

Investigating the Effect of Training Career Path Skills based on Super's Career Development Theory on Academic Self-Concept of Students of Isfahan University

Investigar el efecto de la formación de habilidades de trayectoria profesional basadas en la teoría del desarrollo profesional de Super en el autoconcepto académico de los estudiantes de la Universidad de Isfahan

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Summary

The present study aimed to investigate the effect of training career path skills based on Super's Development Theory on students' academic self-concept. The study is a quasi-experimental with pretest-posttest design with a control group. The statistical population of the study consisted of all students of University of Isfahan year 2018. Using available sampling method, 30 people were selected and randomly, 15 of them were placed in the test group and 15 in the control group. The data collection tool was Academic Self-Concept Scale (ASCS) (Reynolds et al, 1980). The career path skills were trained to the test group for ten 90-minute sessions in groups, and no training was provided to the control group. The data were analyzed using SPSS software at the level of descriptive statistics including mean and standard deviation and at the level of inferential statistics by covariance analysis method. The results showed that training career path skills based on Super's Development Theory has a significant positive effect on students' academic self-concept.

Keywords: Career Path Skills; Super's Career Development Theory; Academic Self-Concept; University Students.

Resumen

El presente estudio tuvo como objetivo investigar el efecto de la formación de habilidades de trayectoria profesional basadas en la teoría del desarrollo de Super en el autoconcepto académico de los estudiantes. El estudio es un diseño cuasi experimental con pretest-posttest con un grupo de control. La población estadística del estudio consistió en todos los estudiantes de la Universidad de Isfahan en el año 2018. Utilizando el método de muestreo disponible, se seleccionaron 30 personas y al azar, 15 de ellas se colocaron en el grupo de prueba y 15 en el grupo de control. La herramienta de recolección de datos fue la Escala de autoconcepto académico (ASCS) (Reynolds et al, 1980). Las habilidades de la trayectoria profesional se entrenaron al grupo de prueba durante diez sesiones de 90 minutos en grupos, y no se proporcionó capacitación al grupo de control. Los datos se analizaron utilizando el software SPSS a nivel de estadística descriptiva, incluida la media y la desviación estándar, y a nivel de estadística inferencial por método de análisis de covarianza. Los resultados mostraron que el entrenamiento de habilidades de trayectoria profesional basadas en la Teoría del Desarrollo de Super tiene un efecto positivo significativo en el autoconcepto académico de los estudiantes.

Palabras clave: Habilidades de trayectoria profesional; Teoría del desarrollo profesional de Super; Autoconcepto académico; Estudiantes universitarios.

Introduction

One of the main concerns of students today is how will be their occupational future? What job is good for them? And what factors should they pay attention to in this path? Answering such questions reflects the importance of career path that has received widespread attention in recent years. Research on career path goes back to Super's works and his Career Development Theory (Super, 1957). One aspect of Super's theory is the process of career path. He pays more attention to the process of career selection path rather than merely choice of the job, meaning that he believes that career path takes place throughout life from birth to death in parallel with general development (Super, 1957). Super's theory also has used psychology of individual differences. According to this theory, human beings are different in terms of ability, talent, desire, and personality, and based on these differences, they progress in certain directions. Hence, he proposes the "arc" model in his theory. In this model, he refers to the influence of psychological and situational-environmental factors on formation of career path (Zunker, 2009) and (Samiee et al., 2011). The effects of these factors are shown in (Figure 1).

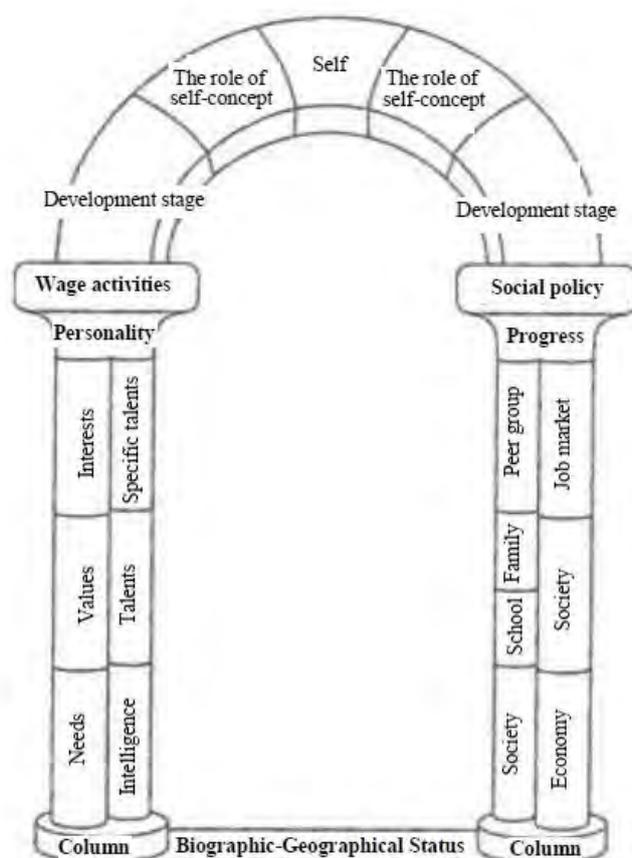


Figure 1. The effect of various factors on formation of career path in Super's theory

The arched gate has two columns. The first column includes psychological-individual factors that include personality traits, desires, values, and talents. The second column includes social-situational factors which are based on geographical and environmental conditions including society, economy, school, family, peers, job market, and jobs. From the interaction of individual and social factors in the stages of career path and playing the role of self-concept, "self" is made. "Self" is the key to this gate and is considered the important and main determinant in formation of self-concept.

"Maturity of career path" is another important concept in this theory which refers to "gaining sufficient competence and qualifications" by the individual such that he/she can make decisions and choices in his/her path of growth (Zunker, 2009). In fact, maturity of career path has two attitude dimensions and two cognitive dimensions. The two attitude dimensions are exploration and career path planning, and the two cognitive dimensions are gaining information and logical decision-making (Savikas, 1999). In Super's theory, a mature person is someone who, while being aware of himself/herself and the world of jobs, can choose and plan and be responsible. The variables that lead a person toward career path maturity include: self-awareness, exploration, awareness of the world of jobs, decision-making, and planning (Coetzee, 2006). In other words, one of the most important goals in career path counseling is to help the person to

achieve self-awareness, discovery, and planning in life, which are referred to as career path skills (Samiee et al., 2011). The sooner people engage in these skills, the faster they can move in their career path and overcome the obstacles ahead (Super, 1953). Self-awareness refers to a person's proper understanding of individual characteristics, including: interests, talents, values, and personality. Discovery skill refers to a person's engagement and willingness to search and collect information about the surrounding environment in a purposeful manner, and planning is a way to express goals, identify solutions, and make decisions (Samiee et al., 2011). In proposing his theory, Super is strongly influenced by "self-concept" and considers it one of the factors affecting career path such that if someone has a high self-concept, he/she will go through selection stages with better quality (Shafi Abadi, 2012). The development path of choosing a job is directly related to one's self-concept which is the system of one's conscious perception of one's beliefs, values, desires, and talents. Self-concept is formed as a result of interaction between biological and environmental factors and also as a result of training. Therefore, by creating special programs, it is possible to strengthen positive self-concept and lead the choice of job in a right direction (Super, 1957). In the process of self-concept development there are four stages of: revelation, identification, replication, and role-playing (Super & Overstreet, 1960). In the stage of revelation, the person becomes aware of his/her differences and similarities with others, and gradually, by accepting environmental realities and interacting with others, self-concept is created and developed. In the identification stage, individuals through comparing themselves with others identify facilities and recognize individual characteristics that lead to decision-making in the field of education and career. In the replication stage, the individual takes the accepted specific patterns and behavioral characteristics and takes them as his/her role models; and finally, in the role-playing stage, the person plays the role of his/her favorite role model. Many researchers consider academic self-concept as an important aspect of general self-concept and introduce it as one of the factors influencing academic-occupational status (Shavelson et al., 1976). Academic self-concept is defined as one's self-perception in terms of education and refers to one's self-assessments in the field of education (Reynolds et al, 1980). Super's theory is a practical and effective theory of people's career path and many studies have been done about it. (Super & Overstreet, 1960) examined the factors affecting job maturity. In this study, the dimensions of job maturity were identified and studied, which included: 1) familiarity with choosing a job; 2) gathering information and planning about jobs; 3) crystallization of characteristics; 4) wise job preferences. The results of their study showed that there is a high correlation between these dimensions. (Norrell & Grater, 1960) studied the relationship between self-awareness and job selection. Their results showed that people who are able to recognize their interests perform better in different areas including job selection. Pickett (2007) examined career path revelation behaviors in a sample of 188 first-year university students. The results showed that academic skills, psychosocial-social factors, and career path maturity predict students' career path revelation behaviors. Despite the importance of developmental path of career selection, no research has been conducted so far on the impact of training career path skills based on Super's Development Theory on students' academic self-concept. Therefore, necessity of doing this research was felt more than ever. So, the present study aims to: investigate the effect of training career path skills based on Super's theory on students' academic self-concept. Accordingly, the research hypothesis is that: training career path skills (self-awareness, discovery, and planning) affects academic self-concept of students in University of Isfahan.

Methods

The present study is a quasi-experimental with pretest-posttest design with a control group. The statistical population of the study consisted of all students of the University of Isfahan in the academic year 2018. According to the research plan, 30 people were estimated for the sample (Delavar, 2010). The sample was selected by available sampling method and 15 of them were

randomly placed in the control group and another 15 in the test group. The career path skills were trained to the test group for ten 90-minute sessions in groups, and no training was provided to the test group. Data analysis was performed using covariance analysis method.

Research Tools

Academic Self-Concept Scale (ASCS): This scale was developed in 1980 by (Reynolds et al, 1980). It is consisted of 40 questions and measures students' perceptions and feelings about their abilities in seven areas of: 1) score and effort with 8 questions; 2) study habits/ organized self-perception with 6 questions; 3) peers' assessment of academic ability with 8 questions; 4) self-confidence in education with 3 questions; 5) satisfaction with the university with 4 questions; 6) doubting about one's own abilities with 8 questions, and 7) self-assessment with external criteria with 3 questions.

The score range in this scale is between 40 and 160. The system for answering questions is also in 4 Likert scales: 4= completely agree, 3= agree, 2= disagree, and 1= completely disagree. It should be noted that for questions 4, 5, 8, 11, 12, 14, 18, 19, 21, 22, 24, 26, 29, 30, 34, 38, 39, and 40, scoring is done in reverse. Sum of the scores of students in 40 questions indicates their academic self-concept score. The higher the score of the respondents, the higher is their academic self-concept.

(Reynolds et al, 1980) in order to determine validity of academic self-concept scale, calculated its correlation with Grade Point of Average (GPA) and Rosenberg's Self-Esteem Scale, that the results showed that there is a significant positive correlation between academic self-concept scale and student's average score (0.45) and their Rosenberg Self-Esteem score (0.40). They also reported internal consistency of this scale using Cronbach's alpha to be 0.91.

In order to determine validity of this scale in this study, calculation of the correlation of total score of questions with students' average score as well as calculation of its correlation with Rosenberg's self-esteem score were used, which were estimated to be 0.51 and 0.71, respectively, which show good validity of this scale. And in order to validate it on the population of Iranian students, internal consistency of this scale was calculated using Cronbach's alpha on a sample of 50 students of Isfahan University as equal to 0.92, which indicates that this scale has a high reliability.

Procedure

To collect the sample, the research was conducted in collaboration with the Counseling Center of the University of Isfahan. After initial coordination about the research project, advertisements on the subject of the workshop, and the time and place of classes were printed and distributed throughout the university.

In line with this, group training sessions of career path skills included a ten-session course that was performed on the test group during 5 weeks. The sessions were held twice a week for 90 minutes. The content of the curriculum was derived from Super's Development Theory, and the books by (Amonson Norman, 2009) quoted by (Jahani Maleki et al., 2011) and (Liptek John, 2011) quoted by (Sadeghi, 2011) & (Zunker, 2011) quoted by (Samiee, 2019) have been used.

The summary of group training sessions on career path skills (self-awareness, discovery, planning) was as follows:

The first session: familiarization and establishing a good relationship between members and the group leader:

Introducing the group leader and members to each other, expressing rules of the group: confidentiality, participation in all sessions, and participation and dialogue of members and ...

The second session: familiarization of members with the concepts of career path and job maturity, expressing the necessity and importance of job maturity and its role in life:

First, the concept of career path, which is the same path of life that all human beings go through as a lifelong, continuous, and progressive process from the beginning of childhood to the end of life, was explained to the members. Then a definition of job maturity was presented and its importance and role in career path were examined. Factors affecting job maturity including: self-awareness (self-awareness skill), awareness of the world of jobs and access to exploration resources (discovery skills) and decision-making and planning (planning skills), known as career path skills, were explained to the members.

The third session: teaching self-awareness skill using Super's Arc: The concept of Super's Arc was explained to the members and that two groups of factors affect formation of career path: individual factors that include: personality traits, desires, values, and talents (self-awareness), and environmental and situational factors including: society, economics, family, labor market, and jobs (discovery), and ultimately how these two factors interact to form the "self". Also, educational concepts were presented about the concept of self-awareness, its dimensions, and the role of self-awareness in all aspects of life.

The fourth session: explaining Holland's Model, evaluating and discussing it in the group: In order to be aware of desires, as one of the dimensions of self-awareness, Holland's Model and features of each of the desires were described (Samiee et al., 2011) and group evaluations and discussions about the desires were done.

The fifth session: explaining Lori's True Colors Theory and evaluating and discussing it in the group: In order to be aware of personality traits as one of the dimensions of self-awareness, the theory of color personalities was explained to the students (Samiee et al., 2011). According to this theory, there are four personality types according to the four colors of orange, gold, green, and blue: orange personality, golden personality, green personality, and blue personality. Characteristics of each of the personalities were described in detail based on the criteria of purpose in life, value, source of pleasure, source of failure, needs, and abilities.

The sixth session: explaining the concept and characteristics of values, introducing Allport's values, evaluating and discussing about it in the group: Allport's six values (theoretical, economic, artistic, political, religious, and social values) and characteristics of each were described for the students (Soheilpour, 2009).

The seventh session: Definition of talents, characteristics, and their types, and evaluating and discussing it in the group: In order to be aware of talent as one of the

dimensions of self-awareness, the concept of talent, its role in career path and its type were described (Arulmani, 2004).

The eighth session: teaching discovery skill using Super's Arc: It was explained to the students that one of the columns of Super's Arc is environmental and situational factors which refers to acquisition of information about the surrounding environment, including: jobs and the labor market, and environmental constraints and facilities (discovery skill). Therefore, the necessity of obtaining information about the world of jobs and ways to obtain job information and how to get acquainted with reality of jobs were explained to them. Then, following Holland's principle of harmony, job revelation was done meaning that jobs that were in harmony with their desires were introduced.

The ninth session: teaching planning skill using Super's Arc: It was explained to the students how to make decisions, determine their goals, and plan in order to obtain their determined goal based on the obtained self-awareness (first column of the Super's Arc) and the information obtained about the environment and jobs that imply discovery skill (the second column of Super's Arc) and integration of the obtained information.

The tenth session: reviewing and summarizing and performing the posttest: After summarizing the subjects of sessions and answering the questions of the participants, the posttest was performed to evaluate the results of the trainings, and the sessions ended.

Results

The descriptive results of the study include mean and standard deviation and the number of subjects which are presented in (Table 1).

Table 1.

Comparison of mean and standard deviation of the scores of academic self-concept of the two groups in the pretest and posttest stages

Group	Number	Pretest		Posttest	
		Mean	SD	Mean	SD
Test	15	88.73	12.69	121.46	10.63
Control	15	109.60	14.22	106.80	12.80

As can be seen in (Table 1), the mean of academic self-concept in the test group changed in the posttest compared to the pretest, but no significant changes were seen in the control group.

Covariance analysis was used for inferential analysis. However, it is necessary to test some pre-assumptions before inferential analysis of results. Levin test was used for equality of variances. The basis of this pre-assumption is that variances of the two groups of the population are equal and there is no significant difference between them. The results of Levin test are presented in (Table 2).

Table 2.

Levin test results on pre-assumption of equality of variances of the two groups

Variable	F	Degree of freedom 1	Degree of freedom 2	Significance
Academic self-concept	4.069	1	28	0.0530

The results of Levin test and the obtained F showed that the pre-assumption of equality of variances of the two groups is confirmed. So, variances of the two groups of the population are equal. Thus, implementation of covariance analysis on the research hypothesis is acceptable.

Shapiro-Wilk test was used to assess the pre-assumption of normality of distribution of scores. The basis of this pre-assumption is that the difference between distribution of sample scores and distribution of scores in the population is zero.

The results of implementation of Shapiro-Wilk test are presented in (Table 3).

Table 3.

Results of Shapiro-Wilk test on normality of distribution of academic self-concept in the two test and control groups

Variable	Indicators	Shapiro-Wilk test		
		Statistic	Degree of freedom	Significance
Academic self-concept	Test	0.950	15	0.524
	Control	0.958	15	0.650

The results of Shapiro-Wilk test showed that the pre-assumption of normal distribution of the variable of academic self-concept in both test and control groups is confirmed and the distribution in the population is normal. Therefore, given the confirmation of the pre-assumption of normality, it is possible to perform covariance analysis.

Research Hypothesis

Training career path skills affects academic self-concept of students of Isfahan University (Table 4)

Table 4.

Results of covariance analysis on the impact of training career path skills on academic self-concept, in two control and test groups

Indicator		Sum of squares	Degree of freedom	Mean of squares	F	Significance	Effect size	Statistical power
Pretest	Academic self-concept	1067.167	1	1067.167	10.976	0.0030	0.3050	0.8890
Group membership	Academic self-concept	1656.591	1	1656.591	17.039	0.0000	0.4050	0.9770

The results of covariance analysis indicate that the effect of teaching career path skills on students' academic self-concept is 0.405, which is positive and significant at the level of ($P < 0.05$). So, the research hypothesis is confirmed. The statistical power of 0.977 indicates that the sample size has been sufficient to examine the hypothesis.

Discussion

Research hypothesis: Training career path skills based on Super's Development Theory affects students' academic self-concept. The study results showed that teaching career path skills has a significant positive effect on students' academic self-concept. Therefore, the research hypothesis is confirmed. Due to the novelty of the research subject and the fact that no research exactly examining the impact of teaching career path skills (self-awareness, discovery, and planning) on students' academic self-concept was found by the researcher, the studies that have examined variables close to self-concept can be mentioned. One of these variables is "self-esteem"; although these two variables are quite different from each other. Self-esteem refers to a person's system of valuing one's own surrounding (Coopersmith S. (1968), while "self-concept" refers to a person's perception of one's own surroundings. If an individual's perceptual system (self-concept) is considered as the basis of formation of self-esteem, in this regard, the studies by (Creed & Patton, 2003), (Patton et al., 2001), and (Sadeghi, 2011) can be mentioned. Patton et al. (2001) introduced self-esteem as one of the predictors of career path growth. Another variable close to self-concept is "self-efficacy" which refers to a person's perception of one's own abilities to do things (Bandura, 2002) meaning to what extent a person considers oneself successful in doing something (Lent et al., 1994). Self-efficacy, by affecting career path decision-making, influences career path development such that low self-efficacy prevents a person from making some of the choices he/she may have and makes him/her postpone his/her own career path decisions (Costa & Mc Crae, 1992). (Pickett, 2007) in their study concluded that there is a significant direct correlation between students' self-awareness skill and self-efficacy. (Reed & Skaar, 2010) by providing career counseling based on an eclectic approach to increase self-awareness skill found that increasing self-awareness skills increased students' occupational self-efficacy.

Conclusion

The results of the present study, in line with the results of the above-mentioned studies, indicate that achieving a comprehensive image of self that is achieved in light of self-awareness skill, as well as obtaining information about the surrounding environment which is achieved as a result of discovery skill, and finally creating harmony between the awareness obtained of oneself and the surrounding environment and planning for future that is achieved following planning skill, all expand a person's view of his/her own and the individual will be aware of the educational abilities and skills that he/she has enjoyed so far, that this will eventually lead to increased academic self-concept. Review of the theoretical and research literature of the study shows that career path development cannot be considered a cross-sectional event, but it is a process that continues throughout a person's life from early childhood to the end of adulthood. Therefore, it is necessary to pay attention to the skills that lead to people's career path development and are called career path skills (self-awareness, discovery, and planning). Also, given the special role of academic self-concept in people's academic-professional life in all stages of life including job selection, it is expected that by doing professional interventions including teaching career path skills to students, increase their academic self-awareness and self-concept which will then reduce their confusions about choosing a job and will lead to effective career decisions by them. It is hoped that the country's authorities will pay attention to career path, which is the same life path of the youth, as a continuous and lifelong process, and take into account the factors that lead to growth of their life and career path, which are called career path skills (self-awareness, discovery, and planning) such that they place teaching career path skills as part of the official programs of educational system of the whole country at all educational levels. Therefore, it is suggested that studies will be done by other researchers on the role of career path skills in other academic levels including elementary school, high school, and also during employment period.

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