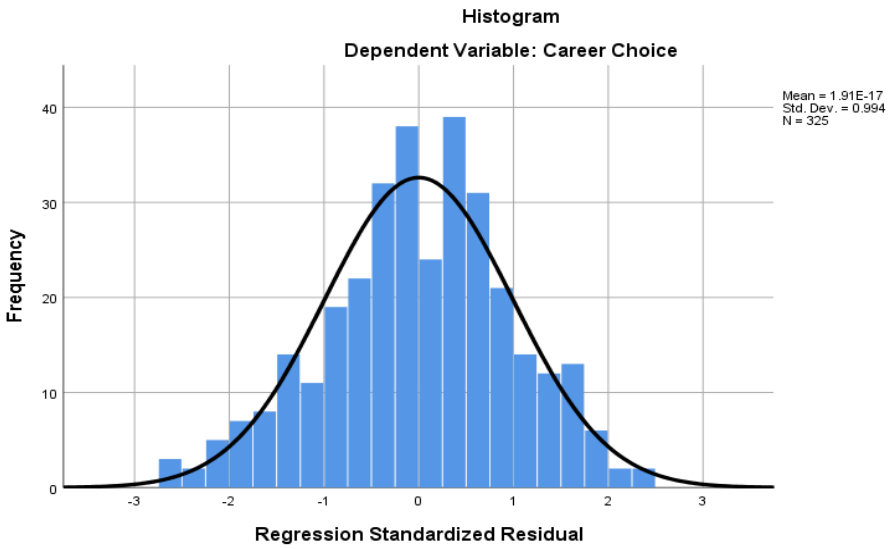

Figure 5: Normal histogram graph of regression standardized residuals

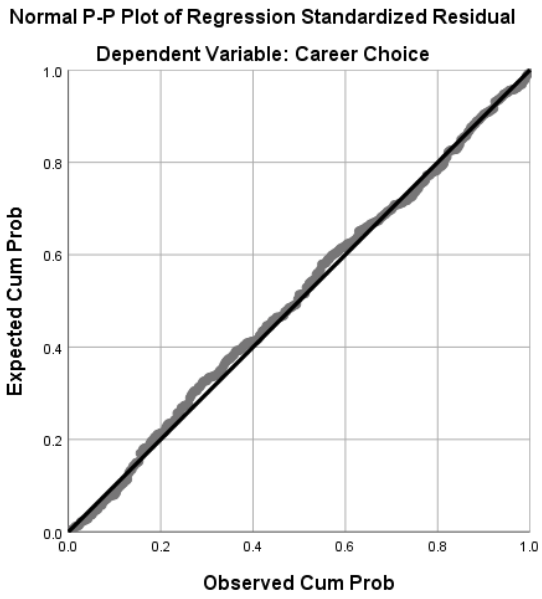

Figure 6: Normal P-P Plot of regression standardized residuals

Figure 5, described as "a graph of a normal distribution," is almost certainly a P-P Plot (Probability-Probability Plot) or a histogram of the regression residuals. Its critical role is to assess whether the errors in the model's predictions are normally distributed. A well-behaved model, which we can infer this one largely is from the other results, would show a P-P Plot where the data points cling closely to the diagonal line. This would visually confirm that the pattern of the model's mistakes is random and follows a normal bell curve, a key assumption that underpins the significance tests (the p-values) we rely on. If the points veered severely off the line, it would cast doubt on the validity of the entire analysis. Figure 6, likely a Scatterplot of the standardized predicted values against the standardized residuals, serves a different but equally vital diagnostic purpose. It checks for the assumption of homoscedasticity—that is, whether the variance of the errors is constant across all levels of the predicted outcome. A healthy plot would show a random, unstructured cloud of points with no obvious pattern, fanning shape, or curve. The presence of such a "blob" would indicate that the model's accuracy is consistent whether it is predicting a low, medium, or high score for career choice. A clear pattern, like a cone or a curve, would suggest that the model becomes less reliable for certain ranges of predictions. In essence, these two figures work in tandem as a quality control check. They provide visual assurance that the more complex multivariate relationships discussed in the later tables are built upon a statistically sound foundation.

Table 10: Model summary for hierarchical regression predicting career choice

Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	Self-Concept[b]	.	Enter
2	Self-Esteem[b]	.	Enter
3	Self-Efficacy[b]	.	Enter
4	Career Belief[b]	.	Enter
a. Dependent Variable: Career Choice			
b. All requested variables entered.			

Table 11: Model summary for hierarchical regression predicting career choice

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig.F Change
1	.142[a]	.020	.017	3.00001	.020	6.648	1	323	.010
2	.158[b]	.025	.019	2.99716	.005	1.615	1	322	.205
3	.213[c]	.045	.036	2.97052	.020	6.801	1	321	.010
4	.217[d]	.047	.035	2.97207	.002	.665	1	320	.415
a. Predictors: (Constant), Self-Concept									
b. Predictors: (Constant), Self-Concept, Self-Esteem									
c. Predictors: (Constant), Self-Concept, Self-Esteem, Self-Efficacy									
d. Predictors: (Constant), Self-Concept, Self-Esteem, Self-Efficacy, Career Belief									
e. Dependent Variable: Career Choice									

Table 11 presents the Model Summary for the sequential regression analysis, and it tells a compelling story about the collective and incremental influence of the psychological variables on career choice. The journey of the R Square value, starting at a mere .020 and culminating at .047, is particularly revealing. This progression indicates that when all four predictors—self-concept, self-esteem, self-efficacy, and career beliefs—are combined, they account for only 4.7% of the total variance in the medical students' career choices, an indication that external factors not captured in model were at work.

The introduction of self-concept (Model 1) and later self-efficacy in the equation (Model 3) lead to the contribution of a significant 2% to the R Square. In stark contrast, the additions of self-esteem (Model 2) and career beliefs (Model 4) contribute negligible amounts, with their respective Sig. F Change values of .205 and .415, confirming they do not provide a statistically significant improvement to the model's predictive ability.

Furthermore, the Adjusted R Square, which penalizes the model for adding less useful predictors, ends at .035—slightly lower than the final R Square. This subtle but important adjustment reinforces that the contributions of self-esteem and career beliefs, in

the presence of the other variables, are so minimal that they might even be slightly diluting the model's true efficacy. The table ultimately paints a picture where self-concept and self-efficacy emerge as the pivotal, though still limited, correlates within this specific constellation of variables.

Table 12: ANOVA summary for hierarchical regression models predicting career choice

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	59.835	1	59.835	6.648	.010[b]
	Residual	2907.014	323	9.000		
	Total	2966.849	324			
2	Regression	74.339	2	37.170	4.138	.017[c]
	Residual	2892.510	322	8.983		
	Total	2966.849	324			
3	Regression	134.355	3	44.785	5.075	.002[d]
	Residual	2832.494	321	8.824		
	Total	2966.849	324			
4	Regression	140.232	4	35.058	3.969	.004[e]
	Residual	2826.617	320	8.833		
	Total	2966.849	324			
a. Dependent Variable: Career Choice						
b. Predictors: (Constant), Self-Concept						
c. Predictors: (Constant), Self-Concept, Self-Esteem						
d. Predictors: (Constant), Self-Concept, Self-Esteem, Self-Efficacy						
e. Predictors: (Constant), Self-Concept, Self-Esteem, Self-Efficacy, Career Belief						

Table 12, the ANOVA table, moves beyond the explanatory power of the model and directly tests its statistical significance—essentially asking whether the combined predictive ability we see is genuine or merely a fluke of the sample. The key finding here is the steady decline in the Sig. values across the four models, from .010 to a final, robust .004 in the full model. This progressive strengthening is crucial. It tells us that as we add more variables, the overall regression model consistently demonstrates that the relationship between this specific set of predictors and career choice is unlikely to be zero. In other words, the collective influence of these psychological factors, however modest in explanatory power, is statistically real.

The F-values themselves provide a nuanced narrative. F-value for Model 2 (4.138) is actually lower than that of Model 1 (6.648), reflecting the weak contribution of self-esteem. However, the introduction of self-efficacy in Model 3 causes the F-value to jump to 5.075, and it remains substantial in Model 4. This pattern underscores that self-efficacy was the variable that truly strengthened the model's overall significance after self-concept

had laid the initial groundwork.

Table 13: Coefficients for hierarchical regression models predicting career choice

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	20.650	2.506		8.240	.000
	Self-Concept	.143	.055	.142	2.578	.010
2	(Constant)	18.016	3.251		5.542	.000
	Self-Concept	.139	.056	.138	2.508	.013
	Self-Esteem	.102	.080	.070	1.271	.205
3	(Constant)	11.021	4.192		2.629	.009
	Self-Concept	.157	.055	.155	2.824	.005
	Self-Esteem	.086	.079	.059	1.077	.282
	Self-Efficacy	.224	.086	.144	2.608	.010
4	(Constant)	10.909	4.197		2.599	.010
	Self-Concept	.105	.084	.105	1.260	.209
	Self-Esteem	.082	.080	.056	1.025	.306
	Self-Efficacy	.219	.086	.140	2.536	.012
	Career Belief	.081	.099	.067	.816	.415
a. Dependent Variable: Career Choice						

Table 13, the Coefficients table, provides the most granular insight from the regression analysis, revealing the unique contribution and statistical weight of each predictor when all others are held constant. The story it tells is one of shifting influence and clarifies the findings from earlier tables. The most striking feature is the dramatic change in self-concept's significance. While it was a significant predictor in isolation (Models 1-3), its p-value inflates to .209 in the full model, rendering it non-significant. This suggests that its apparent influence was partially shared with or overshadowed by the other variables, particularly self-efficacy.

Indeed, self-efficacy emerges as the most stable and resilient predictor. Its Beta value remains relatively consistent, and it retains statistical significance ($p = .012$) even in the presence of all other variables. This indicates that a student's belief in their own capabilities has a unique and independent relationship with career choice that is not simply a reflection of their broader self-concept or self-esteem.

Conversely, the table confirms the minor roles of self-esteem and career beliefs in this multivariate context. Their p-values of .306 and .415, respectively, show that they do not add any significant unique explanatory power to the model when the other factors are already accounted for. The constant, representing the predicted career choice score when all other variables are zero, also shifts downwards across the models, settling at 10.909.

This intricate interplay ultimately positions self-efficacy as the sole independent psychological correlate from this set that maintains a distinct and significant—though still limited—link to the career choices of these final-year medical students.

Table 14: Excluded variables from hierarchical regression models

Excluded Variables[a]						
Model		Beta In	T	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	Self-Esteem	.070[b]	1.271	.205	.071	.997
	Self-Efficacy	.148[b]	2.699	.007	.149	.987
	Career Belief	.090[b]	1.086	.278	.060	.440
2	Self-Efficacy	.144[c]	2.608	.010	.144	.981
	Career Belief	.084[c]	1.005	.316	.056	.438
3	Career Belief	.067[d]	.816	.415	.046	.436
a. Dependent Variable: Career Choice						
b. Predictors in the Model: (Constant), Self-Concept						
c. Predictors in the Model: (Constant), Self-Concept, Self-Esteem						
d. Predictors in the Model: (Constant), Self-Concept, Self-Esteem, Self-Efficacy						

Table 14, the Excluded Variables table, offers a fascinating behind-the-scenes look at the model-building process, revealing the statistical deliberations behind each step of the regression. It chronicles which variables were left out at each stage and, crucially, why. The narrative here is one of the variables waiting in the wings, with only one proving it's worth enough to be ushered onto the main stage.

In Model 1, which contained only self-concept, the table shows that self-efficacy was the most compelling omitted variable. With a high Beta In of .148 and a strong significance value of .007, it was clearly sending a signal that it had substantial unique information to contribute. This statistical pressure is precisely why it was entered into a subsequent step, and it explains the notable jump in the model's explanatory power when it was added.

The table also provides early warnings about the variables tha' would ultimately prove less consequential. Self-esteem, despite having a Beta In of .070, was not significant ($p = .205$) when only self-concept was in the model, foreshadowing its weak independent role. Similarly, career beliefs were also non-significant at this early stage. The final, telling detail is in the Collinearity Statistics. The Tolerance value for career beliefs is notably low (.440) across all models, hinting at a potential overlap with other predictors. This means that much of what career beliefs measured was already being captured by the combination of self-concept, self-esteem, and self-efficacy, leaving it with little unique variance to contribute on its own, which is why it was the last to be added and failed to achieve significance in the final model.

Table 15: Residuals statistics for the final regression model

Residuals Statistics[a]					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	24.8085	29.5396	27.0985	.65789	325
Residual	-8.05929	7.33121	.00000	2.95366	325
Std. Predicted Value	-3.481	3.711	.000	1.000	325
Std. Residual	-2.712	2.467	.000	.994	325
a. Dependent Variable: Career Choice					

Table 15 shifts focus from the predictors themselves to the model's performance, offering a diagnostic portrait of its residuals, the differences between the career choice scores and the model predicted the scores that were actually observed. In essence, it audits the model's errors. The fact that the mean of the residuals is .00000 is a mathematical necessity, confirming that the model's over-predictions and under-predictions perfectly balance out.

What is more revealing, however, is the spread of these errors. The standard deviation of the residuals is 2.95, which is strikingly close to the original standard deviation of the actual Career Choice variable (3.03) from the descriptive tables. This small reduction is a numerical reflection of the model's modest R^2 value; it tells us that the model has only slightly narrowed the uncertainty around predicting a student's career choice score. The range of the residuals, from -8.06 to 7.33, shows that the model produced some substantial errors for individual students, missing their true scores by several points in both directions. The standardized residuals provide a final, crucial check: with 95% of them expected to fall between -2 and +2, the fact that our minimum and maximum values are -2.71 and 2.47 is acceptable. While a few predictions are on the outer bounds of acceptability, there is no strong evidence of extreme, model-compromising outliers. This table ultimately confirms that the regression, while statistically significant, operates as a blunt instrument, capturing a general trend but leaving a great deal of individual variation unexplained. Hence, the null hypothesis 5 is rejected since they no significant combined of the predictors.

Summary of Major Findings

This study investigated the relationship between psychological factors and career choice among final-year medical students in Edo State. The key findings are:

1. Individual Correlations:

- Self-Concept and Self-Efficacy both showed a statistically significant, but weak positive relationship with career choice.
- Career Beliefs showed the strongest significant relationship with career choice, though it was still only a weak-to-moderate correlation.
- Self-Esteem demonstrated no significant relationship with career choice.

2. Combined Influence (Regression Analysis):

- When combined, the four factors (self-concept, self-esteem, self-efficacy, and career beliefs) collectively explained only 4.7% of the variance in students' career choices. This indicates that over 95% of what influences their career choice is due to other factors not measured in this study.
- In the final model, only Self-Efficacy remained a unique and significant predictor. The influence of Self-Concept and Career Beliefs was no longer significant when all variables were analyzed together.
- In conclusion, while a student's belief in their capabilities (self-efficacy) shows the most consistent link to their career intentions, the overall influence of these internal psychological factors is surprisingly limited for this group of medical students.

Discussion

The result of this study reveals that self-concept was positive predictor and it significantly correlates with career choice. This result corroborates with previous studies (e.g., Bi et al., 2023; Huda et al., 2024; Mwangi, 2024; Petruzziello et al., 2021; Kanar & Heinrich, 2024; Iriani, et al., 2023). The finding indicates that students make career choices that are consistent with perceptions of themselves. Self-concept serves as an internal framework through which students evaluate their strengths, preferences and perceived fit within medical school. As students' progress through medical training, they are exposed to diverse clinical environments and academic tasks that help them develop clearer perceptions of who they are and the roles they are suited for. This evolving sense of identity influences their career choice.

The results of this study also shows that the relationship between self-esteem and career choice is not statistically significant. This means there was no discernible pattern to suggest that a students' level of self - esteem influenced specific career choice within the medical field. This finding agrees with Dangwal et al (2024) and Okafor et al (2022) who found no significant relationship between career choice or aspirations. It also agrees with Rehman (2024) who found no significant correlation between self-esteem and career decision-making. The result of this study justifies the Nigerian context where career choices particularly in specialized fields like medicine are often influenced by factors other than general self- regards. Thus, career choices are commonly shaped by parental expectations, societal prestige, cultural values, academic performance, and availability of opportunities rather than the students' level of self-esteem. In that case, self-esteem may have limited influence on whether the student selects or remains committed to their medical choice. Hence, the non-significant relationship between self-esteem and career choice is theoretically sound, empirically consistent and contextually appropriate within the academic and socio-cultural realities of medical education in Edo State.

The result of this study shows that the relationship between self-efficacy and career choice is statistically significant. This finding resonates previous findings which reported that self-efficacy related with career decision (Sandra et al., 2021); career development (Yiming, 2024); and students' career concerns (Kleine et al., 2023; Vingki & Rant (2023). The significant relationship between self-efficacy and career choice in this study can be explained by the nature of medical training in Edo state, where students face demanding coursework, high expectations and exposure to challenging clinical experiences. Therefore, the observed significant relationship aligns with theoretical predictions, reflects real life experiences of medical students and is supported by prior researches.

The result of this study also confirms that career belief has the most statistically robust connection to career choice. This aligns with previous studies where belief systems bolstered career choices (Mwangi, 2024; McAlexander et al., 2022; Mansour, 2025; Luo et al., 2021). However, the present study does not agree with Mansour (2025) who opined that religious belief did not substantially relate to career choice. Medical students are continuously exposed to institutional, peer and societal narratives that reinforce certain beliefs about what constitutes a successful and desirable medical career, making the finding of this study to be reflective of the socio-cultural realities of the participants.

Based on the finding of this study, the four factors (self-concept, self-esteem, self-efficacy and career beliefs) collectively explain only 4.7% of the variance in students' career choices. This indicates that over 95% of what influences these undergraduate medical students' career choice is due to other factors not measured in this study. In the final model, only self-efficacy remains a unique and significant predictor. The influence of self-concept and career beliefs was no longer significant when all variables were analyzed together. In conclusion, while a student's belief in their capabilities (self-efficacy) showed the most consistent link to undergraduate medical students' career intentions, the overall influence of these internal psychological factors was surprisingly limited for this group of medical students.

Conclusion and Recommendations

This study has examined the relationship among self-concept, self-esteem, self-efficacy, career belief and career choices of medical students in Edo State Nigeria. Arising from the findings, the following recommendations are made;

1. Guidance Counsellors should design a comprehensive career guidance programme for medical students, incorporating self-concept, self-efficacy and career belief to help students explore their career options and make informed choices.
2. Self-esteem can be improved by encouraging students to develop a positive and realistic view of themselves through healthy self-evaluation, setting and achieving personal goals and recognizing their strengths and accomplishments.
3. Undergraduate medical students should be exposed to various medical specialties

through rotations, mentorship programmes or career fairs to help them to develop a clearer understanding of their career options and make informed decisions.

4. Based on the strong significant relationship between career belief and career choice, guidance counsellors should actively address students' beliefs and perceptions about medical careers by providing accurate information, correcting misconceptions and promoting realistic career opportunities.

Declarations

Ethics Approval and Consent to Participate

Ethical approved was obtained for the study and consent was sought from all students who participated

Conflict of Interest Statement

The authors reported no conflicts of interest.

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