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An innovation in the measurement of interests: the Career Interpersonal Identity Type Assessment¹

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Abstract

Measurement of interests has typically emphasized utilizing methodology requesting individuals to evidence their preferences through claiming to like, be indifferent to, or dislike a variety of occupations and various activities associated with them. Holland developed a theory that interest inventories are personality assessments assisting in the systematization and classification of people, work environments, occupations, and careers. Six types were posited: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Freud's notion of identification suggests that through interpersonal relationships an individual's educational, vocational, and career choices can be influenced. Social learning theory, as well as Kelly's personal construct theory, contend that observations and interactions with other people in one's environment can promote and also influence a person's educational, vocational, and career choices. Using these concepts, the *Career Interpersonal Identity Type Assessment* was modeled on Kelly's and Holland's theories to assess the influences of past and present interpersonal relationships. Results are a person's interests with Holland's typology. Validity and reliability were explored.

Within the context of counseling and psychotherapy, therapists are frequently called upon to help their clientele with evaluating or determining interests that may be guideposts to educational and career directions. Individuals may express their interests from acquired thoughts and feelings they have about a given educational discipline or career stemming from a variety of sources (e.g., interacting with or observing a worker in a particular field, i.e., customer service or management). They can also choose to assess their interests from one of the many inventories that have been developed and standardized for that purpose. The Self Directed Search (SDS), (Holland, 1994), the Strong Interest Inventory (SII), (Harmon, Hanson, Borgen & Hammer, 1994), and the Unisex Edition of the ACT Interest Inventory (UNIACT), (Swaney, 1995) appear to be the most popular and widely used assessments to measure the interests of adolescents and adults (Watkins, Campbell & Nieberding, 1994).

The use of occupational lists to measure and assess interests have guided assessments since the first edition of the Strong Vocational Interest Blank (Strong, 1927) and its subsequent revisions (Prince & Heiser, 2000) from the 1930's through the 90's. The revisions were influenced in 1974 by the occupational schema developed by Holland (1959, 1959a, 1996, 1966a, 1973, 1985, 1994, 1997), who postulated that interest inventories were personality measures. He maintained that individuals seek environments that sustain their personality type. Holland posited six personality types and environments, naming them Realistic, Investigative, Artistic, Social, Enterprising, and Conventional, measuring them using occupational lists, other activities, and preferences. Holland contended that each type was the product of an individual's interaction between that person and the environment comprised of cultural and personal forces. These forces included everything the person interacts with, but most importantly the activities the individual prefers. Some of these activities become strong interests that, in turn, result in specific selected competencies. These interests and competencies then lead the person to perceive, think, and act in specific ways that influence the development of their type. The types and environments have been schematically expressed by Holland in a hexagon representing the relations among them. Within the revisions of a number of

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various interest assessment procedures, Holland's schema and classification of occupations was adopted as a means of organizing and presenting an individual's educational and career choices.

The SDS and SII assessments require that the person being tested indicate whether they like, dislike or are indifferent about various occupations, selected activities, etc. The UNIACT, however, does not assess interest in occupations but rather preferences for various activities people like to engage in (e.g., preferring to study butterflies, playing in a band, etc.). However, the developers of these measures assume the test taker is knowledgeable about these occupations, activities, and venues of employment, whereas the possibility exists that there may be only a partial or limited understanding about them. The responses given on the assessments may also be subjected to idealized influences of choice as well. Indecision (Osipow, 1999), the dilemma of not being able to make a choice, may create a frustrating situation that is not typically tapped by current assessments. As such, these assessments may allow exploration of areas that could eventually prompt an individualized educational, vocational, or career choice because they consider prospective areas of choice alongside the person's conscious preferences.

Consideration and exploration of interpersonal relationships that occur over a lifetime can contribute to a variety of choices developed through conscious, subconscious, and unconscious processes. These are reflected by the emotional, social, educational, and career selections that are made. To address this issue, a cursory review of a variety of existing psychological theories related to the establishment, development, and perpetuation of interpersonal relationships and how they possibly influence educational and career choices was explored.

Freud began writing his thoughts about psychoanalytical theory in the 1890s. Anna Freud (1966–1980) published a compilation of his works that is helpful in understanding and utilizing the theory and its many facets. One particular notion that Freud introduced was that of identification, a psychological process whereby an individual assimilates aspects and attributes of another person, transforming them partially or wholly into themselves. An individual's personality is then constituted through an accumulation of various identifications.

Psychoanalysts Laplanche and Pontalis (1974) posited three types of identification: Primary, Partial, and Narcissistic. Primary identification begins early in life with a primitive form of emotional attachment to someone close to the person (usually parents). Partial identification occurs when the perception of a special quality of another person appears to become influential affecting individuals and to varying extents takes precedence over primary identification as people develop beyond infancy and childhood. The third type, Narcissistic identification, stems from the various losses and/or the

different kinds of abandonments and traumas experienced. Each of these types of identification could influence direction and choice, but it seems that Partial identification would be responsible for a substantial amount of the identifications that not only contribute to personality, but also promote and prompt educational and career choice, given each person's experiences and ego development. Primary identification may be influential in some individuals who for various reasons adopt similar educational and career paths as their parent(s): "Dad went to Yale and became a lawyer. He wants his son to do the same." Narcissistic identifications could also influence choices given the magnitude of the abandonments, losses and traumas experienced. For example, a paternal uncle, a farmer, dies, and his adolescent nephew identifies with him, but minimizes and denies the extent of his connection to agriculture. As the adolescent starts to develop into adulthood, he begins to manifest an insatiable curiosity about the various uses of corn and desires to do agricultural research.

Eric Erikson (1950) published *Childhood and Society*, in which he indicated eight psychosocial stages of ego development that promoted conflict, the successful resolution of each resulting in a virtue. During adolescence, between the ages of 14 and 20, the stage and conflict polarity of identity and identity confusion emerges. Questions about "Who am I?...How do I fit in?...and...Where am I going in life?" occur. To Erikson, parents play a significant and key role by letting their offspring explore, allowing them to achieve their own identity rather than having them subjected to their parents' values and inclinations, resulting in identity confusion and/or a foreclosed identity (i.e., adopting and embracing the wishes, opinions, and values of the parent). For the adolescent, withdrawing and/or avoiding responsibilities results in a moratorium in their ego development, with the possibility that they will either discover personal potentials or become confused about their role in society, thereby affecting an identity crisis. Through interactions with others, individuals discover "who they are" and what they like and dislike, as well as what they value. Once the adolescent decides who they are and what they have to offer, along with answering, "What can I do with what I have?", they have moved toward establishing their identity. Accidentally or with guidance, the amalgamation of all the identifications they have experienced up to this juncture form a basis of personality and prompt a course in life through this awareness.

One's personal identity is aided through the social process of interpersonal relationships where the person experiences a variety of lifestyles and ways of thinking and behaving, affecting their values and behavior. The result of the ego identity and role confusion conflict results in the meaning of self and others while separating from the family of origin and becoming a responsible member of society who has developed the virtue of fi-

delity (i.e., the ability to sustain loyalties even in spite of differing opinions, values, and ideals).

Within his social development theory, Vygotsky (1978) proposed that individuals learn through their social interactions with people, especially a skillful "tutor" (i.e., a parent or teacher). In turn, the learner seeks to understand the behavior or directions provided by the tutor through language and communication. The learner then internalizes the information and eventually uses it to guide or modulate their own performance or behavior at increasingly more complex levels.

Bandura (1977, 1986, 1997) proposed in his social learning theory that people learn by observing how others behave, prompting self reflection, organizing, and regulating their own thoughts and actions, which offers some notions as to how individuals develop their attraction to particular people, fields of study, jobs, occupations, and careers. In other words, learning correlates with the observation of role models, who in turn exhibit general rules and strategies for addressing different situations that are brought about through accommodation, adaption, assimilation, and change.

Krumboltz, Mitchell, and Jones (1976) and other social learning theorists extended and expanded social learning theory to career selection. They postulated that individuals choose careers because of their experiences, influences, genetics, environments, and instrumental and associative learning experiences, in addition to various skills they have developed. They contended that an individual's experiences and influences stem from their parents, mentors, friends, relatives, hobbies, and pastimes. They proposed that instrumental learning occurs with the positive and negative feedback a person gets as a consequence of their actions, for example: being told they're a good flute player; getting hit by a wild pitch and deciding that baseball was not in their future. Associative learning, i.e., labeling or forming an opinion about an occupation, can also effect choice, e.g., coming to an understanding that teachers are admired and esteemed, as well as earning a modest living.

Krumboltz and Levin (2004) explicated the role of "happenstance" in making the most out of a career and life. Happenstance suggests career choices require evaluation and planning, but are also adaptive to new circumstances that happen along the way. Rather than only using planning that remains stagnant, the term captures persistence and flexibility, as well as an optimistic attitude toward change and a capacity for risk taking. Instead of leaving all events to chance, Mitchell, Levin, and Krumboltz (1999) proposed calling the concept "planned happenstance," which expresses the concept that being open to serendipity can unlock doors to new career paths or can alter career self-concepts. Examples include: early retirement of a superior; the opening of a new management slot; new customers needing the client's specialty; a new company hiring;

changes in licensure laws; a new employee introducing a new specialty area and teaching experienced employees. Timely decisions include being prepared for chance occurrences that may present new choices.

Another possible perspective regarding how and why individuals are influenced in their educational, vocational, and/or career choices through interpersonal relationships could be generated from the work of Kelly (1955, 1963). He developed a Repertory Grid to assess personal constructs about how people are influenced and experience their world in the course of interacting with others. He maintained that the view or perceptions of others interacted with can be mapped on a similarities-difference dimension that captures constructs and the structure of personal meaning.

To formalize the notion that interpersonal relationships can have some influence on educational and vocational choices, as well as giving consideration to these previously noted conjectures, the *Career Interpersonal Identity Type Assessment* procedure was developed, using a modification of Kelly's procedure, to help identify those individuals who most positively and negatively, consciously, subconsciously, and unconsciously influenced the respondent, as well as discover the reasons or underlying constructs responsible for the attraction to or avoidance of them. These constructs, attributes, or dispositions, in addition to the interpersonal relationships identified, could be further explored with a client relative to educational, vocational, occupational, and career expectations and choices. What follows is an explanation of how to accomplish this measurement. Each of the steps must be completed in sequence. They should not be combined. It is imperative that the steps be done separately and in the order proposed.

Procedure

Step 1

The therapist asks the client to list 12 people who they feel or believe have significantly influenced their lives. These individuals can come from any "walks of life," i.e., family, friends, acquaintances, teachers, authors, etc.

Step 2

The client is then requested to list next to each person's name the occupation or what the listed person was doing at the time of influence. For example, a person might choose a relative (e.g., my uncle Joe who was a railroad porter), a friend (e.g., Jimmy G...my best friend in high school) or they might select someone they never met, yet read or studied (e.g., Aristotle, a philosopher and author).

Step 3

The client is asked by the therapist to pair **eight** of their choices, forming **four** groups containing **two** individuals

in each group who had something in common. The client is requested not to use the same person more than once.

Step 4

The client is requested to write down what common attribute, quality, characteristic or disposition each pair possessed for the four groups (e.g., they cared about me...they were logical, rational...great thinkers... they had great foresight/vision, they were politically responsible, etc.).

Following completion of this task, the client returns the document to the therapist, who converts the occupations for each of the named individuals in the four groups into one of Holland's six types, utilizing only the primary code, which can be located in the *Dictionary of Holland Occupational Codes [DHOC]* (Gottfredson & Holland, 1996).

Step 5

The therapist adds the identical types together that were chosen and arranges them hierarchically from the most to the least endorsed. Examples of this process are shown for E. H. and J. P. in Tables 1 and 2, illustrating the procedure.

Step 6

The therapist then converts the remaining unselected four individuals' careers into Holland types and subtracts or cancels these individuals / types from the cumulative number of types chosen.

The result should be the amalgamation and summation of those individual Holland types for each of the four paired groups, minus those not selected. Again, examples of the procedure are in Tables 1 and 2. Educational preferences can be assigned by using the *Educational Opportunities Finder [EOF]* (Rosen, Holmberg & Holland, 2011) whereas various career possibilities can be located in the *Dictionary of Holland Occupational Codes [DHOC]* (Gottfredson & Holland, 1996).

Examples

The following example will illustrate the procedure. E. H. is a 19-year-old female. She graduated from high school, attends a local community college, is employed part time as a hostess at a restaurant and is a nanny to young children. Previous employment involved customer service in a restaurant specializing in making a variety of sandwiches and being a clerk at a store that made candy on the premises. She has been in the process of individuating from her family of origin and has no specific educational or career goals. Her results are summarized in Table 1.

This assessment resulted in the Holland Type SRI/SIR, indicating an identity with or preference for social types and environments with R and I types in supportive roles. The particular occupation for the SRI listed in Holland's Occupations Finder was Extension Work-

TABLE 1
Results of Assessing E. H.

Steps 1 & 2			
Names	Occupation		
Mom	Homemaker, part time cook at elementary school		
Anna	High school student		
Dad	UPS driver		
Grandma	Homemaker		
Grandpa	Psychologist		
Aunt Colette	Tester, computer software		
Aunt Carolyn	Homemaker		
CJ	High school student		
Kelsey	High school student		
Carrie	College student		
Amanda	College student		
High School	High School		
Steps 3 & 4			
Names	Attribute/Construct		
Mom (S+) and Grandma (S+)	Strong Beliefs, good listeners		
Dad (R+) and Grandpa (S+)	Laid back, easy going, carefree		
Aunt Colette & Aunt Carolyn (S+)	Good listeners, advice givers, sometimes judgmental		
Anna (S+) and CJ (S+)	Helpful, there no matter what		
Not chosen:			
Amanda (S-)			
Kelsey (S-)			
High School (S-)			
Carrie (S-)			
Steps 5 & 6			
	Holland Codes/Types		
	S	R	I
+	111111	1	1
-	1111		

er, whereas the SIR type occupations were Podiatrist, Inhalation Therapist, Physical Therapist, Surgical Technician, and Therapist. There are also numerous careers for singularly coded Social types depending on educational level, namely, Clinical psychologist, Hospital administrator, High school teacher, Marriage counselor, Paralegal assistant, Personal counselor, Personal manager, Physical therapist, School principal, Social worker, Sociologist, Speech therapist, and Youth camp director. No particular educational discipline could be defined for the SRI/SIR type.

The second example comes from a 19-year-old male college student, J. P. He graduated in the top quarter of his high school class. He earned various academic scholarships and had a Composite ACT score of 28. He was enrolled at a local university, but had no educational or career goals. He had been briefly employed for six months bussing tables at a local restaurant, but quit that job to devote more time to his studies.

TABLE 2
Results of Assessment of J. P.

Steps 1 & 2	
Names	Occupation
John Marshall	Former chief justice of the U.S. Supreme Court
Albert Camus	Existential philosopher
Tom H	History/government high school teacher
Paul L	High school theology teacher
Mike W	Best friend from high school
Rene Descartes	Philosopher/scientist
Elizabeth K	Criminal Justice professor
Joe M	CEO
Paul R	Political Science professor
Philip Zimbardo	Psychologist
Joseph E	Author and religious scholar
Anthony B	Chef/traveler
Steps 3 & 4	
Names	Attribute/Construct
John Marshall (E+) & Tom H (S+)	Love of history & government
Paul L (S+) & Joseph E (A+)	Religious explorers
Albert Camus (I+) & Anthony B (R+)	Wanderers
Rene Descartes (I+) & Philip Zimbardo (S+)	Scientists
Not Chosen:	
Paul R (S-)	
Joe M (E-)	
Elizabeth K (S-)	
Mike W (S-)	
Steps 5 & 6	
Holland Codes/Types	
	E S A I R
+	1 111 1 11 1
-	1 111

The results for J. P. suggested an IAR/IRA coding. Interdisciplinary Studies was uncovered for the IAR coded educational goal. Occupational possibilities for this code were Anthropologist, Astronomer, Chemist, Pathologist, and Physicist. Occupations for the IRA code were Geologist, Surgeon, Urban Planner, Meteorologist, and Weather Observer. There were also a multitude of occupations noted for the primary Investigative code that could be explored. During the interpretation of the assessment results, the conversation and discussion moved in the direction of Foreign Service as yet another possibility.

In each of the previous two examples, a Holland code of three types emerged, but this is not always the case. Some individuals may have a strong interest in only one type, others two, some three and others more. The results can be discussed with the person being appraised to address why they came out to be what was uncovered by the assessment.

This assessment format and the uncovering of the various Holland types provide an opportunity for discussions regarding educational possibilities as well as potential occupational and/career goals and perspectives. The various attributes, constructs and/dispositions can also be discussed relative to choosing a variety of educational, occupational and/career paths.

Psychometric Properties

Most, if not all, psychological assessments must meet selected standardized requirements related to validity and reliability. Validity is concerned with the concept of whether an assessment measures what it is intended to measure, whereas reliability is concerned with the extent to which a measurement consistently assesses what it was developed to measure.

To address these issues given the method of measurement, selected individuals and groups at various stages of their careers were assessed using the *Career Interpersonal Identity Type Assessment* to assess the validity and reliability of the assigned Holland types. In order to preliminarily judge the assessment's construct validity, several individuals with varying numbers of years in their careers were asked to voluntarily complete the assessment. Consideration was given to Holland's concept of congruence, i.e., a particular type flourishes in an environment that supports that type. For example, a conventional type does well and is generally satisfied in a conventional environment. An effort was made to seek out individuals who were functioning in an environment that would support their type.

Individuals

The first individual was a 49-year-old female who had graduated from a four-year college, worked as a fitness instructor in a very large Midwestern city, and then re-entered college in an intensive program to become a registered nurse. She attended a two-year program at a community college and obtained her registered nursing degree. She completed the assessment five months after graduating from the program. At that time she was providing private duty nursing services for a 91-year-old female. Her assessment yielded a Holland type of SAE/SEA. Nurses are coded as SIA/SAI given Holland's classification scheme.

A hairstylist with 10 years of experience in her career was assessed with this method as having a RAS/RSA Holland code. Hairstylists or barbers typically have RSE coding.

A 41-year-old male with a bachelor's degree in the Communication Arts with an emphasis in Journalism obtained from a commuter university in a medium sized city in the Midwest who has been unemployed for the last two years voluntarily completed the assessment. He had been previously employed as an assistant manager within the marketing department for 15 years,

writing product information for potential clientele in a midsized software company that specialized in financial information processing programs for the banking industry and ATMs. He obtained a Holland code of EA where a coding of EAS is given for a major in Communication Arts with an emphasis in Journalism.

The next person was a 52-year-old female sports copy editor for a large daily newspaper in a Midwestern city (900,000 population). She holds a bachelor's degree in journalism from a four-year university in the same city. She has been in her career for 31 years. She voluntarily completed the assessment and obtained an AS Holland typology coding. Journalists and reporters have an ASE coding according to the theory, whereas writers and editors are AIS.

Three architects from an architectural firm in a Midwestern city having experiences of 40, 35 and 25 years, in their profession volunteered to complete the assessment. The Holland types uncovered were AR, AI, and AS, respectively, for these individuals. Architects typically have an ARI Holland coding.

A graduate level class in career development and lifestyles within a Department of Counseling at a medium size Midwestern university consisting of 23 students (i.e., three men with a mean age of 36 yr., and 20 women with a mean age of 30 yr.) were assessed at the beginning of the semester using the *Career Interpersonal Identity Type Assessment* as part of their exposure to various interest measurement procedures. The results indicated that 16 of 23 students (approximately 70 percent) had an S primary Holland code where the expected coding should be SAE.

Incongruity.—It was further noted that some of the assessments solicited did not match with expected Holland codes. A systems analyst (IER) with 12 years of experience who previously worked as an accountant (CRS) for over 20 years yielded an SRE coding with the procedure. A female with 17 years of full time experience as a sheriff (RS) but who also worked part time as a realtor (ESC) had an ECS/ESC coding. According to Holland, they lacked congruity, opening the door to discussion about career satisfaction and future plans.

Test-Retest Reliability

As a follow-up, approximately three months after the initial assessment of the graduate students, a reassessment using the same instrument was administered to these individuals. The results indicated that 70 percent of the 23 appraised had the same Holland coding. Taking the percentage of agreement between the initial and second assessment (i.e., 70), the reverse of the coefficient of determination approximates a correlation coefficient of .84 (where .84 squared equals .71) suggesting preliminarily adequate test-retest reliability for this assessment method. However, further and more extensive study of reliability needs to be undertaken.

Conclusions

The proposed *Career Interpersonal Identity Type Assessment* procedure offers an efficient and effective means of establishing a basis for further individual exploration of educational and career decisions, given past and present interpersonal relationships. It complements the counseling process by ascertaining who the client was inclined to identify with and how they were influenced. The proposed perspective and assessment procedure offers some promise into a better understanding of what, how, and why individuals chose/choose various paths to their education, vocation, and/or career. What seems to occur in the process is the establishment of a primary type with possible supporting types occurring as a result of the individual diverse interpersonal relationships that people experience in the course of life.

The assessment procedure is flexible enough to be used individually or in groups to assist in educational, vocational, and/or career planning. It can also be used to research issues related to individual educational and career choices, as well as being applied to cross-sectional and longitudinal studies to investigate the choice process at various stages of the life cycle.

Since the theoretical and assessment proposals are in their initial stages, they are open to further investigation and evaluation as a viable way to understand the individual choice processes that have or could assist people in their journeys through life. The current data indicate preliminary validity and reliability, but further investigation is required. For example, individuals in a particular career field such as sales could be studied relative to the type of sales they engage in to assess their primary as well as subsequent Holland types that support that career. Additionally, congruent and incongruent Holland types and environments along with other variables, such as satisfaction, could be evaluated, e.g., clergymen from different religious persuasions, teachers from different disciplines (e.g., English versus math), teachers selling life insurance, an accountant doing social work, or TV/radio talk show hosts doing psychotherapy.

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