AN INVESTIGATION OF CAREER DECIDEDNESS IN RELATION TO "BIG FIVE" PERSONALITY CONSTRUCTS IN ADOLESCENCE

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ABSTRACT

The aims of the study were (I) to develop and test the psychometric properties of the Career Decision making indicators (CDMI), (II) to examine the psychometric properties of the Adolescent Personal Style Inventory (APSI), and (III) to find out the relationship between adolescent personality and career decidedness constructs. The participants constituted of 3260 students from the 10th, 11th and 12th grade, whom randomly were selected from the graduating class of 2008 in Sultanate of Oman. There are two instruments that were used in this study. The First is The Adolescent Personal Style Inventory (APSI) (Lounsbury,Tatum, Gibson, Park, Sundstrom & Hamrick, 2003). The Second is the Career Decision Making Indicators (CDMI). The APSI used to measure the five factors of personality (Neuroticism, Extroversion, Openness, Agreeableness, and Conscientiousness). As there was no Arabic version for the APSI yet available, The preliminary part of the research focus on the translation of this instrument into the Arabic language through a series of translation and back-translation processes. The results provide evidence that the adapted instrument achieved sound psychometric properties. The reliability test indicated that the instrument was reliable given the overall reliability value of Cronbach's Alpha was .769. The findings revealed that with the use of EFA, The Adolescent Personal Style Inventory construct produced 5 significant factors. The CFA results showed that the goodness-of-fit indices for the revised model were as follows: χ^2 (df = 179) = 387.903, CFI=.923; GFI= .965, PCOLOSE =1.00 and RMSEA=.034; each of the indices was above the threshold values. Two separate studies were conducted to develop the Career Decision Making Indicators (CDMI) and validate it. The CDMI measure the individual along eight dimensions: decidedness, comfort, Career Choice Anxiety, External Barrier, Need for Information, Readiness, Career Salience, and Inconsistent Information. The instrument has been devised and validated through a scientific method to ensure its reliability and validity. The results provide evidence that the developed instrument achieved sound psychometric properties. The overall reliability value of Cronbach's Alpha was .935. Also by Using EFA, the Career Decision Making Indicators (CDMI) Inventory construct produced eight significant factors. The CFA results showed that the goodness-of-fit indices for the revised model were as follows: χ^2 (df =712) =1802.559, CFI=.913; GFI= .927, PCOLOSE =1.00 and RMSEA=.036; each of the indices was above the threshold values. Analysis of the measurement invariance across samples confirmed the instrument's factorial validity. Moreover, Big Five personality traits were analyzed in relation to career decidedness among adolescents. Neuroticism was found to be negatively related to career decidedness. While, Conscientiousness, Extroversion, Openness and Agreeableness constructs were positively and significantly correlated with career decidedness. Results are discussed in terms of implications for future research and career development efforts.

1.1 INTRODUCTION

Research has established that personality traits can be useful for predicting career decision making and this can be attributed to two recent developments. The First is the emergence and wide acceptance of the Five Factor Model (FFM) of personality. The FFM has emerged as a extensively accepted general framework for conceptualizing personality traits (Lounsbury,Tatum, Gibson, Park,Sundstrom & Hamrick, 2003). It also emerged across languages, across rating sources and across different theoretical perspectives (Digman, 1990). Many personality psychologists identify the FFM as essential and sufficient to describe the

structure of personality at a universal level (Mount & Barrick, 1998). According to this model, five relatively independent, extremely broad dimensions (Big Five) explain a major portion of judged inter individual differences in personality. The five dimensions of the FFM are Extraversion, Agreeableness, Conscientiousness ,Emotional Stability which represent a reverse of phrase of Neuroticism and Openness to Experience (Lounsbury & Gibson, 2006). The second development is the use of meta-analyses based on the FFM. Through these meta-analyses, progress has been made in understanding which personality traits are related for predicting specific criteria across different career decision making dimension (Mount & Barrick 1998). This has also enabled researchers to take a more theoretical approach to understanding the relation between personality traits and career making. Most of the research on the Big Five is based on adults, but there is a growing body of evidence to support its applicability to adolescent's population. For example research on adolescence has found that the Big Five to be related to such diverse criteria and constructs as intelligence, school performance, future career success, stress and coping, social competence, and peer relationships (Lounsbury, Tatum, Chambers, Wens & Gibson, 1999). This study examined the big five personality traits in relation to career decidedness among adolescents in high school; the results may help the detection of career indecision problems in a school environment. If personality characteristics play a role in the development of indecision problem in adolescents, teachers can also identify whether some adolescents are at risk and so provide them with help and support before their problem stabilizes. Concern on career decidedness topic in related to personality traits will attempt to improve the ability of adolescences to make sensible decisions on their career and to get them to make a wise choice on their own. In general, having general decision- making skills might enable adolescences to protect themselves in many situations. Despite these helpful initial reports, we are far from a definitive understanding of the big five factor's effect on career decidedness. First, with only two published studies on this topic. The extant data are simply insufficient to infer the true relationships between the two construct domains. Beside, there are a few researches that have investigated career-decidedness in relation to the "Big Five" personality constructs among high school student. Furthermore, I could not identify any research that has investigated career-decidedness in relation to the "Big Five" personality constructs in Arabic cultures. Hence, the purpose of this study is to better understand the relationship among personality traits and career decidedness, it seeks to fill gaps in the research regarding this topic beside it may increase researchers and practitioners understanding about personality traits and career decidedness. Moreover, this study tested the replicability of the original (North American) Big Five Adolescent Personal Style Inventory factor structure in the Arabic speaking population .The FFM is a variant of the Big Five model that was derived from analyses of English language trait terms (Tupes & Christal, 1961), and critics have sometimes suggested that personality structure is an artifact of language. For those reasons, replication of the structure in unrelated languages provides important evidence of the generalizability of the model. Arabic language differs from English and other Indo-European languages in many respects. It is one of the Semantic languages. It is the official and literary language in all the 22 Arab nations, from the Atlantic Ocean to the Arabian Gulf. There are over 280 million people speak Arabic as a first language and by 250 million more as a second language.. It is the language of Qura'an so that Arabic language becomes the religious language of Islam. It was also the language of science and culture in the Arab Golden Ages .Arabic language has many characteristics and advantages (Versteegh & Versteegh 2001). It is a flexible language and rich in vocabulary. One of its features is that although the great promotion that has develops in it during ages, Arabic language

could reserve its basis and principle which have been founded since the Ignorant State and beginnings of Islam Age. Arabic is a phonetic language. In other words, it is pronounced as it is written. Arabic language provides an important test of the generalizability of the FFM. Also, Research on the assessment of career decision making has tended to lack a strong theoretical base (Tinsley, 1992). As an example of this type of questionnaire the "Career Decision Scale", which was used to identify a variety of subtypes of undecided people and postulated differing forms of interventions for each type of person (Hartung, 1995).In an effort to address this criticism, this study is attempted to contribute to the literature by construction of a reliable and valid instrument to assess career making construct generally and career decidedness specifically.

1.2 METHOD

1.2.1 Population and Participants

The population for this study was from high school students in Sultanate of Oman. The Sultanate of Oman is a country in the southwestern part of Asia, on the southeast coast of the Arabian Peninsula. It borders the United Arab Emirates in the northwest, Saudi Arabia in the west and Yemen in the southwest. The coast is formed by the Arabian Sea in the south and east, and the Gulf of Oman in the northeast. The Capital City of Oman is Muscat (Ministry of Information, 2009). The participants for this study were a sample from high school students in Sultanate of Oman from the 10th, 11th and 12th grade. Stratified Random Sampling methods were used to select the participants. Five different samples were used in this study with a total of (n = 3260) students, they randomly selected from the graduating class of 2008 from three regions in Sultanate of Oman. Students came from the 10th, 11th and 12th grade and belong to the age of group of 14 - 18 years old, with an average age of 16.5, S.D = 1.13. They are all Muslims having Arabic as their mother tongue.

1.2.2 Instruments

There are two main instruments that were used in this study. The Career Decision Making Indicator (CDMI) which were used for assessing the Career Decidedness construct for adolescent. Second, The Adolescent Personal Style Inventory (APSI) (Lounsbury & Gibson, 2006), a measure of the "Big Five" Personality traits designed specifically for use with adolescents as will. Beside there are three instruments that were used in this study, which are listed below.

The Career Decision Scale (Osipow, Carney, Winer, Yanico & Koschier, 1976), measures Career Certainty and Indecision.

The Career Decision Difficulties Questionnaire (CDDQ; Gati, Krausz & Osipow, 1996), measure three main categories of career decision-making difficulty: Lack of Readiness (R), Lack of Information (L), and Inconsistent Information

The NEO-FFI-S inventory (Costa & McCrae, 1992), which is one of the most widely, used adult Big Five instruments.

1.3 PROCEDURE

This research is divided into three phases: the first phase focuses on the adaptation of the Adolescent Personal Style Inventory (APSI), whereas the second phase focus on The Development of the Career Decision Making Indicator (CDMI). The last phase concern with the relationship among personality traits and career decidedness constructs.

1.4 PHASE I: THE ADAPTATION OF THE ADOLESCENT PERSONAL STYLE INVENTORY (APSI)

The Adolescent Personal Style Inventory (APSI) ((Lounsbury & Gibson, 2006), a measure of the "Big Five" Personality traits designed particularly for use with adolescents, ranging from ages 11 to 18 years of age. An outline of the adaptation processes is presented in Figure1.1.

Phase1: Translation of English Instrument into Arabic.
a. forward-translations by native Arabic - speaking translator.
b. Synthesis of first English version by four bilingual individuals.
c. Back-translation by native English speaker.
d. Comparison of original and back-translated version.
e. Expert individuals resolve discrepancies.
Phase2: Establish the Conceptual Equivalence by Comparing the English and Arabic Version
a. Bilingual review with five professionals. Evaluate for semantic, idiomatic, and Conceptual equivalence.
b. Lay panel review, to edit direction, items and answer choices.
c. Principal investigator and Lay Panel edit and identify problematic items
Phase 3: Readability, Content & Cultural Acceptability Review by psychology expert panel
a. About ten-member of psychology expert panel determine the content and Cultural acceptability.
Problematic items were revised.
Summarize findings and report level of agreement.
c. Determine reading level with two psychology experts
d. Revise instrument as necessary with Lay Panel expert.
Phase 4: Pretest of Arabic Instrument in Oman.
a. Pretest instrument with Omani adolescents. Form two groups of 130 students (35 male and 95 female students). Using probing technique to check for understanding, interpretation, ambiguous items, and cultural relevance.
b. Edit instrument and pretest again if necessary.
c. Edit final instrument with the assistance of the Lay Panel expert.

Phase 5: Administration of Instrument in Oman.
a. Randomly select 100 public high schools. Randomly select classrooms to obtain a representative sample of students in grades 10, 11, and 12.
b. Provide permission slips to 1034 students from three regions in Oman.
c. Randomly select 50 students for the test-retest reliability study.
d. Descriptive statistics.
g. Determine convergent validity with relation to the NEO-FFI.

FIGURE 1.1 An Outline of the Adaptation Processes of the APSI Instrument

1.4.1 Assessment of the Validity and Reliability of the (APSI) Instrument

Validity

A series of five studies was conducted in the adaptation of the adolescent personality inventory (APSI).Validity was considered in terms of content or "face" validity and also in terms of construct validity during the adaptation of the (APSI). Verification of content validity of the scales was done through a review by a bilingual translator beside experts in the field of personality testing. Construct validity, on the other hand, was investigated using exploratory factor analysis with Varimax rotation and Kaiser Normalization. Table 1.1 present the Rotated Component Matrix for (APSI) instrument. And as shown in the table, the items loaded highly (>=.40) on five separate factors. These factors had eigen values of greater than 1.00. A total of 16 items were removed and only 21 items remained and used in next analysis.

TABLE 1.1 Rotated Component Matrix for (APSI) instrument

Items	Factor1	Factor2	Factor3	Factor4	Factor5
C1	.679				
C5	.611				
C3	.545				
C2	.533				
O3	.485				
C4	.469				
O2	.445				
O10		.614			
O7		.610			
O9		.608			
O8		.601			
O4		.467			
O1		.458			
A10			.603		
A8			.601		
A4			.598		
A2			.582		
A6			.559		
N5				.694	
N4				.678	

N2	.639	
N7	.451	
EX6		.627
EX1		.625
EX8		.588

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy that served to evaluate the appropriateness of using factor analysis based on the data, were used in this study. The KMO uses interpretive adjectives to rate the adequacy of samples. A measure of 0.90 and greater is marvellous, 0.80 to 0.89 is meritorious, 0.70 to 0.79 is middling, 0.60 to 0.69 is mediocre, scores of 0.50 to 0.59 are miserable, and those falling below 0.50 are unacceptable (George & Mallery 2003). The KMO calculation for this study (KMO= .844) indicated sufficient common variance among variables for factor analysis.

The viability of a five ï factor solution was assessed using the eigenvalue rule. According to the eigenvalue rule (DeVills, 2003), factors with eigenvalues less than one should not be retained. Results from the eignvalue suggested a 5 factor solution. However, only the first accounted for more than 10 percent of the variance (10.23 %) while the second factor explained (9.70%) of the variance and the rest factors accounted for (8.11 %, 6.7 %, 6.71 %) respectively. The cumulative variance explained by all five factors was 41.225 %. The first factor identified was the Conscientiousness scale. All items loaded on this factor with loadings ranging from .445 to .679, except for three items which was lost due to its low factor loading. Beside two items from other dimension was loaded highly in this scale. The second identified factor was Openness. Two of the original items loaded greater than 0.40 within the previous factor. The remaining items loaded between .458 and .614. Again, three items was lost due to its loading falling below the 0.40 threshold. The third identified factor was that of Agreeableness with its a priori items loading entirely on this scale and with factor loadings ranging from .559 to .603. Two items were lost from this scale due to low factor loadings. The fourth factor was identified as Neuroticism. The items that were kept had factor loadings ranging from .451 to .694. Four of these items were lost due to factor loadings being below 0.40. The fifth identified factor was Extraversion. Only three items loaded between .588 and .627. Four items in this scale were lost because it's loading falling below the 0.40 threshold.

When considering discriminant validity through factor analysis, each scale should measure a unique dimension not measured by another scale. Discriminant validity was improved by removing any item whose factor loading either fell below the 0.40 threshold within its a priori assigned scale. Sixteen items were lost due to low loadings with their own scales.
A confirmatory factory analysis (CFA) based on an unweighted least squares estimation procedure using Analysis of Moment Structures (AMOS),was used to evaluate the data. The CFA was used to confirm the exploratory model. CFA is a structural equation modeling technique used to determine the goodness of fit between a hypothesized model and the sample data. The determination of whether to add a path to a model is based on a combination of theoretical, logical, and empirical indications. Empirically, the examination of modification indices guided path additions to the model. Modification indices are suggestions made by AMOS for paths that can be entered into the model to improve the goodness of- fit (Kline, 2005). If a modification index between two items is high in relation to other modification indices, it

suggests that the addition of a path will improve the overall fit of the model. Theoretically, item content is examined. If, from a theoretical standpoint, these items are expected to be related to one another, then it is additional support for the inclusion of a path. If it does not make theoretical or logical sense, then the path should not be included. The following goodness-of-fit indices were used to assess the degree of fit between the model and the sample: The Minimum Fit Function Chi-Square χ^2, the Comparative Fit Index (CFI: >.90 acceptable, >.95 excellent), and Root Mean Square error of approximation (RMSEA; <.08 acceptable, <.05 excellent), the adjusted goodness-of-fit index (AGF1: >.90 acceptable, >.95 excellent) and P-values (PCLOSE), which is a test of the null hypothesis that RMSEA (in the population) is less than 0.05. The CFA results showed that the goodness-of-fit indices for the revised model were as follows: χ^2(df = 179) = 387.903, CFI=.923; GFI= .965, PCOLOSE =1.00 and RMSEA=.034; each of the indices was above the threshold values. Thus, the five-factor structure of the APSI is supported by both the CFA and EFA, which was used as additional check on the five-factor structure. The findings also, demonstrate that for all five traits substantial overlap with corresponding subscales of the NEOð FFI, which is one of the most widely researched adult Big Five scales. These results provide additional evidence of what De Raad (2000) terms ñthe overwhelming picture of the Big Fiveé as a replicable structureò

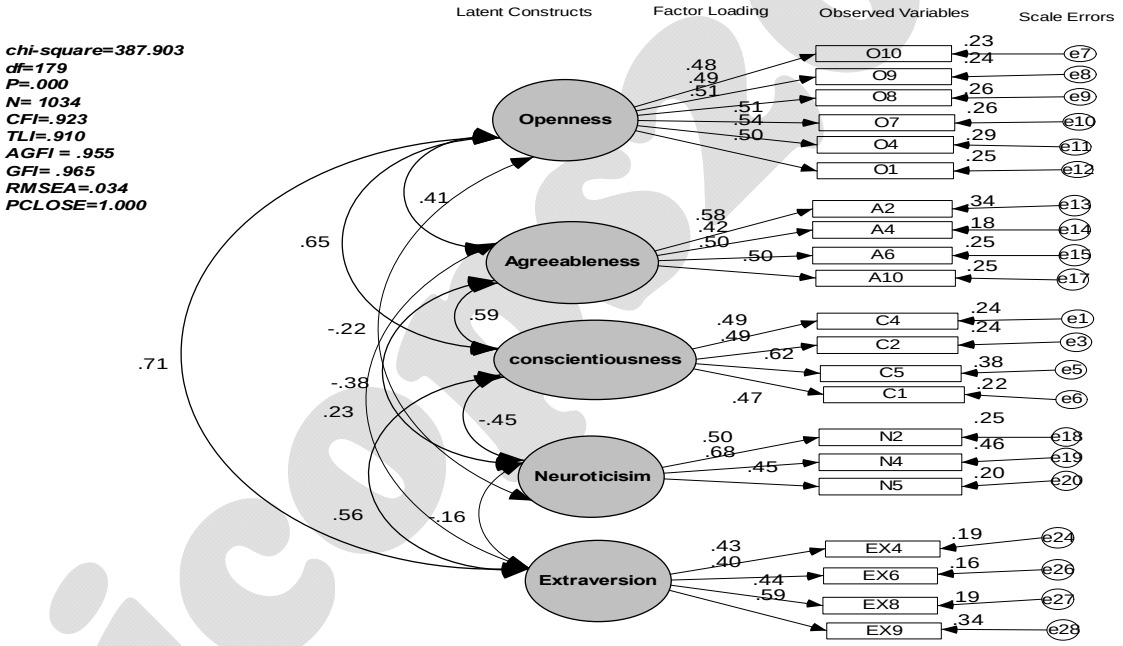

FIGURE 1.2 The Measurement Model for APSI

Reliability

Interpretation of reliability, synonymous with consistency, dependability, and accuracy (Kerlinger, 1986), involves whether or not an instrument is consistent internally. Cronbachôs alpha (Ŭ) coefficient is designed to measure the internal consistency of a scale in terms of item inter-correlations. That is, to what extents do items within a scale measure the same construct as the other items in the scale? .The alpha coefficient has a range of -1 to 1, with 0 indicating no internal consistency, 1 indicating perfect internal consistency, and -1 indicating perfect

inconsistency (George & Mallery, 2003). In general, Low internal consistency can result from any number of sources. For example, items about which survey participants have no opinion or insufficient information, or those that require too accurate a response, can lead to data that are not reliable (de Vaus, 2001). Yet, high reliability is not necessarily an assurance of high-quality results or validity. However there can be no high-quality results or validity without reliability (Kerlinger, 1986). In this study the reliability is estimated using two ways, Internal consistency in which the Estimation based on the correlation among the variables comprising the set (typically, Cronbach's alpha), Table 1.2 presents the alpha reliability for each refined APSI scale. Beside, Test-retest reliability in which the Estimation based on the correlation between two (or more) administrations of the same item, scale, or instrument for different times, locations, or populations, when the two administrations do not differ on other relevant variables (typically, the Spearman Brown coefficient), The internal consistency reliability (coefficient alpha) ranged from .647 to .743 for the five APSI scales. Using a generally applied órule-of-thumbô this range is considered acceptable to Questionable (George & Mallery, 2003), since the closer the alpha is to 1, the greater the internal consistency of the items. The alpha for the scales of Agreeableness (.65) and Extraversion (.61) are considered óQuestionableô, while the scales of Conscientiousness (.71), Neuroticism (.71) and Openness (.74) are considered óAcceptableô. The overall Alpha for the APSI is equal to (.77), which can be considered óAcceptableô using this rule-of-thumb.

Test-retest reliability for 50 participants over a 16 weeks was reported to be (r = .73), which indicate moderate reliability. Subscale test-retest reliability estimates for the APSI subscales were as follows: Agreeableness (r =.64), Conscientiousness (r =.41), Neuroticism (r = .83), Extraversion (r = .76) and Openness (r = .60). In general, this result represents a moderate to low level of reliability. Ideally, the test-retest correlation should be at the r = .80 range; however the average interval between administration may have a negative impact on this coefficient. In general, these results suggest that two of the five APSI subscales were below the 0.7 threshold for acceptable reliability, while three of them were acceptably stable, and led us to conclude that APSI is a reliable measure of a stable constructs over time.

Clearly, the APSI is a reliable and valid tool for measuring the big five personality traits. Further research replicating this scale (APSI) should be conducted in the future with larger and different samples to demonstrate the replication of similar results, because any given sample will never perfectly reflect its population. While deviations might be reduced with increases in sample size, deviations will still occur (Kim & Mueller, 1978) even with larger samples. Therefore, it will be important to replicate the factor analysis procedures each time the (APSI) is used in order to demonstrate that the factor structure presented here is not peculiar to this sample.
TABLE 1.2 Cronbachôs alpha Results for APSI

Subscale	Alpha	Standardized Item Alpha	Retest
Agreeableness	.638	.647	.64
Conscientiousness	.708	.713	.41
Neuroticism	.709	.711	.83
Extraversion	.599	.611	.76
Openness	.739	.743	.60
Overall Cronbach's Alpha for the instrument		.73	

1.4.2 Final Version of the APSI

To recapitulate, either item analysis, EFA beside CFA was conducted on 1416 responses of a preliminary version of the APSI. This resulted in the removal of 27 items. The construct validity of the APSI was supported using confirmatory factor analysis, whereas the internal consistency reliability of the refined APSI scales was reported using Cronbachôs alpha coefficient beside test- retest estimate. In the Arabic version of the scale , Each APSI scale consist of 4 to 6 items consisting of statements with which respondents are asked to express agreement or disagreement by selecting one of five labeled choices (strongly disagree, disagree, neutral/undecided, agree, strongly agree).

1.5 PHASE II – THE DEVELOPMENT OF THE CAREER DECISION MAKING INDICATOR (CDMI)

The main purpose of this study is to develop a new instrument (The Career Decision Making Indicator) which focuses to measure the individual along three dimensions: decidedness, comfort, and reasons for indecision. The development of the new instruments is guided by a three-dimensional model of career decision status (Decidedness, Comfort, and Reasons), which is introduced by Jones & Chenery (1980), they proposed that Career decision status, is comprised of three dimensions: decidedness, comfort, and reasons. The last dimension (Reason) will attempt to cover several dimension based on the review of the literature on the difficulties of making career decision. The development of the (CDMI) Instrument was based on the review of the career decision-making literature. Eight dimensions were generated to measure the individual career decision. The summarized contents of the test and its dimensions are presented below.

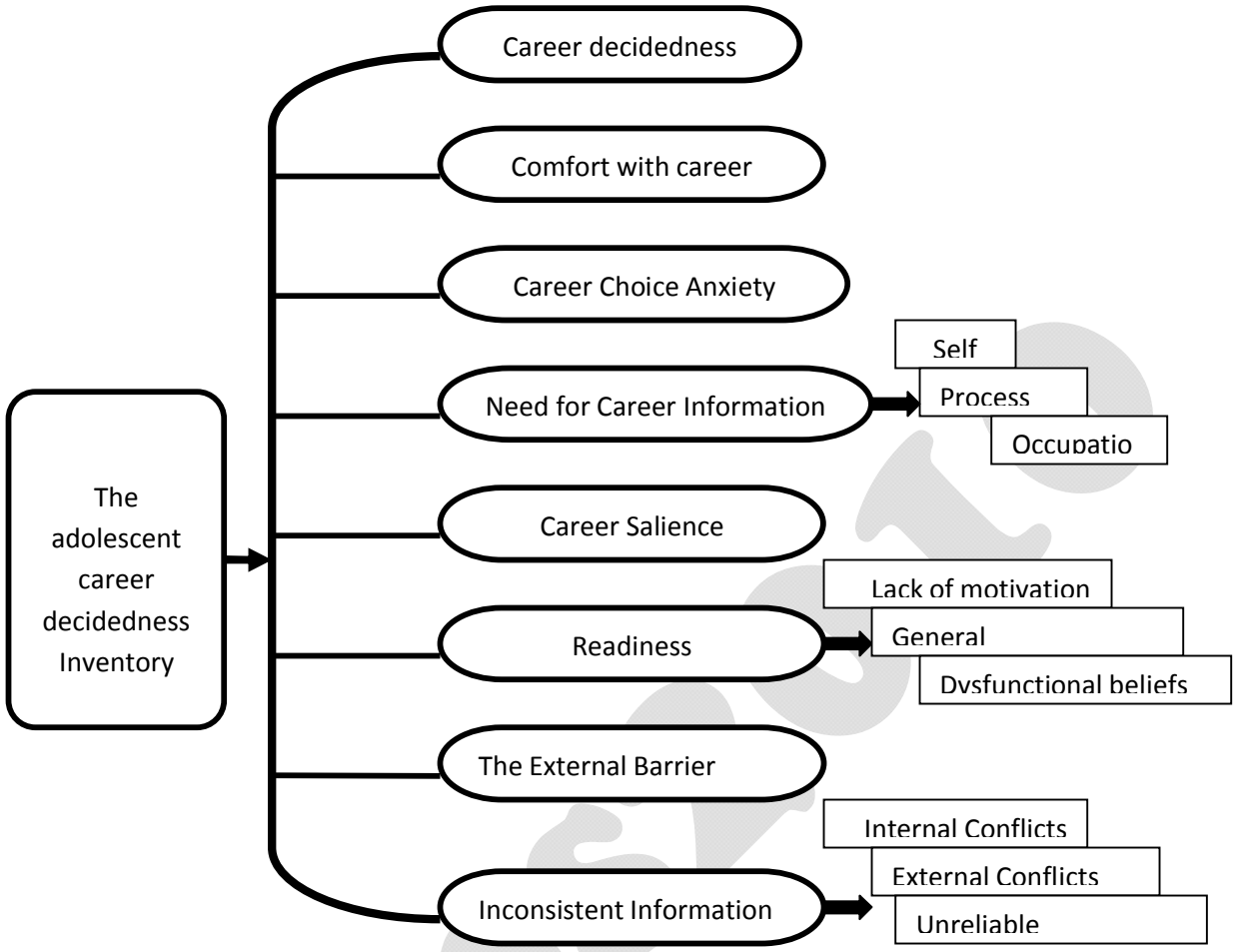

FIGURE 1.3: Constructs, Dimensions & Sub-Dimensions for ACDI

1.5.1. Assessment of the Validity and Reliability of the (ACDI) Instrument

Validity

Face validity relates more on what a test appears to measure to the person being tested than to what the test actually measures (Cohen & Swerdlik, 2005). In this research, the first draft of the instrument was given to the supervisors for approval in terms of its appearance as well as its wordings. Many changes, such as restructuring sentences, rewording and deletion of item statements, were done in accordance with the comments given by the supervisors. Following this, a second draft was submitted which was approved by all the supervisors. Content validity describes a judgment of how adequately a test samples behavior representative of the behavior that the test was designed to sample. This type of validity has played a major role in the development and assessment of various types of tests used in psychology and education (Carmines Zeller, 1979). Prior to conducting the first pilot test, content validation was carried out using the evaluation, of a panel of five judges, who had chosen on the basis of their knowledge and proficiency in career counseling. The judges independently classified each of the randomly-ordered items according to the construct it appeared to measure. A total of 100 items selected for the first version of the (CDMI), were those agreed upon by a majority of five judges as being

content-valid. Initial examination of the CDMI items in a pilot study revealed moderate internal consistency and preliminary support for the validity of the CDMI as a measure of career decidedness constructs. Additionally, the factor structure was internally consistent and revealed eight meaningful factors. After item analysis, 10 items were removed and the remaining 76 items were included in the next analysis. Analyses were conducted in four stages. These analytic strategies as employed in the current study are described in detail below.

In the first stage, an EFA was conducted to identify a viable factor structure based on a randomized split of the data in the sample. A sample of 457 participants was randomly selected using the randomization function on SPSS 15.0. Principal Component Analysis using Varimax rotation with Kaiser Normalization was selected due to the goal of the researcher to reduce a larger number of variables to a smaller set of uncorrelated variables (Hair, Black, Babin, Anderson & Tatham 2006). Moreover, the data indicated that the measure for sampling adequacy (MSA) for all variables fulfill over the acceptable level of .60. The analysis of the (CDMI) instrument produced 8 significant factors which accounted for 51.245 % of total variance explained. The first factor was labeled ñReadinessò, a total of 10 items loaded in this factor, which accounted for 26.4 % of the scale variance. Second factor explained 6.8 % of variance and included 8 items. This factor was labeled ñNeed for Informationò. ñCareer Salienceò defined the third factor, which accounted for 5.8 % of scale variance and 4 items with loading above .50 loaded on it. The fourth factor was labeled ñcomfortò, a total of 6 items loaded in this factor, which accounted for 2.8 % of variance explained. Fifth factor was labeled ñExternal Barrierò and explained 2.7 % of variance. It included 6 items with loading above .50. ñInconsistent Informationò defined the sixth factor, which accounted for 2.4 % of scale variance and 6 items with loading above .50 loaded on it. ñDecidednessò defined the seventh factor, which accounted for 2.3 % of scale variance and 4 items with loading above .50 loaded on it. The final factor was labeled ñCareer Choice Anxietyò, which accounted for 2.2% of variance, and only three items loaded on it.

TABLE 1.3 Rotated Component Matrix for (CDMI)

Item	Factor1	Factor2	Factor3	Factor4	Factor5	Factor6	Facor7	Factor8
CR4	.641							
CR5	.623							
CE3	.562							
CR6	.529							
CI5	.523							
CH5	.522							
CH6	.506							
CD6	.485							
CH7	.450							
CD5	.432							
CN14		.662						
CN12		.617						
CN15		.573						
CN10		.564						
CN7		.547						
CI9		.524						
CI6		.523						
CN8		.496						

CS8	.758					
CS9	.741					
CS12	.631					
CN16	.552					
CO4		.659				
CO3		.652				
CO1		.643				
CD4		.637				
CO2		.452				
CD7		.424				
CE6			.654			
CE5			.632			
CE7			.580			
CI10			.542			
CI12			.522			
CI11			.442			
CH9			.351			
CR1				.600		
CI1				.592		
CD2				.569		
CN2				.475		
CI4				.457		
CI3				.403		
CH10					.648	
CD11					.639	
CD9					.624	
CD10					.509	
CH2						.650
CH1						.602
CH3						.472

A CFA was then conducted on the remaining 959 participants of the larger overall sample to determine whether the factor structure required modification. The CFA was used to confirm the exploratory model. The CFA results showed that the goodness-of-fit indices for the revised model were as follows: c^2(df =712) =1802.559, CFI=.913; GFI= .927, PCOLOSE =1.00 and RMSEA=.036; each of the indices was above the threshold values.

A multigroup CFA was then conducted to identify potential developmental differences in factor structure. Result shows that there no significant differences are observed between the constrained and unconstrained model goodness-of-fit indices, this indicates invariance across groups-the factor structure is considered to be the same. When considering discriminant validity through factor analysis, each scale should measure a unique dimension not measured by another scale. Discriminant validity was improved by removing any item whose factor loading either fell below the 0.50 threshold within its a priori assigned scale or was above 0.50 with and of the other five scales. Seven items were lost due to low loadings with their own scales, while another seven were lost due to high loadings with scales other than their a priori scales. Evidence for the convergent validity of the CDMI has been demonstrated though it's significant positive

correlation with the Career Decision Scale (CDS: Osipow et al. 1976) beside The Career Decision Difficulties Questionnaire (CDDQ; Gati et al. 1996).

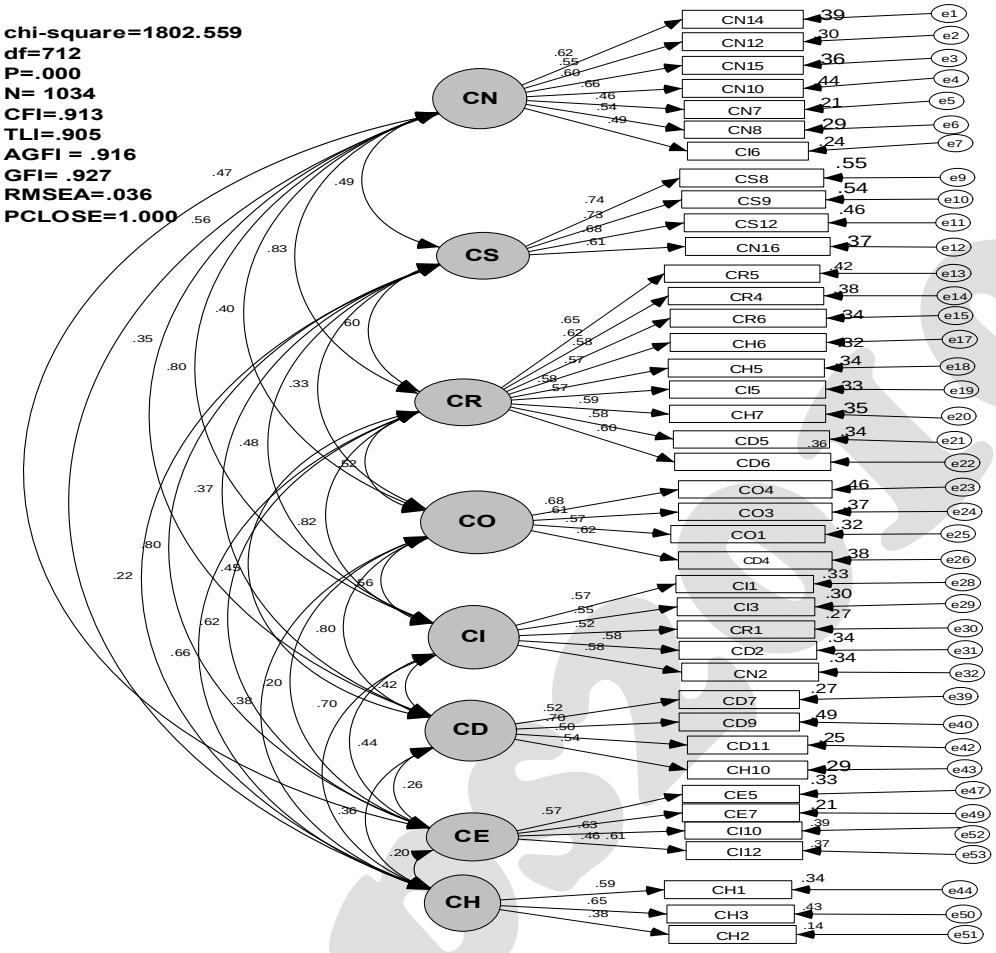

FIGURE 1.4

The Measurement Model for ACDI

Reliability

In this study the reliability is estimated using two ways, internal consistency .Beside, Test-retest reliability. Table 1.4 presents the reliability results. The overall Alpha for the ACDI is equal to (.935), which can be considered ôExcellentô using generally applied órule-of-thumbô. The internal consistency reliability (coefficient alpha) ranged from. .648 to .810 for the eight ACDI scale, Using a generally applied órule-of-thumbô this range is considered acceptable to Good (George & Mallery, 2003). The alpha for the scales of Comfort (.67) and External Barrier (.65) are considered óQuestionableô, while the scales of Decidedness (.75), Career Salience (.79), Career Choice Anxiety (.73), Readiness (.70) and Inconsistent Information (.79) are considered óAcceptableô. The remaining ACDI scales of Need for Career Information (.81) are deemed óGoodô. Test-retest reliability for 50 participants over a 6 weeks was reported to be (r =.943), which indicate Excellent reliability. Subscale test-retest reliability estimates for the APSI subscales were as follows: decidedness (.80), comfort (.77), Career Choice Anxiety (.78), External Barrier (.75), Need for Information (.86), Readiness (.79), Career Salience (.81), and Inconsistent Information (.81). In general, this result represents an acceptable to good level of

reliability. In general, these results indicate that the (CDMI) is a reliable measure of a stable constructs over time.

Clearly, the (CDMI) is a reliable and valid tool for measuring career decision making constructs. Further research replicating this scale (CDMI) should be conducted in the future with larger and different samples to demonstrate the replication of similar results, because any given sample will never perfectly reflect its population. Hopefully, future studies on the CDMI can extend its validation with larger and different samples.

TABLE 1.4 Cronbachôs Alpha Results for ACDI after Revisions

Subscale	Coefficient alpha	Retest
Career Decidedness (CD)	.751	.802
Career Comfort (CO)	.663	.768
Career Choice Anxiety (CH)	.730	.777
Need for Career Information (CN)	.810	.856
Career Salience (CS)	.790	.810
Readiness (CR)	.700	.789
Inconsistent Information(CI)	.791	.809
External Barrier (CE)	.649	.754
Overall Coefficient Alpha	.935	.943

Final Version of the CDMI

The Career Decision Making Indicator (CDMI) developed and validated in this study. Using data from 1626 high school students, a series of four studies developed and validated a measure of the career decidedness constructs and it's tailored to adolescents. The results indicated that the (CDMI) is a reliable and valid tool for measuring career decidedness constructs. The ACDI measure the individual along eight dimensions: decidedness, comfort, Career Choice Anxiety, External Barrier, Need for Information, Readiness, Career Salience, and Inconsistent Information Each CDMI scale consist of scales with 3 to 9 items consisting of statements with which respondents are asked to express agreement or disagreement by selecting one of five labeled choices (strongly disagree, disagree, neutral/undecided, agree, strongly agree).

1.6 PHASE III – THE RELATIONSHIP AMONG PERSONALITY TRAITS AND CAREER DECIDEDNESS CONSTRUCTS

Result on this section based on total a sample of 230 participants was randomly selected from the target population. Two measures were used to assess the relation between these constructs. The Adolescent Personal Style Inventory (APSI) (Lounsbury & Gibson, 2006), a measure of the "Big Five" Personality traits designed particularly for use with adolescents, ranging from ages 11 to 18 years of age and The Career Decision Making Indicator (CDMI), which measure the individual along eight dimensions: decidedness, comfort, Career Choice Anxiety, External Barrier, Need for Information, Readiness, Career Salience, and Inconsistent Information.

Result

Career decidedness was negatively correlated with the APSI measure of Neuroticism (r =-.082) and positively correlated with the APSI measures of agreeableness (r =.16) and conscientiousness (r =.23). In addition, career-decidedness was positively and significantly correlated with Extraversion (r = .20) and Openness (r = .22).
However, this study suggests that, although career decidedness is a relatively new construct which measures a specific stage of career development (Lounsbury et al., 1999), it is significantly related to five most important personality constructs. It is expected result that career decidedness is negatively related to neuroticism. This is maybe due to that students who are having difficulty choosing a career would be more likely to experience worry, depression, tension, anxiety, and other features explained by the Big five personality definition of neuroticism (Costa & McCrae, 1992).

Also, the Big five personality definition of conscientiousness contain attributes such as competence, orderliness, self-discipline, deliberation, dependability and achievement striving (Costa & McCrae, 1992). Career decidedness is a logically related correlate of such characteristics. Students who are ordered, disciplined, and structured in their approach to career choice can be predictable to display higher levels of career decidedness (Lounsbury et al., 1999). A more purposeful, organized student may be more orderly and determined in exploring and choosing a career that he or she wants to practice. This is also can due to, it may be that more conscientious students have more conscientious parents who serve as positive role models for specific careers and help student introjections of parental career values and choices (Lounsbury 2005). Openness and Agreeableness were found to be positively related to career decidedness for these high school students. Students who were more open to new learning and experience might also have been more tending to explore career alternatives and find careers that best suit them. They might also have been more open to career input from teachers, counselors, parents, friends and other sources of information. Agreeableness comprises such attributes as being kind, trusting, considerate, altruism, cooperative, modesty and tender mindedness (Costa & McCrae 1992). It may be that more agreeableness students have a disposition to believe that others are honest and will-intentioned and this leads them to relay on others opinion regarding their choices. Also, low scores on agreeableness are frequently related with people being more distrusting, argumentative, selfish, and hostile. However, teachers prefer students who are more cooperative; it may be that more agreeable students receive more attention and reinforcement in the area of career choice from teachers, counselors, and others who influence them. Also, it may be that agreeable students are more willing to engage in career planning, more likely to trust information about career choices, and more inclined to seek out and listen to the advice of others. In contrast, disagreeable students may be less likely to have others offer help, advice, and encouragement about career planning and decision-making. The present study is also consistent with the notion that higher levels of career decidedness are associated with higher levels of extraversion. In general extraversion represents the tendency to student to be sociable, outgoing, gregarious, warmhearted, expressive and talkative. Students who are sociable, outgoing, gregarious, warmhearted, expressive and talkative in their approach to career choice can be expected to display higher levels of career decidedness (Lounsbury, Hutchens & Loveland, 2005).

Professionals involved in the career planning and development process for students may want to recognize that career decidedness is related to these five personality traits and modify their approaches consequently. For instance, administration of a Big five personality measure prior to a career guidance, counseling, or planning program or service, could help inform the service provider and allow more differentiated approach to service delivery. Students who are engaging in the career planning and choice process would also surely find such information useful.

In conclusion, the present study extends the work for career decidedness to include empirically verified relationships with the Big five personality constructs of neuroticism, conscientiousness, openness, extraversion and agreeableness. Future research could attempt to replicate such results in other settings.

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