OCCUPATIONAL KNOWLEDGE AND PREFERENCES IN THE CONTEXT OF CAREER ORIENTATION AMONG HIGH SCHOOL STUDENTS

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Abstract

The study aimed to examine whether, and to what extent, students' knowledge of and preferences for occupations predict their career orientation. The study involved 211 fourth-year high school students from the city of Tetovo (134 girls and 77 boys). Quantitative data were collected through self-report questionnaires, including Career Decision-Making and a demographic information form. The statistical results and findings show that the model comprising two predictors, namely personal knowledge of the preferred occupation and the source of information about the preferred occupation, has statistical validity because a positive correlation exists; however, its predictive power is quite low, as the vast majority of career orientation depends on factors that are not currently included in the regression model. Furthermore, the study and its findings did not reveal significant differences among students in career orientation according to their occupational preferences. The failure to consider other factors that may play an important role in career orientation, such as family expectations, socioeconomic background, the labor market, or other relevant factors, represents another limitation of the study.

Keywords: Occupational Knowledge, Preferred Occupations, Career Orientation, Prediction.

1. Introduction

The theoretical framework of this study draws on two complementary perspectives: the classical approach of Parsons' (1909) Trait-and-Factor Theory and the modern approach of Bandura's (1986) Social Cognitive Theory.

Parsons' Trait-and-Factor Theory

Frank Parsons (1909), a pioneer in the field of career orientation, first introduced his ideas in his book Choosing a Vocation, published in 1909. In this book, he developed key elements, such as individual traits and external factors, which form the basis of subsequent theories of career orientation. Parsons (1909) based his approach to career orientation on three fundamental components:

1) The first component involves a comprehensive understanding of the individual's abilities, values, interests, aspirations, resources, and personality traits.
2) The second component emphasizes the importance of occupational knowledge and knowledge of the labor market, including the individual's awareness of different career paths, their respective advantages and disadvantages, financial compensation, opportunities for advancement, and required qualifications.
3) The third component emphasizes the importance of establishing a rational connection between personal attributes and occupational characteristics, enabling individuals to

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make informed and logical career decisions based on the alignment between their personal traits and the requirements of a particular occupation (Parsons, 1909).

Within trait-and-factor theory, an individual's abilities represent one of the most important characteristics influencing occupational choice outcomes and future career development (Betz, Fitzgerald, & Hill, 1989). These abilities include existing competencies or potential abilities that may be developed in the future. Such abilities range from "general cognitive ability," often referred to as general intelligence, to "specific abilities," such as clerical, mechanical, or manual abilities. General cognitive ability, which involves inductive and deductive reasoning, as well as the ability to recognize patterns and interrelationships, is statistically the first factor to emerge from factor analyses of general ability tests. While abilities are associated with performance, other individual difference variables, such as interests, needs, and values, are closely associated with job satisfaction and workplace motivation. Interests encompass an individual's preferences, likes, and dislikes regarding activities, interactions with other people, or events, which are also considered influential in career adjustment and functioning (Betz, Fitzgerald, & Hill, 1989).

Although trait-and-factor theory was developed primarily on the basis of clinical interviews and observations, it gained prominence and popularity during the 1930s and 1940s, when the psychometric movement emphasized the use of standardized instruments to assess individual traits and career suitability (Flanigan, 2011). The trait-and-factor approach has faced criticism for its reliance on overly simplified psychometric assessments to evaluate an individual's behavior, personality, and psychological traits (Armitage & Amar, 2021; Spokane, 1958). Nevertheless, despite these criticisms, Parsons' theoretical framework remains fundamentally important because it laid the foundation for numerous subsequent correlational studies examining the relationships between person–job fit (Armitage & Amar, 2021; Follmer, 2016; Spokane, 1958).

Albert Bandura's Social Cognitive Theory

Albert Bandura's (1986) Social Cognitive Theory provides a foundation for exploring occupational choices and career decision-making processes through an understanding of human behavior. Bandura's central idea extends beyond the individual's required abilities to include self-confidence in using those abilities successfully. This operational efficacy involves the continuous adaptation and application of various skills and sub-skills to cope with dynamic and often uncertain situations, as even routine tasks require flexibility and are not always identical. According to Bandura (1986), "Perceived self-efficacy is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performance. It is not concerned with the skills one has, but with the judgments of what one can do with whatever skills one possesses." However, he distinguishes between self-efficacy judgments and outcome expectations. An outcome is the "product" of an action rather than the action itself; confusion arises when an action is mistakenly regarded as its outcome. Self-efficacy refers to an individual's belief in their ability to perform at a particular level, whereas outcome expectations involve the anticipated consequences of that performance. This distinction highlights that self-efficacy influences not only the initiation and persistence of actions but also the way individuals interpret and respond to the outcomes of those actions. More specifically, in the context of social, intellectual, and physical endeavors, individuals with high self-efficacy anticipate positive outcomes, whereas those who experience self-doubt expect average performance and, consequently, less favorable outcomes. When making decisions, individuals base their choices on their perceived self-efficacy, as they view outcomes as dependent on the quality of their performance and evaluate those outcomes accordingly. Thus, self-efficacy judgments play a decisive role in decision-making. The

concept of career self-efficacy broadly refers to the idea that low self-efficacy expectations regarding specific aspects of career-related behavior may hinder optimal career choice and development (Betz & Hackett, 1986; Betz & Luzzo, 1996).

Hackett and Betz (1981) discuss the differences in how self-efficacy theory applies to both the content of career choice and the process of career choice, a distinction also reflected in Crites' (1978) theory of career maturity (Betz & Luzzo, 1996). The content of career choice includes specific domains such as mathematics, writing, and science. Low self-efficacy in any of these domains may result in the avoidance of related subjects or careers within those fields. In contrast, the career choice process involves behaviors that are essential for selecting and pursuing any career, particularly self-efficacy in career decision-making. Bandura's Social Cognitive Theory provided the central theoretical foundation for the development of the Career Decision-Making Self-Efficacy Scale, which measures how individuals perceive their ability to make decisions regarding education and career (Presti et al., 2013). Meanwhile, Crites' (1978) career maturity model provided a framework for identifying and operationalizing the skills necessary for career decision-making (Betz & Luzzo, 1996).

2. Methodology

The research objective is predictive in nature, examining the proposition that students' knowledge of their preferred occupations and the types of occupations they prefer have an effect on the career orientation of high school students.

Purpose and Hypothesis

The specific research objectives are formulated as follows:

O.1. To examine the effect of the predictor variables: source of information about the preferred occupation, type of preferred occupation, personal knowledge of the desired occupation, and orientation toward pursuing higher education or acquiring a trade: on the criterion variable, career orientation.

O.2. To examine differences in career orientation among high school students according to their preferred occupational field.

Variables and Measurement

Theoretical Definition of Career Orientation: Parsons (1909) conceptualizes career orientation through a structural approach, according to which individuals should consider three critical factors to make an appropriate career choice: (a) a clear understanding of oneself (knowledge of one's abilities, interests, ambitions, resources, and personal limitations); (b) knowledge of the labor market (market demands, conditions for success, advantages and disadvantages, and compensation associated with different occupations); and (c) the integration of self-knowledge and career knowledge to achieve sound reasoning and make a rational occupational choice (Jones, 1994).

Operational Definition of Career Orientation: Career orientation was assessed using the Short Form of the Career Decision-Making Self-Efficacy Scale (CDMSE-SF), developed by Betz, Klein, and Taylor (1996).

To gain a deeper and clearer understanding of the main study variables, socio-demographic characteristics and other relevant control variables were also examined: source of information about the preferred occupation, type of preferred occupation, personal knowledge of the desired occupation, and orientation toward pursuing higher education or acquiring a trade.

Career orientation was measured using the Short Form of the Career Decision-Making Self-Efficacy Scale (CDMSE-SF), developed by Betz, Klein, and Taylor in 1996. They developed a more concise version focusing on the key aspects of career decision-making self-efficacy (Betz, Klein, & Taylor, 1996). The scale demonstrated relatively high internal consistency, with a Cronbach's alpha coefficient of approximately 0.93.

Subjects

The study population consisted of final-year students, fourth-year students, attending public high schools in the city of Tetovo. The sample was selected using the convenience sampling method. The sample comprised 211 fourth-year high school students (N = 211), aged 17–18 years, from public high schools in Tetovo. To assess the clarity and validity of the instruments, a pilot test was conducted with a group of 20 students.

3. Results

The results are presented in tabular and graphical formats, together with the relevant statistical information for each of the analyses conducted.
To assess the reliability of the measurement instrument used in the study, Cronbach's alpha coefficient was calculated. The table below presents the coefficient for the scale:

Table 1. Reliability of the Career Orientation Scale

	Cronbach's Alpha	Number of Items
Career Orientation	0.87	25

Referring to the results presented in Table 1, the Career Orientation Scale is considered reliable, with a Cronbach's alpha coefficient of $\alpha = 0.87$. In other words, the scale is suitable for obtaining consistent and meaningful data regarding students' (high school seniors') career decision-making self-efficacy.

3.1. Regression Analysis

Table 2. Results of the Regression Analysis with "Career Orientation" as the Criterion Variable.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.335[a]	.112	.092	12.829	5.582	.000[b]

a. Predictors: (Constant), Source of information about the preferred occupation, personal knowledge of the desired occupation, type of preferred occupation, and orientation toward pursuing higher education or acquiring a trade.

The preceding table presents the percentage of variance in career orientation that can be explained by the independent variables included in the model. A coefficient of determination of 0.112 indicates that the model, which includes the following predictors: source of information about the preferred occupation, type of preferred occupation, personal knowledge of the desired occupation, and orientation toward pursuing higher education or acquiring a trade, jointly explains 11.2% of the variance in the criterion variable, namely career orientation. The remaining 88.8% of the variance is explained by other factors not included in this study or by measurement errors.

To determine which of the factors included in the regression model, namely source of information about the preferred occupation, type of preferred occupation, personal knowledge of the desired occupation, and orientation toward pursuing higher education or acquiring a trade, had a statistically significant effect on students' career orientation, a stepwise regression analysis was conducted.

Table 3. Results of the Stepwise Regression Analysis with "Career Orientation" as the Criterion Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.289[a]	0.084	0.079	12.924	16.421	0.000[a]
2	.322[b]	.104	0.094	12.817	10.347	0.000[b]

a. Predictors: (Constant), Personal Knowledge of the Desired Occupation,
b. Predictors: (Constant), Personal Knowledge of the Desired Occupation, Source of Information about the Preferred Occupation,

The obtained R value of 0.289 indicates a positive correlation ranging from weak to moderate between the criterion variable, career orientation, and the predictor variable, personal knowledge of the desired occupation, while $R^2 = 0.084$ indicates that the model explains only 8.4% of the variance in career orientation.

When the second factor, source of information about the preferred occupation, is also taken into account, the model remains statistically significant ($F = 10.35$, $p < 0.01$). However, despite its greater practical utility compared with the model including only one predictor, it explains only 10.4% ($R^2 = 0.104$) of the variance in career orientation, with a weak positive correlation ($R = 0.322$).

The regression analysis indicates that the model including two predictors, namely personal knowledge of the preferred occupation and the source of information about the preferred occupation, has statistical validity, as a positive correlation exists. However, its predictive power is relatively low, since the vast majority of the variance in career orientation is accounted for by factors that are not currently included in the regression model.

Table 4. Beta Coefficients from the Multiple Linear Regression Analysis for the Criterion Variable "Career Orientation".

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	79.573	4.684		16.987	.000
	Personal Knowledge of the Desired Occupation,	4.951	1.222	.289	4.052	.000
2	(Constant)	73.162	5.645		12.961	.000
	Personal Knowledge of the Desired Occupation,	5.000	1.212	.292	4.126	.000
	Source of Information about the Preferred Occupation,	1.892	.946	.142	2.000	.047

a. Dependent Variable: Career Orientation

The unstandardized beta coefficients indicate that the two factors included in the model, namely the sources of information about the preferred occupation and students' personal knowledge of their preferred occupation, have an effect on career orientation, expressed in their original units of measurement. Furthermore, the t-value of $t = 4.05$, $p < 0.01$ (for the predictor of students' personal knowledge of their preferred occupation), and $t = 4.05$, $p < 0.01$ (for the second predictor, source of information about the preferred occupation), indicate that this effect is statistically significant and that differences in career orientation can be predicted based on knowledge of these two factors.

Within the methodological framework, we examined differences in students' career orientation according to their preferred occupation. The results are presented in the following table.

Table 5. ***Descriptive Statistics for Career Orientation by Preferred Occupation***

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
Law	32	100.59	12.165	2.151	96.21	104.98	66	120
Economics	19	98.32	8.459	1.941	94.24	102.39	85	115
Medicine	47	98.98	13.440	1.960	95.03	102.92	63	122
Natural Sciences	17	99.47	11.822	2.867	93.39	105.55	76	118
Arts	19	93.74	19.456	4.464	84.36	103.11	39	119
Technical Fields	18	99.28	14.145	3.334	92.24	106.31	63	121
Skilled Trades	11	93.09	15.424	4.650	82.73	103.45	69	119
Psychology	14	100.93	10.307	2.755	94.98	106.88	76	121
Education	9	90.56	14.010	4.670	79.79	101.32	67	117
Total	186	98.12	13.461	.987	96.17	100.07	39	122

The table above presents the descriptive statistics for the criterion variable "career orientation" according to students' preferred occupations. A total of 186 students were included in the analysis, divided into nine groups according to their preferred occupation. The results indicate that the highest mean score in career orientation was observed among students who preferred psychology ($M = 100.93$, $SD = 10.31$), followed by those who preferred law ($M = 100.59$, $SD = 12.17$) and natural sciences ($M = 99.47$, $SD = 11.82$). Slightly lower mean scores were observed in technical fields ($M = 99.28$, $SD = 14.15$), followed by medicine ($M = 98.98$, $SD = 13.44$) and economics ($M = 98.32$, $SD = 8.46$). Meanwhile, the lowest mean scores according to students' preferred occupations were observed in education ($M = 90.56$, $SD = 14.01$), followed by skilled trades ($M = 93.09$, $SD = 15.42$) and arts ($M = 93.74$, $SD = 19.46$). The overall mean score for career orientation among all students included in the analysis was $M = 98.12$ ($SD = 13.46$).

To examine whether statistically significant differences exist in the criterion variable career orientation according to students' preferred occupations, a one-way analysis of variance (One-Way ANOVA) was conducted, the results of which are presented below.

Table 6. ANOVA Results for Differences in Career Orientation According to Preferred Occupation.

	Sum of Squares	df	Mean Square	F	Sig.	Levene Statistic	Sig.
Between Groups	1555.005	8	194.376	1.076	.382	1.670	.109
Within Groups	31966.393	177	180.601				
Total	33521.398	185					

The results of Levene's test indicate that the assumption of homogeneity of variances was met, $F(8, 177) = 1.67$, $p > 0.05$, as the significance value is greater than the specified threshold of 0.05. Meanwhile, the results of the ANOVA indicate that there are no statistically significant differences in students' career orientation according to their preferred occupation ($F = 1.08$, $p > 0.05$). Based on the results of the analysis, it is concluded that there are no statistically significant differences in students' career orientation according to their preferred occupation. In other words, there is insufficient statistical evidence to conclude that students' career orientation differs depending on their preferred occupation.

For a clearer visual representation of the mean scores for career orientation according to preferred occupation, the results are presented graphically in the figure below:

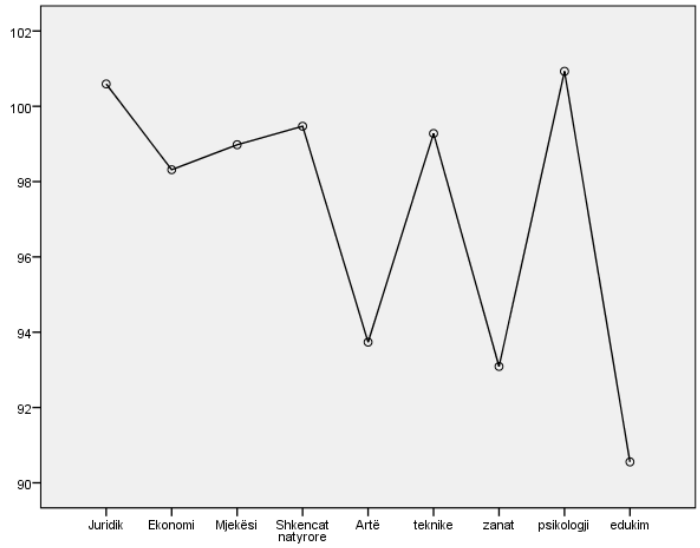

Figure 1. Mean Career Orientation Scores by Preferred Occupation

The graph illustrates differences in the criterion variable, students' career orientation, according to their preferred occupation. The highest mean score is observed among students who preferred psychology ($M = 100.93$), followed by those who preferred law ($M = 100.59$). On the other hand, the lowest mean scores are observed among students who preferred education ($M = 90.56$), skilled trades ($M = 93.09$), and arts ($M = 93.74$). However, although these differences are visually apparent, they were not statistically significant according to the ANOVA results.

4. Conclusions

The findings of this study highlight the importance of students' knowledge and information about their preferred occupations in the process of career orientation. The results of the regression analysis showed that knowledge of the desired occupation and the source of information about the preferred occupation are positive and statistically significant predictors

of career orientation among high school students. However, the predictive power of the model remains relatively limited, suggesting that career orientation is a complex process, also associated with other individual, family, and social factors that were not included in this study. On the other hand, the results of the analysis of differences did not reveal statistically significant differences in career orientation according to preferred occupation. This finding suggests that preference for a particular occupation is not necessarily associated with different levels of career decision-making self-efficacy.

From a practical perspective, these findings emphasize that career orientation should not be limited solely to providing information about occupations and educational and career opportunities. Rather, it should also include activities that support self-awareness, the identification and assessment of personal abilities, interests, and values, as well as the development of career decision-making self-efficacy.

Future studies in this field are recommended to include a broader range of individual, family, and socioeconomic factors, as well as larger and more representative samples, in order to gain a more comprehensive understanding of the factors associated with the career orientation of high school students.

In conclusion, career orientation should be conceptualized as an ongoing process that combines self-awareness, information, and the development of competencies for making informed decisions regarding students' educational and professional futures.

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