

Improve student career certainty using self-information: A career counseling in the school

Syarifuddin Dahlan^{a*}, Universitas Lampung, Faculty of Teacher Training and Education, Department of Education Science, Bandar Lampung 35145, Indonesia. <https://orcid.org/0000-0002-3520-0251>

Evalia Idris^b, SMAN 2 Bandar Lampung, Bandar Lampung 35119, Indonesia.

<https://orcid.org/0000-0002-5522-2474>

Eko Susanto^c, Universitas Muhammadiyah Metro, Metro Lampung 34381, Indonesia.

<https://orcid.org/0000-0001-5530-0914>

Suggested Citation:

Dahlan, S, Idris, E & Susanto, E (2020). Improve student career certainty using self-information: A career counseling intervention at high school. *Cypriot Journal of Educational Science*. 15(6), 1480-1494. <https://un-pub.eu/ojs/index.php/cjes/article/view/5292>

Received from June 20, 2020; revised from October, 12, 2020; accepted from December 20, 2020.

Selection and peer review under responsibility of Pr. of. Dr. Huseyin Uzunboylu, Higher Education Planning, Supervision, Accreditation and Coordination Board, Cyprus.

©2020 Birlesik Dunya Yenilik Arastirma ve Yayıncılık Merkezi. All rights reserved.

Abstract

This study aims to examine the effectiveness of counseling interventions using self-information to increase student career certainty. This study was conducted with a quasi-experimental pre-test–post-test non-equivalent group design. The number of subjects was 94 high school students, out of which 44 were male and 50 were female; the experimental group consisted of 39 people and the control group consisted of 55 people. The Self-information used in this study was provided through the Self-Directed Career Exploration Inventory, while research data was obtained through the Career Plan Certainty Scale. The results showed that career counseling services using self-information were effective in helping high school students to increase their career choice certainty. The mean score of the students of the specialization group in the experimental group increased and was significantly different from the mean score of the students in the control group. In addition, the mean score for the study plans of male and female students was not significantly different.

Keywords: Career certainty, self-information, career counseling, career intervention.

* ADDRESS FOR CORRESPONDENCE: Syarifuddin Dahlan, Lampung University, Faculty of Teacher Training and Education, Department of Education Science, Bandar Lampung 35145, Indonesia, *E-mail address:* syarifuddin.d@fkip.unila.ac.id / Tel.: +62-821-7518-8518

1. Introduction

Career counseling services are seen as a means of implementing successful managerial competencies for high school students (Milan, Ludmila, Pavol & Miroslava, 2017). Therefore, counselors and education experts have recently made this service a priority orientation for guidance and counseling programmes in schools (Mara & Mara, 2010), particularly career planning services (Aljojo, 2016; Radcliffe & Bos, 2013) and career maturity (Alvarez-Gonzales, 2008). In other words, career counseling service emphasises the service not only on the harmony between the individual characteristics and the demands of work or position alone but also on career planning throughout the counselee's life journey. In schools in Indonesia, career guidance and counseling services are available with an emphasis on organising student specialisation programmes (Kebudayaan, 2013). As a career intervention, the service is carried out by school counselors to help students in high schools to prepare for their careers effectively (Babaravic, Devic & Blazev, 2019; Choi, Kim & Kim, 2014). In other words, career interventions with this specialisation programme are present for the discovery of vocational identity achievement (Hirschi & Hermann, 2012; Holland, 1985) of students, starting from selecting and establishing subjects to be followed in the education unit to understanding and choosing the direction of career development towards career maturity, and also preparing themselves and choosing advanced education in college (Radcliffe & Bos, 2013) following general basic abilities, talents, interests and preferences of their choice.

Although researchers abroad have presented a number of empirical data on the quality of career counseling services (Makela & Hoff, 2019), yet in term of career counseling interventions with specialisation programmes (Kebudayaan, 2013) in high schools, other information is needed as consideration for counselors in designing paradigms career intervention in the 21st century (Savickas, 2012). However, helping people make career decisions has been fundamental to counseling psychology since its emergence as a profession, and it continues to be central to its identity today. This study has investigated the effectiveness of counseling interventions using self-information to explore the certainty of career choices for high school students.

Through the empirical evidence presented in this study, it is hoped that alternative studies on career guidance and counseling services can increase, for both practical needs and career counseling research. In turn, school counselors will be assisted in choosing tools to assist students, particularly in ensuring career choice, in both choosing study majors and occupational groups or field of work to be undertaken in the future.

1.1. Aspects of the self as information

Self-information in this study is limited to personality typology, which refers to Holland's theory (1997; 1985) of personality. The theory's core idea is that most people resemble a combination of six personality types, namely realistic (R), investigative (I), artistic (A), social (S), enterprising (E) and conventional (C), which is in the RIASEC acronym. According to Holland (1997; 1985), the RIASEC personalities and environment types and their relationships to each other provide the basis for several testable hypotheses. Self-knowledge, accurate self-evaluations of ability, the importance of environmental knowledge and the role of environmental influences, such as barriers or limited opportunities are important and are always emphasised. In this relationship, he asserted that individuals search for and enter work environments that permit them to exercise their skills and abilities, express their attitudes and values and take on agreeable problems and roles. Accordingly,

congruence – the degree of fit between an individual's personality type and the work environment type – is theorised to be a determinant of several important outcomes, including job satisfaction, stability and performance.

People whose predominant characteristics are described by the R personality typically tend to focus more frequently on observable and concrete realisations, are not very sociable, have good motor skills and prefer to deal with concrete problems rather than abstract ones. The I type is represented by individuals who are predominantly introverted and are focused on intellectual exploration, who enjoy thinking more than acting and are more skilled to deal with abstract ideas and words. The predominant characteristics of the A type are introversion, a tendency to use feelings, emotions, intuition, imagination and creativity to deal with daily situations (Holland, 1997; 1996). The S type corresponds to individuals whose most prominent characteristics are extroversion, sensitivity, solidarity, with good verbal and interpersonal skills and a tendency to socially interact and engage. More enthusiastic, impulsive and outgoing individuals who prefer activities in which they dominate, persuade and lead others belong to the E type. The C type, in turn, gathers characteristics such as conformism and control, and prefers more structured activities involving obedience to orders and rules (Holland, 1997; 1996).

Career interests are the expressions of life's objectives, values, identifications, competencies and abilities of individuals within the professional sphere, representing a synthesis of personal characteristics that orients one's career choice (Holland, 1997; Holland, Powell & Fritzsche, 1994). Each type is characterised by a constellation of interests, preferred activities, beliefs, abilities, values and characteristics. Adjustments between vocational personality types and work environments classifications are considered in career choice (Morgan, Isaac & Sansone, 2001).

1.2. Relevant research

The theoretical application of Holland's theory has implications for career counselors (Miller & Miller, 2005), in both practice and counseling research (Patton & McIlveen, 2009). Holland's typology gained international recognition due to its operational simplicity, empirical testability, ease of application and ease of interpretation of results (Nauta, 2010). Examination results of the relationship between personality types and career choice of undergraduate students (Kemboi, Kindiki & Misigo, 2016), of high school students (Onoyase & Onoyase, 2009), relationship of person-environment fit to career certainty (Durr & Tracey, 2009) and testing the choice model of social cognitive career theory across Holland themes (Sheu et al., 2010), shows that there is a consideration of personality suitability and career choice (Aljojo, 2016) or the degree of congruence between personality types and work environments (Holland, 1997; 1985). Additionally, trials of career counseling interventions using the personal questionnaire (Cardoso & Sales, 2019), evaluation of constructionist career counseling (Obi, 2015), mixed evaluation methods for career intervention, for both individual services (Jacquin & Juhel, 2017) and using a mixed method for group services (Maree, 2019) based on social cognitive career theory (Lent & Brown, 2013) and help ensure career choice through self-directed counseling (Dahlan, 2017), describing counseling strategies as a consideration for the development of this study. Another important aspect of this typology concerns its ability to predict a series of variables related to the world of work. Van Iddekinge, Roth, Putka and Lanivich (2011) showed, based on a meta-analytical study, that the RIASEC types efficiently predict performance at work ($d = 0.14$), performance in training ($d = 0.26$) and intentions and volumes of

businesses (d ranging from -0.15 to -0.19). Passler, Beinicke and Hell (2015) demonstrated in a meta-analysis study the consistent and significant relationship between professional interests and cognitive abilities, with coefficients ranging from -0.29 to 0.47 for different professional types.

1.3. Assessment of personality typologies

Persons and environments can be assessed concerning the RIASEC types using several instruments, one of which is the self-directed search (SDS; Holland, 1985; Holland et al., 1994), and materials that it accompanies, such as the occupations finder (Holland, 1996). The SDS included a pair of booklets that allowed clients to express their occupational day dream and give psychological meaning to them by using occupational classification; it helped clients to assess their preferences, activities, competencies and self-estimates using parallel classifications; and it encouraged clients to explore a range of occupational alternatives organised using the typology.

Assessing clients' personality types would be of limited value without a corresponding way to link them to congruent environments (Holland, 1997). Holland's code (typically the first letters of the three RIASEC types, the degree to which the client resembles type beyond the tertiary type) can be generated based on assessments, although he recommended using the rank ordering of all six types to describe individuals. Likewise, work environments can be categorised by their resemblance to a combination of RIASEC types, and Holland's codes are often used to describe them as well. Empirical evidence reported by researchers about reliability and validity for assessing Holland's career types (Meiros & Primi, 2015), in both East Asian societies, such as Arab societies (Aljojo & Saifuddin, 2017), and Turkish cultural background societies (Yilmaz, 2017), shows that counseling services using the Holland model's instruments (1997; 1985) can be adopted for various cultural backgrounds of the counselee (Yang, Stokes & Hui, 2005). Therefore, it is believed that it can also be adopted for subjects in the present study.

Among the instruments proposed to assess RIASEC types, the SDS (Holland et al., 1994) stands out. It has been translated into 25 different languages and is used with more than 22 million people from different cultures around the world (Goldstein & Hersen, 2000). The basic assumptions concerning the existence of six types of vocational personalities have broad empirical evidence, with results from numerous cross-cultural and meta-analytical studies showing evidence of its validity (Holland, 1997; Kantamneni & Fouad, 2011; Tien, 2011; Yang, Stokes & Hui, 2005). In this study, self-information for each counselee in the form of a description of their respective vocational personalities was obtained from their answers to the Self-Directed Career Exploration Inventory (S-DCEI). This inventory was modified from a career guidance vehicle, such as Holland's SDS (Holland, 1994; 1985) and its supporting material, by adapting parts of activity preferences, occupational preferences and self-estimates. Statements that build the inventory allow students to conduct self-assessments and at the same time recognise some types of occupations or positions that characterise certain skills.

2. Methods

2.1. Design

Service effectiveness test was carried out through a quasi-experimental research using pre-test-post-test non-equivalent group design. This design allows all research subjects, in both the

experimental group and the control group, to take up the pre-test and the post-test with the same instrument. The placement of subjects into the study group was not carried out randomly.

2.2. Participants

This study was conducted with 94 high school students in Bandar Lampung. They were grouped into the experimental group (39 students: 17 male and 22 female) and the control group (55 students: 27 male and 28 female).

2.3. Procedure

All research subjects, in both the experimental group and the control group, took the pre-test and post-test measurements about career choice certainty and underwent a career planning counseling service as a group. Subjects in the experimental group underwent career choice certainty counseling through personality typology assessment using the S-DCEI (Dahlan, 2010), while subjects in the control group received placebo services – ‘left alone’. For a smooth counseling service, two model counselors (co-counselors) were needed. Both co-counselors were asked to participate in counseling as research assistants in providing counseling services. The details of the assignments of each co-counselor were outlined according to research needs and the basic principles of guidance and counseling services in schools. The two *co-counselors* were one school’s guidance and counseling teachers – class group counselor and lecturer assistant of guidance and counseling courses at the University of Lampung. A series of career counseling processes were undertaken by the counselee through four stages, namely stage 1: discovery of summary code by students through their self-assessment; stage 2: interpretation of summary code; stage 3: establishing a career choice; and stage 4: follow-up. All stages are carried out in three meetings. The first meeting was held in a classroom (classical guidance), while the second and third meetings were held in group counseling. The first meeting was held to complete the activities of finding the students’ summary code, while the counseling group meeting was held to complete the interpretation of the summary code and the determination of the career choice and follow-up. In group counseling, the subjects in the experimental group were divided into four sub-groups, namely the counseling group (CG) with their respective members: CG1 = 10, CG2 = 10, CG3 = 10, and CG4 = 9. Each CG member received help in three counseling meetings.

2.4. Instruments

2.4.1. Assessment to obtain self-information

Personality typology assessment used to obtain self-information for counseling intervention in this study was the S-DCEI. This inventory consists of four parts, namely an assessment on ‘Activity Preferences’, ‘Occupational Preferences’, ‘Self Estimation’ and ‘Academic Achievement’. The first three parts were taken from the SDS (Holland, 1985), namely activities = 66 questions, occupations = 84 questions and self-estimates = 12 questions, while the last part of the trend in the form of academic achievement was developed by the author based on the theoretical study of Holland’s career choices and the authors’ observations on field practice guidance and career counseling in schools, particularly in high schools in the country. Each section contains some statements that have been arranged in six personality type categories, namely RIASEC. The distribution of S-DCEI questions can be seen in detail in Table 1.

Table1. Distribution of S-DCEI Questions

SELF-ASPECT	SELF-CLASSIFICATION						Number
	Rea	Inv.	Art.	Soc.	Ent.	Con.	
Activity Preferences	11	11	11	11	11	11	66
Occupational Preferences	14	14	14	14	14	14	84
Self Estimates	2	2	2	2	2	2	12
Academic achievement	4	4	4	4	4	4	24
TOTAL	31	31	31	31	31	31	186

The appropriateness of inventory as a service tool has been identified through expert judgment and field testing implementation. In general, parts of the inventory represent typical characteristics for each of the six personality types examined (the results of the validity check are presented separately). As such, the S-DCEI can be used as a tool to assess the resemblance of someone with a RIASEC personality type.

2.4.2. Assessment for certainty of career plans

Career Plan Certainty Scale was used to measure the degree of certainty of a student's career choice. On the scale, subjects were asked to state their career choice by writing down the type of job classification they wanted to make as their future career. Furthermore, they were immediately asked to rate the degree of certainty of the plan according to their condition by marking the assessment scores provided on the scale sheet. The answer scores range from 1 to 6. The answers of the subjects were classified into three categories, namely 'Uncertain' (score 1–2), 'Doubtful' (score 3–4) and 'Definite' (score 5–6). This scale has an approval index of three rates that is 0.84 points. Its stability index is 0.885 points, which is relatively high (Aiken, 1997). Thus, the scale is quite valid and reliable in measuring the certainty of a student's career choice.

2.5. Data Analysis

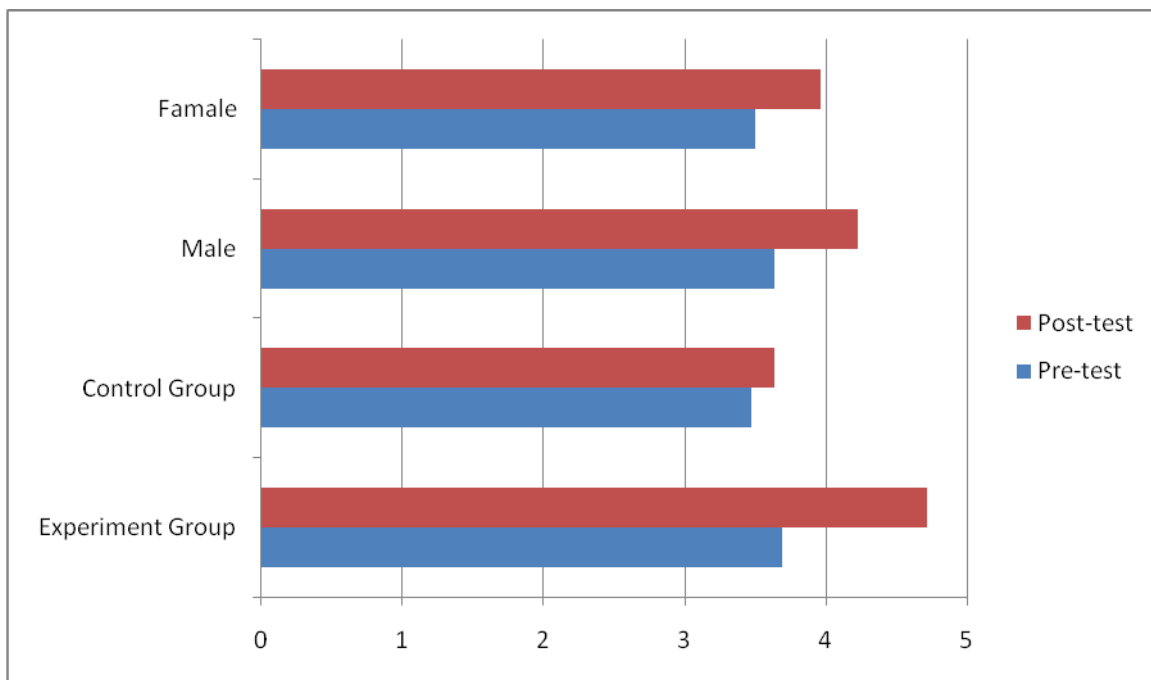
Data analysis was carried out descriptively and quantitatively using statistical analysis. Data distribution is generally presented in a Graph plot. The examination of the significance of increasing mean scores in the experimental group was carried out by using the paired sample test, while the mean difference testing between groups of research data pairs was analysed using analysis of variance (ANOVA).

3. Results

3.1. Career plan certainty data

Description of career choice certainty data from the pre-test and post-test results from the experimental group and the control group, for both male and female students can be seen in Graph 1. Data in the graph show that the mean score of the pretest of career choice certainty of each group of students has almost the same value. The mean pre-test score for experimental group was 3.69 and control group was 3.47, while the mean post-test score for experimental group was 4.72 and control group was 3.64. In other words, there are differences in the mean scores of each group of

students in the pre-test and post-test data. Meanwhile, the data distribution of students in the gender group is as follows: the mean pre-test score for male students was 3.64 and the mean post-test score was 4.23, while the mean pre-test score for female students was 3.50 and the mean post-test score was 3.96.



Graph 1. Distribution of Pre-test & Post-test of the certainty of student career plans

3.2. Effectiveness test

Model testing was carried out by examining the difference in mean scores between groups of students based on the data in Graph 1. The results of the model testing calculations are presented in Table 2.

Table 2. ANOVA for counseling model testing

Source	DF	Sum of squares	MeansSquare	F value	Pr > F
Model	4	115.391 ^a	28.848	42.843	0.000
Error	89	59.928	0.673		
Corrected Total	93	175.319			

R-Squared = 0.658 (Adjusted R-Squared = 0.643).

The model testing results in this study show that the value of $F = 42,843$ (p -value <0.000), which means the null hypothesis is rejected (see Table 2). Thus, career counseling services using the S-DCEI tools are effective enough to help students in ensuring their career choice. In more detail, the

results of the study analysis can be explained as follows. The results of the *t*-test between the control group versus experimental group and male versus female students are presented in Table 3.

Table 3. Result of variance analysis of post-test mean score of career choice certainty between groups and gender of high school students

Source	DF	Type I SS	Mean Square	F- Value	p-Value
Group	1	18.278	18.278	27.146	0.000
Gender	1	.540	.540	0.803	0.373
Group*Gender	1	2.728	2.728	4.052	0.047

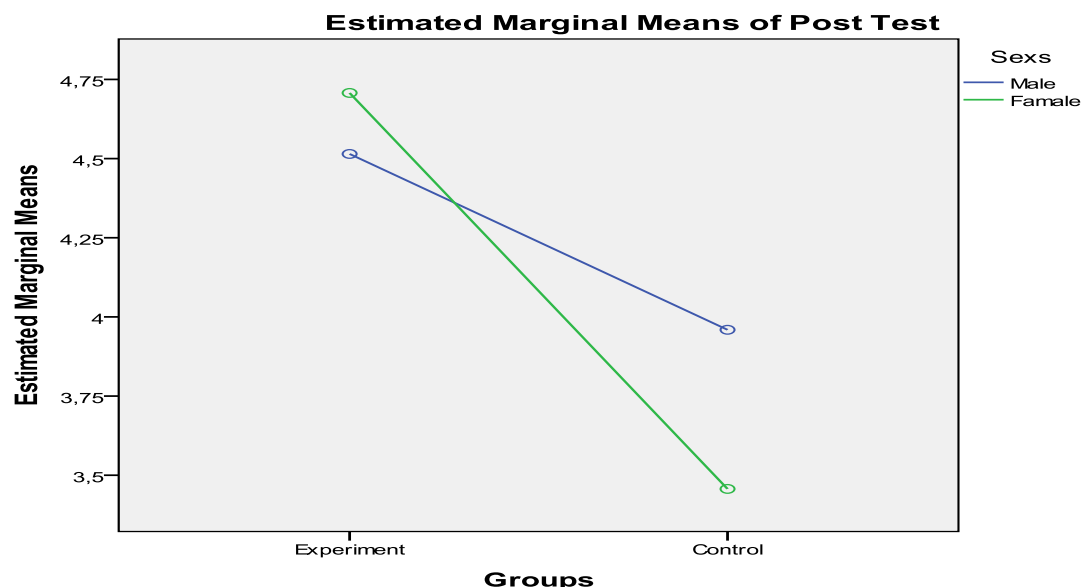
3.2.1. *T*-test results of students before and after counseling

The *t*-test results for the pre-test and post-test data pairs showed a value of 5.096 (*p*-value <0.000), which means H₀ is rejected. This indicates that there is a very significant difference between the mean scores of students' career choice certainty before and after research treatment. The mean score of students after undergoing career counseling using the S-DCEI tool was higher (4.09) than the previous mean score (3.56). In other words, the career counseling services developed have succeeded in increasing the students' career choice certainty scores significantly.

3.2.2. *T*-test results of students in the experimental group and the control group

The results of the *t*-test on the students' career plan certainty scores for the experimental group and the control group showed a value of *F* = 42.843 (*p*-value <0.01), which means the H₀ is rejected very significantly (see Table 2). This indicates that the average score of certainty in career choice between the experimental and control groups was significantly different. The mean score of career choice certainty of students undergoing career counseling services using the S-DCEI tool was much higher (4.72) than the mean score of career plan certainty of students in the control group (3.64). In other words, statistically, this study shows that career counseling services with the S-DCEI tool have a higher effect than other counseling services in helping students to plan a career while in high school.

The mean profile of the marginal scores of male and female students as users of career counseling services seemed to have increased in different directions (see Figure 1). The group of male students was higher than the group of female students in achieving certainty in their career plans.



Covariates appearing in the model are evaluated at the following values: Pre Test = 3,56

Figure 1. Profil of estimated marginal means of post-test data in the interaction test between students' group and gender

3.2.3. *T-test results of the data of male and female students*

The *t*-test results for the mean scores of male and female student groups indicate that $F = 0.803$ (p -value = 0.373), which means H_0 is accepted (see Table 3). This indicates that the career certainty scores of male and female students, in general, did not differ significantly. The mean score of career choice certainty shown in this study tends to have the same pattern, for both users of career counseling services that are being developed and other counseling services. In other words, the mean scores of both male and female students alike increased after receiving counseling services. Even though the mean score shown by male students (4.23) seems to be somewhat higher than female students (3.96), the difference in trends is not significant (see Table 3).

4. Discussion

The results of this study indicate the use of effective personality typology information for career counseling interventions. The RIASEC personality typology classifications that were brought about by the counsees (students) from the results of their assessment using the S-DCEI into counseling turned out to have been able to significantly enhance career choice certainty. This empirical evidence turns out to support Holland's (1985; 1997) theory, which states that the classification system on personal, occupational or environmental type or subtype categories can be used by counselors to deal with one's career problems, which is simple to organise occupational information, so that both counselee and counselor can easily understand it. Although it still provides complexity for occupation, yet the classification has been widely used (Patton & McIlveen,

2009). Empirical evidence that is also in line with this finding, among others, is the result of Aljojo's (2016) study, which explains that a person's career selection is based on a match between his personality and the desired career field. Likewise, the study of Onoyase and Onoyase (2009) confirms that a person's personality is significantly related to his career choices. Another study that also supports this finding is a study by Sampson Jr., McClain, Musch and Reardon (2013), which identified that personal factors are one of the main variables that determine a person's readiness to benefit from career intervention.

Classification of career information that is packaged using the category seems to have been able to invite counsees to declare their occupational dreams. An assessment of the range of occupational alternatives organized using typologies (Gottfredson & Johnstun, 2009) is believed to have given psychological meaning to counselee's efforts in finding certainty in the career choice. In other words, a simple way to determine someone's resemblance to each of the six personality types (RIASEC) has made it easier for counsees to understand the typology of their personality. Therefore, the assessment of activity preferences, occupational preferences, self-estimates and academic achievement with a parallel classification is an important first step and will be useful for career planning. Personality typology information that was organized following the S-DCEI directives has been useful. Counselors may use the formulation of typology to organize data that were obtained from the results of interviews, records, interests and talent tools. Counsees may also use the typology formulations to understand the important developments they are experiencing. Because both the counselor and the counselee can use concepts in the theory, their communication may increase so that the influence of the counselor may also increase. This advantage is actually a differentiator of the counselee's ability to understand and use several other therapeutic classification systems.

The findings in this study support the alleged strength inherent in the S-DCEI, as a career counseling tool compiled by modifying the SDS (Holland, 1994; 1985), with its distinctive characteristics, which are believed to have a number of advantages in assisting the counselee's career (Gottfredson & Johnstun, 2009; Nauta, 2010), including helping a counselee to explore subjective well-being. The stages of service activities arranged systematically, the creation of an atmosphere of active and pleasant assistance implementation and the clear and directed inventory content are the inherent forces that finally produce the inventory itself. Before undergoing counseling, both individually and in groups, the counselee is first asked to find personality typologies, main types and personality patterns (summary code). These activities can be carried out classically or individually. The discovery of the summary code is undertaken by the counselee thoroughly. The typology of student personality in this study was obtained through the assessment of activity preferences, occupational preferences, academic achievement trends and self-estimates stated in the S-DCEI. The typology describes the similarity of the counselee's personality to the six personality types (RIASEC). A student's personality pattern is described by the summary code (SC), which is found by combining the initial three letters of the names of Holland's six personality types. The first letter in the counselee's summary code shows the most similar type, followed by the second and the third letters. The assistance activities in the first stage can be carried out in large classes (classical services). After the SC has been found, the counselee enters the assistance service in counseling, both individually and in groups. Assistance in this stage is to invite the counselee to get to know more about personality

characteristics and work environment that suits him/her based on the interpretation of the summary code that has been obtained by the counselee at the exploration stage. At this stage, the counselee is invited to find choices by making more appropriate letter combinations based on a summary code to find the career choice that is most appropriate for him/her. All phases of this activity have been systematically arranged in the S-DCEI.

Counseling services using self-information allow the counselee to undergo the counseling process in the S-DCEI's direction. Counselee activities, ranging from self-assessment at the discovery stage of the summary code to making career plan decisions, are carried out through self-direction following the instructions for the activity in the inventory. The design of this activity creates an active and pleasant service atmosphere. This condition is thought to be one of the drivers of the counselee to make an assessment of self-aspects and their environment seriously, find alternatives and make decisions about career plans carefully, thoughtfully and independently. In other words, a pleasant counseling process allows counsees to learn a lot about their characteristics and environment, so that awareness of the risks and responsibilities for a decision on a career choice will grow quickly. In the S-DCEI, some statements have been made about activity preferences, occupational preferences, academic achievements and self-estimates. The four self-aspects are organized into six categories, namely RIASEC. Besides, clear work directions have been included at each stage of the activity. This design has been able to simplify the classification of career information needed by the counselee in planning his/her career. In other words, the clarity of career information personality typology is believed to create conditions that can bring the counselee to achieve a high career choice certainty score.

In summary, the use of self-information as a counseling intervention for career planning can encourage counsees to (1) understand more deeply about their main self-characteristics and work environment that are directed by a summary code of their exploration results, (2) create alternative summary codes by combining the letters of the summary code that have been found, (3) make alternative career choices that are relevant to the direction of the summary code and (4) determine the most appropriate career choice.

Self-Information in career counseling can be used in both individual and group services. Individual service can be directly carried out through individual counseling, while group service can be carried out through group counseling or class meetings/classical guidance. The use of classical guidance is specific and is only possible for the implementation of activities at the discovery of summary code stage(meeting at an early stage) or limited to the guidance effort. For further activities, starting from the interpretation of code summary stages to the career decision-making stage, it might be more effective if it is done in counseling, in both individual and group counseling. Strengths and weaknesses of a service, both individually and in groups, such as the efficiency of time, energy and the dynamics of interaction in counseling, can also be a consideration for a counselor in determining the service strategy to be used. The use of large groups may be more suitable if the counselor wants to provide services to many counsees in a relatively short time, and this requires a lot of recommendations from many parties.

This finding refutes study reports which cast doubt on the use of career guidance and counseling tools of Holland's theme in helping to understand career choices that are gender-biased (Darcy & Tracey, 2007; Morgan et al., 2001). On the contrary, this study's finding reinforces findings

that explain that career tools developed based on Holland's personality theory, which has made a large positive contribution to career assistance (Gottfredson & Johnstun, 2009; Holland, 1997; 1985; Nauta, 2010). There is no difference in the level of stability of career choices between male and female students. This may occur because of the similarity of certain characteristics among them. For example, there may be similarities in the level of creativity between male and female students in planning their career choices so that the level of adjustment in sex-role stereotypes and sex-related expectations between the two is equally good. Although there is a tendency for differences between male and female students regarding preferences, academic achievement trends and self-estimates, it is not enough to distinguish the degree of certainty in their career choice. This may happen, again, because the S-DCEI's design has been able to meet the demands of the population.

This study was conducted in heterogeneous societies with diverse races, ethnicities and cultural backgrounds. It is suspected that the results found are related to the mental attitude of the subjects that appear as the influence of these various diversities. Such conditions are believed to have 'fostered' the development of student independence in planning their career choices. The results of the research found could be different if the study was subject to subjects from homogeneous societies. In areas where the community is relatively homogeneous, the emergence of mental attitudes that are not 'achievement-oriented' is very possible. The habit of waiting for the blessing of the 'elder', 'like to surrender' or 'waiting to be given a choice' in determining career choices, is more likely. This attitude can be an obstacle to the effectiveness of career guidance and counseling services for this model. It seems that this limitation is worth considering for the use of services in a wider audience.

5. Conclusion

Career counseling interventions with self-information turned out to be quite effective in helping high school students to explore their careers. The mean score of a student's career choice certainty after undergoing career counseling increased significantly. The mean score shown by the students in the experimental group was far higher than the control group, and there was no significant difference between the mean scores of the career choices of male and female students.

6. Recommendation

In the future, the effectiveness testing might be extended; for example, it is imposed on 9th-grade high school students because they are planning a career and are required to be able to make career choices in secondary school with certainty. Alternatively, it might also be extended to job seekers who are considering job offers to help them find alternative career choices that are most appropriate for them in the field of work, occupational groups and types of positions. Furthermore, it is also recommended to interested counselors who are interested in using career counseling services with this approach to first understand the conceptions and operational techniques of the use, particularly understanding Holland's theory of career choice, the contents of the Service Implementation Handbook and how to use it as a tool for counseling intervention.

7. Copyright

The authors have copyright notice to this article

Acknowledgements

The author would like to thank all those who have participated in this research activity.

References

- Aiken, L. R. (1997). *Psychological testing and assessment*. (9th Ed.). Needham Heights, MA, US: Allyn & Bacon.
- Aljojo, N. (2016). Choosing a Career Based Personality Matching: A Case Study of King Abdulaziz University. *International Journal of Advanced Computer Science and Applications*, 7(2). <https://doi.org/10.14569/ijacsa.2016.070229>
- Aljojo, N., & Saifuddin, H. (2017). A Study of the Reliability and Validity of Holland's RIASEC of Vocational Personalities in Arabic. *American Journal of Information Systems*, 5(1), 33–37. <https://doi.org/10.12691/ajis-5-1-5>
- Alvarez Gonzalez, M. (2008). Career maturity: a priority for secondary education. *Electronic Journal of Research in Educational Psychology*, No 16, 6 (3): 749-772.
- Cardoso, P., & Sales, C. M. D. (2019). Individualized Career Counseling Outcome Assessment: A Case Study Using the Personal Questionnaire. *The Career Development Quarterly*, 67(1), 21–31. <https://doi.org/10.1002/cdq.12160>
- Choi, Y., Kim, J., & Kim, S. (2015). Career Development and School Success in Adolescents: The Role of Career Interventions. *The Career Development Quarterly*, 63(2), 171–186. <https://doi.org/10.1002/cdq.12012>
- Dahlan, S. (2017). Self-directed counseling: An Alternative service model of careerchoice certainty". *Science International (Lahore) Journal*. 29 (5), 1011-1016. <http://www.sci-int.com/Search?catid=93>
- Darcy, M. U. A., & Tracey, T. J. G. (2007). Circumplex structure of Holland's RIASEC Interests across gender and time. *Journal of Counseling Psychology*, 54(1), 17–31. <https://doi.org/10.1037/0022-0167.54.1.17>
- Durr II, M. R., & Tracey, T. J. G. (2009). Relation of person–environment fit to career certainty. *Journal of Vocational Behavior*, 75(2), 129–138. <https://doi.org/10.1016/j.jvb.2009.05.003>
- Goldstein, G., & Hersen, M. (2000). Historical Perspectives. In *Handbook of Psychological Assessment*. Third Edition, (pp. 3–17). Elsevier. <https://doi.org/10.1016/b978-008043645-6/50079-3>
- Gottfredson, G. D., & Johnstun, M. L. (2009). John Holland's Contributions: A Theory-Ridden Approach to Career Assistance. *The Career Development Quarterly*, 58(2), 99–107. <https://doi.org/10.1002/j.2161-0045.2009.tb00050.x>
- Hirschi, A., & Herrmann, A. (2012). Vocational Identity Achievement as a Mediator of Presence of Calling and Life Satisfaction. *Journal of Career Assessment*, 20(3), 309–321. <https://doi.org/10.1177/1069072711436158>
- Holland, J.L. (1985). *Making vocational choices: Theory of vocational personalities & work environments*. (2nd. Ed.) Englewood Cliffs, N.J: Prentice-hall.
- Holland, J.L. (1996). *The occupations finder*. Odessa, FL: Psychological Assessment Resources. Inc.

- Dahlan, S, Idris, E & Susanto, E (2020). Improve student career certainty using self-information: A career counseling intervention at high school. *Cypriot Journal of Educational Science*. 15(6), 1480-1494. <https://un-pub.eu/ojs/index.php/cjes/article/view/5292>
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments*. Psychological Assessment Resources.
- Holland, J. L., Powell, A. B., & Fritzsche, B. A. (1994). *The self-directed search (SDS)*. Psychological Assessment Resources Odessa, FL.
- Jacquin, P., & Juhel, J. (2017). An individual mixed-evaluation method for career intervention. *The Career Development Quarterly*, 65(1), 16-28.
- Kantamneni, N., & Fouad, N. (2011). Structure of vocational interests for diverse groups on the 2005 strong interest inventory. *Journal of Vocational Behavior*, 78(2), 193–201. <https://doi.org/10.1016/j.jvb.2010.06.003>
- Kebudayaan, K. P. d. (2013). *Pedoman Peminatan Peserta Didik*. Jakarta: Kementerian Pendidikan Dan Kebudayaan.
- Kemboi, R. J. K., Kindiki, N., & Misigo, B. (2016). Relationship between personality types and career choices of undergraduate students: A case of Moi University, Kenya. *Journal of Education and Practice*, 7(3), 102–112.
- Lent, R. W., & Brown, S. D. (2013). Social cognitive model of career self-management: Toward a unifying view of adaptive career behavior across the life span. *Journal of Counseling Psychology*, 60(4), 557.
- Makela, J. P., & Hoff, K. (2019). Career Outcomes Data From Social Media: Examining Quality in Current Practices. *The Career Development Quarterly*, 67(3), 220–235. <https://doi.org/10.1002/cdq.12192>
- Mara, E.-L., & Mara, D. (2010). Current Guidance during the orientation in career counseling. *Procedia - Social and Behavioral Sciences*, 5, 2351–2354. <https://doi.org/10.1016/j.sbspro.2010.07.462>
- Maree, J. G. (2019). Group Career Construction Counseling: A Mixed-Methods Intervention Study With High School Students. *The Career Development Quarterly*, 67(1), 47–61. <https://doi.org/10.1002/cdq.12162>
- Meireles, E., & Primi, R. (2015). Validity and Reliability Evidence for Assessing Holland's Career Types. *Paidéia (Ribeirão Preto)*, 25(62), 307–316. <https://doi.org/10.1590/1982-43272562201504>
- Milan, D., Ľudmila, L., Pavol, B., & Miroslava, S. (2017). Career Counseling as a Tool for Successful Implementation of Managerial Competencies of Secondary School Graduates in the Slovak Republic. *TEM Journal*, 6(4), 726.
- Miller, M. J., & Miller, T. A. (2005). Theoretical application of holland's theory to individual decision-making styles: implications for career counselors. *Journal of Employment Counseling*, 42(1), 20–28. <https://doi.org/10.1002/j.2161-1920.2005.tb00895.x>
- Morgan, C., Isaac, J. D., & Sansone, C. (2001). The role of interest in understanding the career choices of female and male college students. *Sex Roles*, 44(5–6), 295–320.
- Nauta, M. M. (2010). The development, evolution, and status of Holland's theory of vocational personalities: Reflections and future directions for counseling psychology. *Journal of Counseling Psychology*, 57(1), 11–22. <https://doi.org/10.1037/a0018213>
- Obi, O. P. (2015). Constructionist career counseling of undergraduate students: An experimental evaluation. *Journal of Vocational Behavior*, 88, 215–219. <https://doi.org/10.1016/j.jvb.2015.03.009>
- Onoyase, D., & Onoyase, A. (2009). The Relationship between Personality Types and Career Choice of Secondary School Students in Federal Government Colleges in Nigeria. *The Anthropologist*, 11(2), 109–115. <https://doi.org/10.1080/09720073.2009.11891090>
- Pässler, K., Beinicke, A., & Hell, B. (2015). Interests and intelligence: A meta-analysis. *Intelligence*, 50, 30–51. <https://doi.org/10.1016/j.intell.2015.02.001>
- Patton, W., & McIlveen, P. (2009). Practice and Research in Career Counseling and Development-2008. *The*

Dahlan, S, Idris, E & Susanto, E (2020). Improve student career certainty using self-information: A career counseling intervention at high school. *Cypriot Journal of Educational Science*. 15(6), 1480-1494. <https://un-pub.eu/ojs/index.php/cjes/article/view/5292>

Career Development Quarterly, 58(2), 118–161. <https://doi.org/10.1002/j.2161-0045.2009.tb00052.x>

Radcliffe, R. A., & Bos, B. (2013). Strategies to Prepare Middle School and High School Students for College and Career Readiness. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 86(4), 136–141. <https://doi.org/10.1080/00098655.2013.782850>

Sampson, J. P., McClain, M.-C., Musch, E., & Reardon, R. C. (2013). Variables Affecting Readiness to Benefit From Career Interventions. *The Career Development Quarterly*, 61(2), 98–109. <https://doi.org/10.1002/j.2161-0045.2013.00040.x>

Savickas, M. L. (2012). Life Design: A Paradigm for Career Intervention in the 21st Century. *Journal of Counseling & Development*, 90(1), 13–19. <https://doi.org/10.1111/j.1556-6676.2012.00002.x>

Sheu, H.-B., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., & Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A meta-analytic path analysis. *Journal of Vocational Behavior*, 76(2), 252–264. <https://doi.org/10.1016/j.jvb.2009.10.015>

Tien, H.-L. S. (2011). An exploration of adult career interests and work values in Taiwan. *Asia Pacific Education Review*, 12(4), 559–568. <https://doi.org/10.1007/s12564-011-9157-x>

Van Iddekinge, C. H., Roth, P. L., Putka, D. J., & Lanivich, S. E. (2011). Are you interested? A meta-analysis of relations between vocational interests and employee performance and turnover. *Journal of Applied Psychology*, 96(6), 1167–1194. <https://doi.org/10.1037/a0024343>

Yang, W., Stokes, G. S., & Hui, C. H. (2005). Cross-cultural validation of Holland's interest structure in Chinese population. *Journal of Vocational Behavior*, 67(3), 379–396. <https://doi.org/10.1016/j.jvb.2004.08.003>

Yılmaz, O. (2017). An Evidence for Validity of Holland's Theory of Personality Types in Turkish Culture. *Journal of Psychology Research*, 7(5). <https://doi.org/10.17265/2159-5542/2017.05.002>