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2004

Using the Self-Directed Search: Career Explorer With High-Risk Middle School Students: Technical Report 42

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**Using the Self-Directed Search: Career Explorer With High-Risk Middle School Students:
Technical Report 42¹**

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08/04/04

¹ The authors would like to express appreciation to Ms. Sarah Hartley and Mr. Jon Shy, doctoral students at Florida State University, for their review of this manuscript.

Abstract

Ninety-eight high-risk middle school students completed the Self-Directed Search: Career Explorer (SDS: CE) as a means to improve self-knowledge and serve as a springboard to increase occupational knowledge and improve decision making skills. This study provides information on the SDS: CE, the SDS: CE Interpretive report, and the use of a group counseling venue structured on Cognitive Information Processing theory with high risk middle school students.

Using the Self-Directed Search: Career Explorer With High-Risk Middle School Students

Many articles have focused on the use of the Self-Directed Search (SDS) with high school students, college students, and adults (Gottfredson, 2002; Rayman & Atanasoff, 1999; Reardon & Lenz, 1999). Very few studies, however, have focused on the utility of the middle school version, the Self-Directed Search: Career Explorer (SDS: CE; Holland & Powell, 1994), or how it might be incorporated into a career counseling program for at-risk students.

John Holland's RIASEC (1997) theory has had an impressive staying power within the field of career counseling. His theory, which espouses that satisfaction increases when there is congruence between individuals' interests and related environments, has led to the development of many practical, reliable, and valid inventories, such as the SDS. His theory is described as having five qualities that make it useful to practitioners, including simplicity, face validity, the organizational framework, vocabulary, and the ease with which the theory can be translated to practice (Rayman & Atanasoff, 1999). In addition, the SDS can help persons understand their personal career theory (Holland, 1997; Reardon & Lenz, 1999).

The purpose of this study was to provide information on the process and outcomes of a career intervention in the context of group career counseling with high-risk middle school students. The study had five distinguishing characteristics. First, the career intervention featured use of the SDS: CE, which was the focal point of the study. Second, the intervention used the SDS: CE Interpretive Report (Reardon & PAR Staff, 1994), a 6-page report summarizing and interpreting the results of the SDS: CE interest inventory for middle/junior high school students and their teachers or parents/guardians. Third, this study sought to introduce a career intervention into a middle school where 98% of the students were on a free or reduced-fee lunch program. Such students qualify for this program because they are poor. Fourth, the study was targeted for at-risk students who had been identified by school personnel. Fifth, the study used a group counseling approach based on Cognitive Information Processing Career Theory (CIP; Peterson, Sampson, Reardon, & Lenz, 1996; also see <http://www.career.fsu.edu/techcenter>) as the organizing framework.

Holland was initially reluctant to create an interest inventory for middle school students because of their possibly limited vocational development, but he relented when it was discovered that practitioners were using the SDS: Form E and other inventories for this purpose (Reardon & Lenz, 1998). (The SDS: E was designed for use by adults with limited English skills or who were poor readers.) The reality of the situation in middle schools is that most children must begin making choices as to which track they will follow in high school. In addition, many states require some type of career assessment as part of developing an individual educational/career plan for each student. A reliable, valid tool that assesses these students' interests can provide a framework for helping middle and junior high students make such decisions.

The main tenet of Holland's theory is that career choice and satisfaction are determined by the degree to which an individual's interests match with his or her educational or work environment. Through many factor analytic procedures and studies, Holland identified six primary modal types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional.

Each type has a corresponding environment with similar characteristics. For example, an “Artistic type” person is probably very creative and independent, and thus an artistic environment would provide opportunities for creativity and independence. The other types can be briefly described as follows: Realistic types tend to enjoy hands-on or outdoor activities; Investigative types enjoy researching scientific or medical type questions; Social types enjoy helping or nurturing people; Enterprising types enjoy managing and directing people or sales; and Conventional types enjoy working with or managing numbers or data.

Method

Participants

Ninety-eight students from a public, southeastern middle school returned permission forms to be included in career counseling groups (14 groups total) and to participate in research. Ninety-one students (41 males, 50 females) completed the SDS: CE in its entirety, and the majority were African American (95%) and on free/reduced lunch programs. This middle school was the recipient of a five-year GEAR-UP grant, with the goal of increasing the number of middle school students who stay in school, eventually graduate high school, and obtain some type of post-secondary training. Students participating in this study were identified as being at risk for dropping out of school by case workers associated with the GEAR-UP program, either due to poor attendance, low grades, high number of discipline referrals, or a combination of those factors.

Instrument

The SDS: Career Explorer (Holland & Powell, 1994) for middle school students was chosen because of its psychometric properties and appropriateness for use with students at this age level. In a study conducted by Jones, Sheffield and Joyner (2000), middle school students responded as favorably to the SDS: CE as to two other middle school instruments (Career Key and Job-OE). Other researchers have found that students’ confidence in the career decision making process increased and they selected more congruent occupations after a one week career program that included taking the SDS: CE (O’Brien, Dukstein, Jackson, Tomlinson, & Kamatuka, 1999). The SDS: CE has high reliability, with KR-20 coefficients above .91 for each of the summary scales (Holland, Powell & Fritzsche, 1994).

The SDS: CE includes a Self-Assessment booklet that closely resembles the Form R format of the SDS. This booklet begins with a “daydreams” section called “Careers I Have Thought About,” which provides four blank lines for students to list career aspirations and enter two-letter codes. It also includes a 216 item self-assessment, which produces two-letter RIASEC code, and suggestions for interpreting the two-letter summary code are provided at the end of the booklet. It differs from SDS: R in the wording used, such as “jobs” versus “occupations” and “skills” versus “competencies.” In addition, in the job section, where individuals respond to a yes/no question about whether they would consider that occupation, descriptions of each job are given.

Also included in SDS: CE is a Careers booklet, resembling the Form R Occupations Finder, with 423 occupations. The Careers booklet lists only 423 occupations, primarily at the

higher education development (ED) levels requiring at least a high school education and especially post secondary training. The purpose of this listing is to help students understand the higher levels of training required for common occupations, and to keep them from being overwhelmed with large numbers of lower level Realistic and Conventional occupations. The Careers booklet is intended to stimulate exploration and realism in educational and career planning. The Careers booklet lists occupations alphabetically, as well as according to the two-letter RIASEC code, in order to facilitate the completion of the Assessment booklet within a typical class meeting time.

The final part of the SDS: CE is the Exploring Your Future with the SDS booklet, which provides additional interpretive information designed for use by students, parents, and teachers. This booklet was not used in this study in lieu of the computer-based SDS: CE Interpretive Report (Reardon & PAR Staff, 1994). Following counselor or administrator entry of a student's SDS: CE summary scores, students receive a 6-8 page individualized report in a question and answer format covering their educational and career interests in relation to Holland's theory using two-letter Holland codes. The contents of this report are adapted from the SDS: CE paper materials described above, as well as the Dictionary of Holland Occupational Codes (Gottfredson & Holland, 1996). The report is designed to be read and used by students, as well as parents and classroom teachers. The sample lists of occupations printed in the Interpretive Report include information about general educational development (GED) and specific vocational preparation (SVP) levels. The former is an estimate of the years of formal education required and the latter an estimate of years of on-the-job training required. The SDS: CE Interpretive Report also includes lists of majors or fields of study for each two-letter code, including the estimated ED levels, e.g., associate, baccalaureate, post graduate. The program is designed so that every code produces at least ten occupations or majors for students to review.

Procedures

Based on general group counseling principles and a specific career counseling theory, Cognitive Information Processing Theory (CIP; Peterson et al., 1996; <http://www.career.fsu.edu/techcenter>), a six week, 30 minutes-per-session group format was utilized. CIP theory identifies four main components as being involved in career choices: knowledge about self, knowledge about options, decision making, and metacognitions (how one thinks about one's decision making). One week was allotted per CIP component, with a week at the beginning for group member introductions and to administer the SDS: CE, and a week at the end for group closure. Small groups for the counseling intervention were formed from large group classrooms. For example, an art class containing 25 students would be divided into three small groups that would alternate times with a group leader within a 1.5 hour period of time.

During the first week, introductions were made, confidentiality was discussed, and the purpose of the meetings was described. The four components of CIP were introduced, using a picture of a pyramid (Sampson, Peterson, Reardon, & Lenz, 1992), and it was explained that the first discussions would center on self-knowledge. After a brief description of the role of the self-knowledge in career decision making, the SDS: CE was administered, with this researcher reading the items aloud. The decision to do this was based on experience with the first group where a few students, who were acting like they knew how to read, were marking items that

were inconsistent with their actual interests. Moreover, the time needed to complete the SDS: CE exceeded the time initially allotted, so the administration was continued in the following sessions until it was completed by all of the students. At this point, the SDS: CE scores were entered into the SDS: CE Interpretive Report computer program (Reardon & PAR Staff, 1994) and personal reports were generated for each student.

These reports were handed back to the students and discussed in the next group counseling session, and students were encouraged to narrow their options by crossing off items that were not attractive to them and highlighting items that they would like to consider further. To further build upon self-knowledge, the researcher asked the students to write a reason for crossing off each occupation they eliminated. They were also instructed to place a question mark next to occupations they were uncertain about, or for which they needed additional information.

During the fourth group session and following the CIP-theory format, students met in the media center and were shown how to use various internet-based career information sites, such as the online Occupational Outlook Handbook, to help narrow options further and increase occupational knowledge. Students used occupations highlighted from their SDS: CE Interpretive Reports as a starting point. The following week, the fifth group session focused on a decision-making strategy and a discussion/game centering on the impact of self-talk on goals, again following the CIP theory and format. Finally, the six weeks concluded with a discussion of what students had learned with respect to self-knowledge and the other components of the CIP model, as well as a discussion of “next steps.”

Data Analysis

Data from the participants' SDS: CE results were entered into SPSS to identify the frequency of first letter SDS codes with respect to the RIASEC typology and to assess for type differences between genders. One-way Analyses of Variance (ANOVAs) were conducted to determine the presence of significant mean differences. In addition, reliability analyses for the six scales were also conducted and Pearson Product Moment Correlations run on the summary scales.

Results

The means and standard deviations of the summary scores are presented in Table 1. The most common primary types by gender for these middle school students were Artistic (N = 13; 32%) and Realistic (N = 10; 24%) for boys, and Social (N = 19; 73%) and Artistic (N = 16; 32%) for girls. Using the total scores for each of the six types (RIASEC) as dependent variables, an ANOVA was conducted with gender as the between-subjects factor. A main effect was found for two of the dependent variables: Realistic $F(1, 89) = 21.85, p < .0001$; and Social $F(1, 89) = 4.95, p < .05$. Males had higher mean scores on the Realistic scale ($M = 22.83, SD = 13.70$) as compared to females ($M = 11.78, SD = 8.56$), while females had higher Social scale scores ($M = 30.84, SD = 11.80$) as compared to males ($M = 25.38, SD = 11.30$). These results are also similar to those reported for college students and adults (Holland, Fritzsche & Powell, 1994), in that males scored higher on the Realistic scale ($M = 26.23, SD = 11.02$) as compared to females ($M = 14.42, SD = 8.53$), while females had higher scores on the Social scale ($M = 32.37, SD =$

9.76) as compared to males ($M = 25.44$, $SD = 10.75$). Table 1 also presents a comparison of means and standard deviations between the sample and the 1994 normative group. An additional ANOVA was conducted with the sub-scales' totals (Activities, Skills, Careers, Abilities 1 and Abilities 2) used as dependent variables and gender as the between-subjects factor. No significant differences were found. In addition, reliability analyses were conducted on the total scale for each primary type. Internal consistency reports included: Realistic (.86), Investigative (.78), Artistic (.82), Social (.83), Enterprising (.84) and Conventional (.83).

Pearson Product Moment Correlations for the summary scales were all positive and significant at the $p < .001$ level (See Table 2). Given that the order of Holland's typology on the hexagon is RIASEC, the correlations suggest a moderate fit, in terms of consistency, among summary scales, with one perfect fit for the Realistic summary scale (i.e., the highest correlates for the Realistic summary scale were Investigative and Conventional, and both of these types fall on either side of the Realistic scale). When the highest two correlates for each of the other types were examined, it was noted that at least one of the correlates was highly consistent with that primary type (e.g., the highest correlate for I was A). In addition, the highest correlates for all but the Social summary scale were for a scale either immediately to the right or left of the given primary scale, suggesting high consistency for the first two letters of most students' codes. The highest correlate with the Social summary scale was the Conventional summary scale ($r = .68$, $p < .001$). When correlations were run separately, this observation held true for females, but not for males. While the highest correlates of the R, S, E and C summary scales were an adjacent letter, the highest correlate for males with the I summary scale was S ($r = .69$, $p < .001$), and the highest correlate for the A summary scale was E ($r = .61$, $p < .001$).

Ninety-seven separate aspirations were listed at the middle school level (See Table 3). The most common aspirations for females included teacher, lawyer and singer as the three most common aspirations, while professional athlete, lawyer and doctor were the three most common for males. Aspiration summary codes were examined by gender, with significant differences being found for Realistic, Artistic, Enterprising and Conventional types (see Table 4). Summary scores were higher for men (than women) in Realistic and Conventional summary scores, and women were higher men in Artistic and Enterprising summary scores.

Discussion

This study focused on the use of the SDS: CE as a main intervention with 14 career counseling groups of middle school students in a special program for at-risk students. This study included five distinguishing characteristics, including: (1) the use of the SDS: CE as an intervention; (2) the use of the SDS: CE Interpretive Report (Reardon & PAR Staff, 1994); (3) the introduction of a career intervention into a middle school where 98% of the students were on a free or reduced-fee lunch program; (4) a sample of at-risk students who had been identified by school personnel; and (5) a structured group career counseling approach based on Cognitive Information Processing Career Theory (CIP; Peterson et al., 1996) as the organizing framework.

The results of our study suggest that the SDS: CE is a psychometrically sound instrument for this group of middle school students, specifically for those who have been identified as "at risk." Statistical analyses of students' SDS: CE reports showed that the six RIASEC scales each

had strong internal consistency for this group of middle school students. While the internal consistency reports for the summary scales were lower than those reported in the professional manual (Holland, Powell & Fritzsche, 1994), they are still impressive, and lend support for the reliability of this inventory.

The relationships among the summary types, as shown via Pearson Product Moment Correlations, show mixed support for the hexagon with this group. Many of the relationships demonstrate Holland's theory well, such as the lowest correlation being between the Realistic and Social summary scores, which are opposites on the hexagon. However, the other opposites (A/C and I/E) demonstrated moderately high correlations. This may be an outcome associated with the developmental level of these students (i.e., they are open to exploring many options at this stage), or reflective of their socioeconomic status. Gender may also play a part, given that males had more correlations among moderately adjacent types (versus highly adjacent types). Answering why this occurred is a question upon which future research should focus.

Some gender differences were found with girls having higher summary scores on the Social type, and boys having higher summary scores on the Realistic type. However, that there were no significant differences by gender on the subscales suggest that girls consistently endorsed more items on the Social scales (as boys did on the Realistic scales), but that the difference was not noticeable until the total summary scores. Given that the males and females in our study responded similarly to the majority of the items, it appears that there is limited gender bias in the SDS: CE. However, it is possible that some sex-role stereotyping is occurring, given the differences in the Aspirations Summary Codes, with girls choosing characteristics more indicative of helping, and boys choosing characteristics more characteristic of "hands-on." This could be an indication of gender bias, as some might suggest, but could also be a reflection of sex role socialization (Holland, 1997). Holland et al. (1994) noted a similar trend in the 1994 normative sample of the SDS: R with high school students, with 39% of males having Realistic as their main type (as opposed to 2.7% of women). In addition, 45.7% of women had Social as their primary type (as opposed to 10.5% of men).

When the first counseling groups were run, the administration of the SDS was scheduled to take place during the first two sessions. However, given the short amount of time within the sessions, students were still completing the inventory during the third and fourth sessions. Adjustments were made for subsequent groups to complete the SDS prior to the first career counseling session and with an extended period of time (i.e., 90 minutes). This adjustment allowed for the profiles to be scored and reports generated (and thus available) for the first counseling session. This practice proved to be much more effective, and practical, and was continued for subsequent groups. In addition, having the group leader walking among the students and reading the items aloud also proved to be a useful strategy in minimizing the random response patterns and mistakes. This allowed the group leader to begin each section of the SDS with a brief discussion as to why interests or self-estimates are important considerations in career choice. It is apparent that when using the SDS: CE as a component of group career counseling, the group leader should schedule the administration of the SDS: CE prior to the groups' beginning, allowing sufficient time for completion. In addition, reading the items aloud is also recommended for students similar to those involved in this study.

This study also utilized the SDS: CE Interpretive Report as an intervention. Students became very engaged when they received their reports, readily using highlighters to mark occupations of interest, and asking many questions about what certain occupational titles meant. Students seemed to prefer a very brief overview of what was contained in the report and then having time to look through it at their own pace, as opposed to the leader's "walking them through the report" page by page. This suggests that the format and language of the Interpretive Report were understood by the majority of the students. One useful activity with the Interpretive Report was asking each group member to share with the larger group some themes they saw in the occupations they had highlighted, as well as those that they had crossed out. Often, this was an eye-opening experience for them, in that they would make statements like, "I didn't think about how much I really like working with my hands" or "I guess I really hate any job where I'll be sitting all day." In this way, the SDS: CE Interpretive Report helped to strengthen students' self-knowledge as described by CIP theory (Peterson, et al. 1996).

The SDS: CE Interpretive Report is very similar to the SDS: R Interpretive Report, providing suggested occupations for the highest 3 summary codes, and also occupations for all permutations of those codes. However, in some cases, a student had one very high summary code, such as a 40, and the remainder of the scores were similar and much lower. In this case, the group leader also included all occupations listed for that highest code, in addition to the original permutations, with the assumption that the student would be more satisfied with the options that kept that highest code first. Anecdotal statements from students with this adjusted report seem to support this assumption; however, additional research focused on this question should occur.

This study focused on the middle school population. Students in middle school have career needs that are distinct from those in elementary or high school. According to the National Career Development Guidelines (National Occupational Information Coordinating Committee; Kobylarz, 1996), self-knowledge competencies for the middle school student include "The knowledge of the influence of a positive self-concept; skills to interact with others; and knowledge of the importance of growth and change." Educational and occupational exploration competencies include: "knowledge of the benefits of educational achievement to career opportunities; understanding the relationship between work and learning; skills to locate, understand and use career information; knowledge of skills necessary to seek and obtain jobs; and understanding how work relates to the needs and functions of the economy and society." Career planning competencies include: "Skills to make decisions; knowledge of the interrelationship of life roles; knowledge of different occupations and changing male/female roles; and understanding the process of career planning."

Other career concerns for middle school students have included the need for these students to see the connection between school and work (Shepherd Johnson, 2000), develop interpersonal skills (Hill & Rojewski, 1999), and to increase their occupational knowledge (Shepherd Johnson, 2000). What we learned from the majority of the 98 students in this study was that they were interested in identifying potential careers/occupations of interest, and in researching occupations. We noted that they were able and seemed to enjoy partnering up when researching occupations, which was often necessary given the low number of computers with Internet access available on the days we went to do the occupational research.

This group of middle school students was unique in that they had been identified by school personnel as being at risk for dropping out of school. Some of the characteristics that were identified by a model predicting high school dropouts were more retentions, being older than peers in their classes, poorer attendance records, less involvement in athletics, having more D's and F's, receiving free/reduced lunch and having more frequent suspensions in 7th and 8th grades (Owens, Morris, & Lieberman, 2001). At-risk high school students have also been found to be more discouraged, lacking information, and having lower occupational expectations than peers who were not classified as at-risk (Rojewski & Hill, 1998). The characteristics consistently noted among the 98 students in our study were the D's and F's, receiving free/reduced lunch, and poor attendance. The attendance issue proved to be most trying one, in that almost every group had one member absent each week, which meant the group structure was different each week, and also necessitated a "catching up" with that individual the following week. The aspirations of the students in our groups did not appear to be low, with many listing professional occupations such as teacher, lawyer and doctor. However, of concern is the possibility that these students may jeopardize their chances at these careers if their poor academic performance continues into high school.

CIP theory has been described in the literature as a cognitive approach to career counseling, and as having promise for the delivery of career services (Jepsen, 2000). It has been shown to be an effective tool in helping middle school students participating in a workshop on educational choices (Peterson, Long & Phillips, 1999). In our study, we found that the coupling of the SDS: CE with CIP theory provided an easy-to-understand framework for the career counseling groups' content and process. The SDS: CE and Interpretive Report provided direct links to the knowledge and decision making domains of the CIP model. The SDS: CE results enhanced self-knowledge, with the SDS: CE Interpretive Report providing a list of occupations from which students could increase their occupational knowledge. Through the process of crossing off unwanted occupations, question-marking and highlighting additional occupations, the SDS: CE and SDS: CE Interpretive Report were "hands-on" materials from which students were able to practice decision-making skills. Finally, talking about the strengths and weaknesses of the six types also led to a discussion of how to identify and decrease negative self-talk and increase positive self-talk (Sampson, Reardon, Peterson, & Lenz, 2004). For example, a strength of the predominately Social type would be his or her ability to talk at ease with others, where a weakness might be that they tend to avoid doing research on occupations, relying more on what somebody says is a "good" field for them.

This study was an exploratory investigation into the impact of using the Self-Directed Search: Career Explorer, the SDS: CE Interpretive Report and CIP theory with at-risk middle school students in career counseling groups. Thus, several limitations exist. First, the study was conducted with students from one school who were mostly African American, of lower socio-economic status, and mostly identified as at risk. This middle school has the highest percentage of students on free or reduced lunch schedule in the county, as well as having a higher percentage of African American and Latino students when compared to other schools in the county. Certainly, this is not the norm for middle schools in general, and therefore the generalizability of the results is somewhat limited. Second, the first author was the principal investigator in this study, and the second author is the author of the SDS: CE Interpretive Report, which might lead to bias in this research report. Third, additional research with the SDS: CE is

needed to determine if the results found in this study are specific only to this school and this particular group of middle school students, or are common across other locales and student populations. Fourth, the SDS: CE was administered differently than the standardization for the instrument, in some cases, spanning four of the group counseling sessions. Also, the administrator read the items aloud, which was not done in the instrument standardization process. These two adjustments might have jeopardized the reliability of the results, although the reliability coefficients for this sample remained high. Fifth, the first author served as the test administrator and small group leader, while the second researcher is the author of the Self-Directed Search: Career Explorer Interpretive Report, which may lend some bias into the analysis of the findings. Finally, this is the first study to report on the use of the SDS: CE Interpretive Report. Additional research is needed on student, teacher and parent reactions to the Interpretive Report, as well as other practical uses of the Interpretive Report with middle school students.

At the conclusion of the six week group career counseling experience, anecdotal comments from students indicated that they had learned about their interests, occupations, post-secondary opportunities, a decision-making approach, and how to improve their positive self-talk. In addition, many stated that they found the groups enjoyable, and that they would prefer the sessions to be longer in terms of time and the number of sessions. The most common negative statements had to do with physical space, such as room location. These statements seemed to suggest that many of the following needs identified by Sears (1995) were being met: the ability to identify personal traits such as interests and skills, to know the difference in main occupational areas, to know about educational options relating to career choice, to recognize what future decisions will need to be made for goal success, and to create appropriate long and short term educational goals.

This intervention also was reflective of career development competencies for middle school students as outlined by the National Career Development Association and the National Occupation Information Coordinating Committee (Kobylarz, 1996). Our experience suggests that couching the use of the SDS within a larger framework of career theory and experience (instead of a “test and tell,” one-shot classroom or workshop approach) is effective with middle school students in a special program. In this experience, using the SDS: CE and Interpretive Report within the CIP approach and using that theory to structure the six week groups were very successful.

In this current study, the SDS: CE and the SDS:CE Interpretive Report served as a springboard for further activities, including the identification and researching of occupations related to interests. Based on the results of fourteen separate career counseling groups with 91 students utilizing the SDS: CE, and the statistical analyses results, it is concluded that the SDS: CE is a useful tool with this group of primarily African American at-risk middle school students and its use is enhanced when presented within the framework of CIP theory.

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Table 1: Means and Standard Deviations: Current Study and 1994 Norms

	Current Study		SDS: CE 1994 Data	
	M	SD	M	SD
R				
Males	22.83	13.70		
Females	11.78	8.56		
Combined	16.69	12.37	11.52	9.86
I				
Males	21.13	11.16		
Females	23.92	12.65		
Combined	22.68	12.02	11.03	9.63
A				
Males	28.25	10.92		
Females	30.76	11.20		
Combined	29.64	11.08	13.87	9.86
S				
Males	25.38	11.30		
Females	30.84	11.80		
Combined	28.41	11.84	15.24	9.04
E				
Males	26.85	11.65		
Females	24.56	10.69		
Combined	25.58	11.11	11.98	8.98
C				
Males	22.70	13.11		
Females	22.76	12.81		
Combined	22.73	12.87	9.99	8.63

Table 2: Correlations Among Primary Types

	Realistic	Investigative	Artistic	Social	Enterprising
Realistic					
Investigative	.439**				
Artistic	.387**	.461**			
Social	.273**	.439**	.557**		
Enterprising	.401**	.441**	.528**	.668**	
Conventional	.415**	.446**	.497**	.681**	.763**

**P < .001

Table 3: Most Commonly Listed Occupational Aspirations by Gender

	Holland Type	Females (N=50)	Males (N=40)
Teacher	SAE	19	4
Lawyer	ESI	16	10
Singer	AES	16	5
Doctor	ISC	15	10
Nurse	ISR	10	0
Professional Athlete	SRC	8	35

Table 4: ANOVA results of Aspiration Summary Scores by Gender

	Male (N=40)	Female (N=50)	F (1, 89)	P Value
	Mean; standard deviation	Mean; standard deviation		
Realistic	3.79; 1.79	1.72; 2.26	22.81	<.001
Artistic	2.09; 2.95	3.32; 2.15	5.12	<.05
Enterprising	3.49; 2.43	5.09; 2.06	11.22	<.01
Conventional	2.30; 1.63	1.61; 1.24	5.17	<.05