Transferable Skills Scale, Second Edition Administrator's Guide
Directions for Administering and Interpreting the *TSS*

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Introduction

This brief guide was written to provide additional information for professionals using the *Transferable Skills Scale (TSS)*. The *TSS* helps individuals identify their transferable skills to assist in career exploration and the job search. The *TSS* is designed to be self-scored and self-interpreted without the use of any other materials, thus providing immediate results for the respondent and/or counselor.

Most career experts agree that cultivating and identifying transferable skills is important for people making career choices and changes. Many people, however, have difficulty defining exactly what transferable skills are. Farr (1991) proposes a Skills Triad to help counselors better understand the different types of skills that clients possess. Farr divides skills into three major types: adaptive, job-related, and transferable.

- Adaptive skills: Skills that you use every day to survive and thrive. These skills allow you to adjust to a variety of life and career situations. These skills can be considered part of your personality and include such traits as patience, flexibility, maturity, assertiveness, and creativity.

- Job-related skills: Skills that are related to a particular job or type of job. These skills are activities you need to be successful in a specific occupation and include such skills as repairing a car engine, taking blood pressure, designing a database, and reading blueprints.

- Transferable skills: General skills that can be useful in a variety of different jobs. You can transfer these skills from one occupational setting to another, and they include such skills as building things, instructing people, coaching, analyzing data, leading a group, and managing money.

Sherer and Eadie (1987) define transferable skills as skills that are not job specific but that cut horizontally across all industries and vertically across all jobs from entry-level to chief executive officer. Transferable skills are portable skills that people take from one life experience to another. Liptak (2008) defined them as skills gained from a wide variety of activities engaged in at work, at play, in the community, and with family and then transferred from one task to another.

Skills are often related to interests and values. When people are able to find something of interest and something they value, they are apt to develop skills in that area. Tuck, Price, and Robertson (2000) suggest that approximately 80 percent of peoples' skills probably overlap with their interests. They believe that transferable skills are actually general abilities that can be used in many different work environments.

In addition, knowing and developing one's transferable skills is essential to career development. Lawson (2000) suggests that transferable skills can improve with application and practice, enable people to make contributions and add value, and allow people to describe their value to prospective employers. He says that an awareness of transferable skills, the ability to describe them to employers, and the ability to apply them in various occupations enhance a person's career development and that these "skills are mental and physical activities that you learn to do, with varying degrees of proficiency" (p. 103).

How Transferable Skills Develop

Liptak (2008) suggests that most people have hundreds or even thousands of skills, many of which they are aware of and use daily, while other skills remain hidden and never surface. He says that "because you can gain them from a wide variety of activities and then transfer them from one task to another, skills have become more important in today's world of work" (p. 65).

Transferable skills can be acquired through educational experiences, leisure-time activities, and work experiences. Lock (2005a) suggests that transferable skills are things you do, such as teaching, organizing, assembling, designing, and operating. He says that transferable skills develop naturally from all aspects of life, especially

from activities outside of work, and then transfer to a job. Similarly, Liptak (2001) suggests that leisure-time activities often provide opportunities to develop skills that can be transferred to work environments. He stresses that career counselors need to be more aware of the hobbies, spare-time activities, and family-related experiences of their clients and how these activities contribute to clients' skills sets.

Liptak (2008) concludes that transferable skills can be acquired from a variety of roles and settings other than at work. Some of the varied settings include the following:

- Home-acquired transferable skills are learned while engaged in activities at home, such as mentoring others, caring for others, negotiating, and organizing.

- School-acquired transferable skills are learned while engaged in activities at school, such as working collaboratively, creative problem solving, writing effectively, and conducting research.

- Community-acquired transferable skills are learned while engaging in activities in the community, such as volunteering to help others, managing a civic organization, and coaching or umpiring in a sports league.

As you can see, the reason that transferable skills are so important is that they can be acquired in a wide variety of settings and not just at work, they can be transferred from occupation to occupation, and they are greatly sought after by employers in today's world of work.

Rationale for Skills Identification

Zunker (2006) says that skills identification through self-assessment techniques has received renewed attention and suggests that "the focus is on identifying skills from previous experiences in a number of activities, including work, hobbies, and volunteer work" (p. 222). Bolles (2000) says that the rationale for skills identification is that clients may fail to recognize developed skills and are unable to relate them to occupations. Lock (2005b) says that in the future, employees will not be confined to a single job description. Rather, he believes that all employees will need to utilize a variety of transferable skills to perform multiple jobs with an organization or for a number of different companies. He concludes that "your chances of survival will be better in the emerging job market if you develop portable skills—abilities that can be transferred to other workplaces if the need arises" (p. 308).

Isaacson and Brown (1997) suggest many different types of people need assistance in identifying transferable skills, including displaced homemakers reentering the workforce, ex-offenders, students, and downsized employees, to name a few. They believe that transferable skills are primarily nontechnical skills "that have been acquired in their current jobs or in other jobs that will transfer to other jobs" (p. 386). Sukiennik, Bendat, & Raufman (2001) suggest that a thorough skills analysis is a critical component of any career-planning process. They say that transferable skills "are the building blocks of your future career just as muscles are the building blocks of your future body shape" (p. 72). Similarly, Newman (1996) agrees that transferable skills, those gained in prior work or life experience, literally form the foundation stone and building blocks for client occupational choices.

Liptak (2008) concludes that career counselors help clients identify skills for a variety of reasons, including

- To identify strengths and abilities

- To determine skills that are important in one's work

- To enhance self-confidence and/or self-esteem

- To help career changers identify alternatives by focusing on skills

- To formulate a career objective for writing a resume

- To serve as the first step in creating a resume that uses a skills or functional approach

Farr (1995) says that although most people believe that job-related skills are the most important skills, employers often select job seekers with less experience who present their adaptive and transferable skills well in an interview. "For this reason, knowing and being able to describe your skills can often give you a big advantage in getting the job you want" (p. 19). Farr (2006) also says that knowing what people are skilled at is an essential part in helping them choose a career. He believes that "the first key factor or step in defining your ideal career is knowing your best skills and abilities" (p. 14). He concludes that, unless people use the skills that they enjoy using and are good at, it is unlikely that they will be fully satisfied in any occupation.

Brown and Brooks (1991) believe that career counselors using a skills approach operate under several assumptions, including the following: (1) employers are looking for people with particular skills, not interests; (2) many different job titles require transferable skills;

and (3) people want job environments and occupations in which they can use the skills that are important to them.

Need for the *TSS*

The *TSS* is designed to meet the need for a brief assessment instrument to help people identify their transferable skills and use that knowledge in their career exploration and job search. It is based on the notion that people have been acquiring these skills since childhood through their work, leisure, and learning experiences. It works under the assumption that identifying one's transferable skills and communicating them to prospective employers will greatly improve a person's chances of finding a job. In addition, people who are aware of their transferable skills are much more likely to find jobs in which they will be successful and satisfied.

Transferable skills are critical in identifying occupations in which people will find success, in making the transition from occupation to occupation, in making the transition from leisure to specific occupations, in creating an effective resume and cover letter, and in completing a successful employment interview.

The *TSS* is intended for use in comprehensive career guidance programs, employment counseling programs, rehabilitation counseling programs, college counseling centers, college career and placement offices, outplacement programs, prisons and parole-oriented programs, military transition programs, school-to-work programs, welfare-to-work programs, and employee development programs, and with any agency that works with clients or students looking for employment.

Revisions to the *TSS*

The following changes were made to the first edition of the *TSS* to make it even more user friendly:

- Steps 1, 2, and 3 were laid out differently to make the *TSS* easier to complete and score. Instructions are now included on the left-hand side, and the items with their scale descriptions are grouped together for easier administration.

- Items were updated to correlate with changes in the world of work and society.

- The occupations in Step 4 were revised to more clearly match the eight scales on the *TSS*. The items were generated from O*NET-SOC titles.

- The resources in Step 5 were revised to include more-recent sources of occupational information.

- The reading level of the *TSS* was reduced where feasible.

Overall, the second edition of the *TSS* is easier for practitioners to administer and for test takers to complete, score, and interpret.

Administration and Interpretation

The *TSS* has been designed for easy use. It is simple to take and can be easily scored and interpreted. Each assessment includes scoring directions, an interpretation guide, an occupations identification guide, and a career exploration worksheet.

The 96 items on the assessment have been grouped into eight scales that are representative of the most common transferable skills identified in the literature. The eight scales on the *TSS* are also linked to the four dimensions defined by Prediger (1976) for mapping the world of work: Data, People, Things, and Ideas.

The *TSS* can be administered to individuals or to groups. It is written for individuals at or above the eighth-grade level. Since none of the items is gender specific, the *TSS* is appropriate for a variety of audiences and populations.

Administering the TSS

The *TSS* can be self-administered, and the inventory booklets are consumable. A pencil or pen is the only other item necessary for administering, scoring, and interpreting the inventory. The first page of the inventory contains spaces for normative data, including name, date, gender, and age. Instruct each respondent to fill in the necessary information. Then read the description and directions on the first page while all respondents follow along. Test administrators should ensure that each respondent clearly understands all the instructions and the response format. Respondents should be instructed to mark all their responses directly on the inventory booklet. The *TSS* requires approximately 20–25 minutes to complete.

Steps of the TSS

The *TSS* uses a series of steps to guide respondents. In Step 1, respondents mark their answers for the transferable skills statements—examples of work tasks—for each of the eight scales or sections. Respondents are asked to read each task statement and then circle the response that best represents what they believe to be their level of skill for the work task represented. Respondents circle a 1 if they feel they are A Little or Not Skilled, a 2 if they are Somewhat Skilled, or a 3 if they are Highly Skilled at the task in question. Each section is made up of 12 statements.

In Step 2, respondents add their scores for each of the eight sections (the sum of the numbers they circled for each column of items) and put that number in the "Total" space at the bottom of each column. For example, if the respondent marked a 2 for each of the 12 statements of a given section (meaning the respondent felt "somewhat skilled" at each of the 12 work tasks), that person's total score for that section would be 24.

In Step 3, respondents are able to better understand their scores and identify their strongest transferable skills. This step allows test takers to determine whether their scores are in the Low, Average, or High ranges.

Step 4 guides respondents to identify occupations related to their best transferable skills. Respondents are encouraged to circle the occupations that interest them in their highest scored scales on the *TSS*.

Step 5 helps respondents explore occupations they are interested in and encourages them to use their knowledge of their transferable skills throughout the job search process. A list of resources is provided to help respondents gather information about the necessary skills, job duties, and other requirements related to each occupation.

Understanding and Interpreting TSS *Scores*

The *TSS* yields content-referenced scores in the form of raw scores. A raw score, in this case, is the total of the numbers circled for each of the 12 self-report task statements for the eight scales. The performance of individual respondents or groups of respondents can be evaluated only in terms of the mean scores on each of the scales.

For each of the scales on the *TSS*:

Scores of 12–19 are LOW and indicate that the respondent has not developed many of the transferable skills on this scale. Careers emphasizing the need for these skills might require the person to get additional education or training and may not be as fulfilling.

Scores of 20–28 are AVERAGE and indicate that the respondent has developed some of the transferable skills on this scale but may need to develop more of them to be successful in a career that emphasizes these skills.

Scores of 29–36 are HIGH and indicate that the respondent has developed many of the transferable skills on this scale. Careers emphasizing the need for these transferable skills might be good ones for the respondent to explore and use in his or her career decision making and search for employment.

Respondents generally have one or more areas in which they score in the high or high-average categories. The respondent should concentrate on exploring occupations related to those skill categories. Steps 4 and 5 of the *TSS* provide a starting point for this exploration.

Scales Used on the TSS

Because the primary objective of this instrument is to help people learn more about the transferable skills they possess, the *TSS* is organized around eight scales that represent the various types of transferable skills. These scales were chosen as representative based on a literature review related to skills and skills identification and include the following:

I. Analytical. These are skills you use in discovering, collecting, and analyzing information. High scores on this scale indicate that you excel at logically processing information to solve problems. You are skilled at using reasoning and analysis in your work. These skills are important in fields such as psychology, life sciences, and social sciences.

II. Numerical. These are skills you use in calculating, examining, and interpreting data and financial records. High scores on this scale indicate that you are good at thinking and reasoning with numbers. These skills are important in fields such as mathematics, computer science, engineering, and many skilled trades.

III. Interpersonal. These are skills you use when interacting with other people and relating to them on a personal level. High scores on this scale indicate that you excel at working directly with people to help them lead more satisfying and productive lives. These transferable skills are important in fields such as teaching, nursing, social work, and counseling.

IV. Organizational. These are skills you use in managing people in a group or organization. High scores on this scale indicate that you have the ability to lead and motivate others and ensure that they work effectively and efficiently. These skills are important in fields such as business administration, management, and marketing.

V. Physical. These are skills you use in working with tools, technologies, and equipment. High scores on this scale indicate that you excel at activities that require the practical use of machines or hand tools. You are skilled at working on your own to build, grow, or repair things. These skills are important in fields such as construction, manufacturing, mechanics, and carpentry.

VI. Informational. These are skills you use to organize and process information and coordinate activities. High scores on this scale indicate that you excel at activities in an office setting, working

with computers, or attending to the details of business operations. These skills are important in fields such as computer science, business analysis, office management, and secretarial science.

VII. Communicative. These are skills you use to persuasively or creatively promote a product or a service or to simply convey a message. High scores on this scale indicate that you are good at bringing other people to your point of view. You are skilled at work in which you can convey information through speech, writing, or signs. These skills are important in fields such as marketing, communications, advertising, and sales.

VIII. Creative. These are skills you use in expressing your creative ideas through innovating, imagining, composing, and designing. High scores on this scale indicate that you excel at expressing your feelings and ideas through the creation of original works. These skills are important in fields such as fine art, music, theater, graphic design, and writing.

Illustrative Cases Using the TSS

Case Study 1

Sally is a high school teacher who does not enjoy teaching anymore. At one time she enjoyed her work, but she feels burned out. She thought that she wanted stay in the education field. In her spare time she takes care of her children, loves to read novels, enjoys gardening, and coordinates PTA meetings. After Sally identified her skills on the *TSS,* some possible career paths became more apparent.

Figure 1: Profile Results for Sally

Scale I: Analytical = 28

Scale II: Numerical = 18

Scale III: Interpersonal = 28

Scale IV: Organizational = 32

Scale V: Physical = 14

Scale VI: Informational = 19

Scale VII: Communicative = 22

Scale VIII: Creative = 22

The *TSS* profile in Figure 1 shows the assessment results for Sally. As can be seen, she scored highest on three scales: Organizational, Interpersonal, and Analytical. She believes that because she has great interpersonal skills, she would like to keep working with students in some capacity. However, she never realized that she would have high scores on the Organizational and Analytical scales. A discussion of her results indicated that her primary interest was in the field of education, but that she would like to use more of her organizational and management skills. She said that she enjoys organizing functions and meetings for the PTA. She also said that she has always had an interest in figuring out how things work. A brainstorming session that focused on these skills led her to express interest in gathering information about several occupations to which she could transfer her skills, including educational or school psychologist, testing administrator, school principal, director of educational research, curriculum coordinator, and IEP coordinator.

Case Study 2

James is a construction worker who was injured recently and hurt his back. He had been doing construction work for 10 years. He has a high school diploma and went to a community college for a year, where he studied drafting. In his spare time, he enjoys watching old movies and playing guitar. James is not able to do construction work anymore and is interested in identifying some career options. After he identified his skills on the *TSS,* some possible career paths became more apparent.

Figure 2: Profile Results for James

Scale I: Analytical = 13

Scale II: Numerical = 11

Scale III: Interpersonal = 21

Scale IV: Organizational = 14

Scale V: Physical = 17

Scale VI: Informational = 14

Scale VII: Communicative = 15

Scale VIII: Creative = 20

The *TSS* profile in Figure 2 shows the assessment results for James. As can be seen, most of his scores are low, except for two average

scores: Interpersonal and Creative. He said that he thought that all he was good at was manual labor. He said that he guessed he had good interpersonal skills and was very popular among the employees at his construction site. He also said that he really enjoyed music and artistic kinds of things but thought they were just hobbies. A discussion of his results revealed an interest in creating things; for example, he often wrote his own music. He also said that he enjoyed drawing in three dimensions and that was why he probably chose to study drafting at the community college. A brainstorming session that focused on these skills led him to express interest in gathering information about several occupations to which he could transfer his skills, including music therapist, music arranger, illustrator, architect, music director for youth programs, and designer.

Research and Development

This section outlines the stages involved in the development of the *TSS*. It includes guidelines for development, item construction, item selection, item standardization, and norm development and testing.

Guidelines for Development

The *TSS* was developed to fill the need for a quick, reliable instrument to help people determine their strongest and weakest transferable skills. The inventory consists of eight scales, each containing 12 work task items that represent the scales. It also provides counselors and job search specialists with information that they can use to help their clients and students make more-effective career choices and more easily find employment. The *TSS* was developed to meet the following guidelines:

1. **The instrument should measure a wide range of transferable skills**. To help people tie their transferable skills to specific occupations, eight scales were developed that were representative of the skills domains reviewed in the literature. The eight scales on the *TSS* include Analytical, Numerical, Interpersonal, Organizational, Physical, Informational, Communicative, and Creative.

2. **The instrument should be easy to use**. The *TSS* uses a three-point Likert question-answer format that allows respondents to quickly determine their strongest transferable skills. The format makes it easy to complete, score, and interpret the assessment.

3. **The instrument should help people understand the relationship between their transferable skills and their career exploration and job search**. The *TSS* helps respondents use their results to find occupations that match their skills and encourages them to use the self-knowledge they gain to enhance their job search as well.

4. **The instrument should apply to both men and women**. Norms for the *TSS* have been developed for both men and women.

5. **The instrument should contain items that are applicable to people of all ages**. Norms developed for the TSS show an age range from 19—64.

Scale Development

The authors' primary goal was to develop an inventory that measures transferable skills for assistance in career decision making and job search success. To ensure that the inventory content was valid, the authors conducted a thorough review of the literature related to the topics of skills, skill development, and the use of transferable skills in career counseling and job search counseling. A variety of both academic and professional sources was used to identify the eight areas that make up the scales on the *TSS*. Following is a matrix that shows some of the sources that were cross-referenced to identify common scales among the sources:

Source	Skills Categories
Your Career: Choices, Chances, Changes (Borchard, Kelly, & Weaver, 1980)	Manual, Athletic, Detail, Numerical, Influencing, Performing, Leadership, Managing, Communication, Educating, Human Relations, Innovating, Artistic, Observational, Investigating
What Color Is Your Parachute? (Bolles, 2001)	Body, Materials, Objects, Equipment, Buildings, Growing Things, Gathering/Creating, Managing, Storing/Retrieving, Serving, Treating, Communicating, Leading, Supervising
SkillScan (2002)	Humanitarian, Communication, Leadership, Analytical, Mental, Creative Expression, Physical
The Career Fitness Program (Sukiennik, Bendat, & Raufman, 2001)	Clerical, Technical, Public Relations, Agriculture, Selling, Maintenance, Management, Communication, Research, Financial, Manual, Service

The Holland Theory of Careers (Holland, 1992) suggests that people are attracted to given occupations because of their particular personality types. Holland says that career choice is an expression of a person's personality into the world of work. He believes that people can be organized into six vocational personalities and work environments: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The following chart highlights the similarities between Holland's six vocational personalities as defined in the *Self-Directed Search (SDS)* and scales on the *TSS.*

SDS Themes	*TSS* Scales
Realistic: People who prefer to work with their hands and tools to build, repair, grow things, and work out of doors.	V. Physical
Investigative: People who are abstract problem solvers and prefer to work on their own, using their intellect to learn, discover, investigate, research, and solve problems.	I. Analytical
Artistic: People who are idea creators and prefer to work with their mind, body, and emotions to create art forms, innovate, invent, and use their imagination.	VIII. Creative
Social: People who are helpers and prefer to provide help, information, and services to develop, cure, teach, train, counsel, and meet human needs.	III. Interpersonal VII. Communicative
Enterprising: People who are influencers and prefer to work leading, managing, and directing people or programs to meet organizational goals and objectives.	IV. Organizational
Conventional: People who are data and detail oriented and prefer to work with words and numbers and carry out detailed instructions.	II. Numerical VI. Informational

The scales on the *TSS* were then categorized based on the relationships of the jobs in each skills set to Data, People, Things, and Ideas. Data, People, and Things categories were first used in the *Dictionary of Occupational Titles (DOT)* to help people identify their prominent group of skills. Prediger (1976) suggests that a fourth

category, Ideas, should be added to better describe all of the jobs listed in the *DOT*. He introduces the Data, People, Things, Ideas format in the World-of-Work Map (ACT, 1973), which is used to help people identify interests and tie those interests to occupations. Prediger (1976) defines the four worker functions as

- **Data:** Facts, records, files, and numbers; systematic procedures for facilitating goods/services consumption by people. Data tasks involve impersonal processes such as recording, verifying, transmitting, and organizing facts or data representing goods and services.

- **People:** Human beings. People tasks involve interpersonal processes such as helping, serving, persuading, entertaining, motivating, and directing—in general, producing a change in human behavior.

- **Things:** Machines, mechanisms, materials, tools, and physical and biological processes. Things tasks involve nonpersonal processes such as producing, transporting, servicing, and repairing.

- **Ideas:** Abstractions, theories, knowledge, insights, and new ways of expressing something, for example, with words, equations, or music. Ideas tasks involve intrapersonal processes, such as creating, discovering, interpreting, and synthesizing abstractions, or implementing applications of abstractions.

Item Selection

A large pool of items representative of the eight major scales on the *TSS* was developed and later revised. This enabled the elimination of items that did not correlate well. In developing items for the *TSS*, the authors used language that is currently used in career and job search literature and research and employment counseling programs. After the items were developed, they were reviewed and edited for clarity, style, and appropriateness for measuring transferable skills needed for career success. Items were additionally screened to eliminate any reference to sex, race, culture, or ethnic origin.

Item Standardization

The *TSS* was designed to measure a person's skills that could be transferred from occupation to occupation. One of the authors field-tested a draft of the *TSS* on a representative adult population sample to gather data concerning the statistical characteristics of each item. From this research, a final pool of 96 transferable skills was chosen that best represented the eight scales on the *TSS*.

This initial research yielded information about the appropriateness of items for each of the *TSS* scales, reactions of respondents concerning the inventory format and content, and reactions of respondents concerning the ease of administration, scoring, and profiling of the *TSS*. Experts in the fields of career counseling and employment counseling were used to eliminate items that were too similar to one another. The data collected was then subjected to split-half correlation to identify the items that best represented the eight scales on the *TSS*. The items accepted for the final form of the *TSS* were again reviewed for content, clarity, and style. Careful examination was conducted to eliminate any possible gender or race bias.

Occupations and Skills Correlation

Step 4 of the *TSS* helps users identify occupations that match their skills. It features a table showing occupations that are related to the relevant skills for each scale. For example, the occupations listed for the Creative scale tend to focus on the arts and design.

The occupations in this table were selected on the basis of data in the O*NET database, which is the most detailed career information source produced by the U.S. Department of Labor. Each scale of the *TSS* was matched to appropriate descriptors in the O*NET database: either skills, general work activities, or knowledges. For example, the *TSS* scale Informational was matched to the O*NET knowledge Clerical, because the two are defined in essentially the same terms. Each occupation in the O*NET has a numerical rating for how much it requires Clerical knowledge, so it was possible to create a list of the occupations rated highest on this descriptor.

For most *TSS* scales it was not possible to identify a single O*NET descriptor that was exactly equivalent, so it was necessary to identify two or more O*NET descriptors that together are equivalent to the *TSS* scale. For example, for the Numerical scale the equivalent O*NET descriptors are the two skills Mathematics and Programming, plus the general work activity Estimating the Quantifiable Characteristics of Products, Events, or Information. In such cases the mean of the multiple ratings was computed and used to rank occupations for the list.

To obtain a set of occupations that would appeal to a cross-section of *TSS* users, separate lists were produced with highest-rated occupations at various levels of required education or training: on-the-job training, postsecondary vocational training, associate degree, bachelor's degree, graduate or professional degree, and work experience. Note that because of limited space, the list on the *TSS* is not exhaustive; the list represents a sample of the highest-rated occupations for each scale across all education levels.

Reliability

Reliability is often defined as the consistency with which a test measures what it purports to measure. Evidence of the reliability of a test may be presented in terms of internal consistency reliability coefficients, test-retest correlations, and interscale correlations. Tables 1, 2, and 3 present this type of information. (See tables at the end of this guide.) As can be seen in Table 1, the *TSS* showed very strong internal consistency validity with Split-Half Correlations ranging from .87 to .93. One month after the original testing, 25 people in the sample population were retested using the *TSS* (see Table 2). Test-retest correlations ranged from .72 to .94.

Table 3 shows the correlations among the *TSS* scales. Generally, the intercorrelations among scales appear predictable from the scale titles. For example, the Organizational and Informational scales and the Communicative and Interpersonal scales are positively correlated. On the other hand, the Physical and Interpersonal and Physical and Creative scales are negatively correlated. Given the high range of correlation coefficients, the *TSS* was found to be very reliable.

Validity

Validity is often defined as the extent to which a test measures what it purports to measure. Evidence of validity for the *TSS* is presented in the form of means and standard deviations and construct validity. Table 4 shows the scale means and standard deviations for men and women who took the *TSS*. Note that women scored highest on the Interpersonal (M = 27.41) and Communicative (M = 25.28) scales. Women scored lowest on the Numerical (M = 16.76) and Physical (M = 16.83) scales. Men scored highest on the Interpersonal (M = 26.84) and Analytical (M = 26.38) scales. Conversely, men scored lowest on the Creative (M = 17.81) and Numerical (M = 18.54) scales. Overall, people completing the *TSS* tended to score highest on the Interpersonal scale (M = 27.04) and lowest on the Numerical scale (M = 17.93).

For construct validity, Table 5 shows the correlations of the *TSS* scales with the *Career Exploration Inventory,* Third Edition (*CEI;* Liptak, 2006). As can be seen in the table, the *TSS* is highly correlated with a measure of interests. For example, the Physical scale of the *TSS* and the Architecture and Construction scale of the *CEI* (.835), the Creative scale of the *TSS* and the Arts and Communication scale of the *CEI* (.699), and the Interpersonal scale of the *TSS* and the Human Service scale of the *CEI* (.636) were all highly correlated at the 0.01 significance level.

Table 6 shows the correlations of the *TSS* scales with the *SkillScan Card Sort* (2002). As can be seen from the table, there was a high degree of construct validity between the two assessments. For example, the Organizational scale of the *TSS* and the Leadership scale of the *SkillScan Card Sort* (.841), the Communicative scale on the *TSS* and

the Communication scale on the *SkillScan Card Sort* (.873), the Creative scale on the *TSS* and the Creative scale on the *SkillScan Card Sort* (.845), and the Physical scale on the *TSS* and the Physical scale on the *SkillScan Card Sort* (.818) were all highly correlated at the 0.01 significance level.

Table 7 shows the correlation of the *TSS* scales with the *Career Personality Inventory* (*CPI;* Liptak, 2010). As seen from the table, there was a high degree of construct validity between the two assessments. For example, the Analytical scale on the *TSS* and the Realist scale on the *CPI* (.697), the Numerical scale on the *TSS* and the Analyst scale of the *CPI* (.698), and the Interpersonal scale on the *TSS* and the Idealist scale on the *CPI* (.724) were all highly correlated at the 0.01 significance level. In addition, the Organizational scale on the *TSS* and the Realist scale on the *CPI* (.552) were correlated at the 0.05 significance level. These results add to the construct validity of the *TSS*.

Table 8 shows the means and standard deviations for both men and women on a subsequent testing of the *TSS*. As can be seen, scores were similar to the original testing of the *TSS*.

Women scored highest on the Communicative (M = 27.80) and Organizational (M = 26.13) scales. Women again scored lowest on the Numerical (M = 19.53) and Physical (M = 19.27) scales. Men scored highest on the Communicative (M = 27.51) and Analytical (M = 25.96) scales. Conversely, men scored lowest on the Numerical (M = 19.17) and Physical (M = 19.92) scales. Overall, people completing the *TSS* tended to score highest on the Interpersonal scale (M = 27.04) and lowest on the Numerical scale (M = 17.93).

About the Authors

John Liptak, **Ed.D.**, is a leading developer of quantitative and qualitative assessments. He is the Associate Director of the Experiential Learning and Career Development office at Radford University in Radford, Virginia. He provides career assessment and career counseling services for students and administers and interprets a variety of career assessments. Dr. Liptak focuses on helping students develop their careers by becoming engaged in a variety of learning, leisure, and work experiences. In addition to creating the *TSS,* Dr. Liptak has created the following assessments for JIST Publishing: *Career Exploration Inventory, Transition-to-Work Inventory, Job Search Knowledge Scale, Job Survival and Success Scale, Barriers to Employment Success Inventory, Job Search Attitude Inventory,* and *College Survival and Success Scale.*

Laurence Shatkin, **Ph.D.**, is a major researcher-writer in the field of career information and career decision making. He was a developer of the computer-based SIGI PLUS and Career Oasis systems, which combine

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Table 1: Internal Consistency (Split-Half Correlations)*

Scales	Correlation Coefficients
Scale 1	.91
Scale 2	.91
Scale 3	.87
Scale 4	.88
Scale 5	.93
Scale 6	.89
Scale 7	.91
Scale 8	.88

* N = 35 Adults

Table 2: Stability (Test-Retest Correlation)*

Scales	Correlations
Scale 1	.90
Scale 2	.88
Scale 3	.85
Scale 4	.80
Scale 5	.83
Scale 6	.82
Scale 7	.72
Scale 8	.94

* N = 25, one month after original testing

Table 3: TSS Interscale Correlations (N = 25)

Scales	A	N	I	O	P	I	Co	Cr
Analytical	1	.209	.142	.559**	.194	.442*	.430	−.082
Numerical		1	−.327	.377	.287	.547*	−.062	−.169
Interpersonal			1	.147	−.197	.033	.683**	.662**
Organizational				1	−.139	.734**	.403	−.038
Physical					1	.248	−.116	−.269
Informational						1	.358	−.129
Communicative							1	.549**
Creative								1

** = Correlation is significant at the 0.01 level (2-tailed)

* = Correlation is significant at the 0.05 level (2-tailed)

Table 4: Means and Standard Deviations for Adults (N = 181)

Scales	Total (N = 181)		Male (N = 89)		Female (N = 92)	
	Mean	SD	Mean	SD	Mean	SD
Scale 1	25.18	3.79	26.38	2.92	22.85	4.20
Scale 2	17.93	3.12	18.54	3.48	16.76	1.90
Scale 3	27.04	2.95	26.84	2.92	27.41	3.00
Scale 4	25.76	3.66	26.04	3.26	25.20	4.31
Scale 5	19.59	5.06	21.01	4.70	16.83	4.58
Scale 6	22.10	3.51	22.24	2.82	21.85	4.58
Scale 7	25.51	4.43	25.63	3.94	25.28	5.30
Scale 8	18.58	3.37	17.81	2.55	20.07	4.18

Table 5: *TSS* Correlations with *CEI* (N = 55)

	TSS Scales							
CEI Scales	A	N	I	O	P	I	Co	Cr
Agriculture & Natural Resources	−.181	.090	−.056	−.154	.214	.136	−.051	−.078
Architecture & Construction	.223	.175	−.210	−.114	**.835****	.191	−.174	**−.465***
Arts/ Communication	−.002	−.347	**.627****	.086	−.285	.026	**.609****	**.699****
Business & Administration	.337	−.010	.258	**.673****	.030	.397	.426	.055
Education/ Training	−.005	−.144	**.440***	.113	.024	.043	.186	.155
Finance & Insurance	−.032	**.716****	−.390	.194	−.013	.408	−.282	−.247
Government & Public Administration	.313	.232	−.291	.313	.336	.349	.195	−.116
Health Science	−.023	.068	.098	−.185	.243	−.096	.098	.142
Hospitality, Tourism, & Recreation	.192	−.167	.273	.331	.058	.088	.105	.208
Human Service	−.021	−.036	**.636****	.255	−.409	.041	**.515***	**.630****
Information Technology	.412	**.602****	−.280	.300	.140	.284	.117	−.116
Law & Public Safety	.226	.381	.120	.363	.419	.389	.077	−.143
Manufacturing	.146	−.165	−.113	−.196	**.731****	.069	−.039	−.332
Retail & Wholesale Sales & Service	**.444***	−.119	.378	**.436***	.016	.203	**.547***	.238
Scientific Research, Engineering, & Math	.093	.274	−.366	−.163	.302	.107	−.091	−.229
Transportation, Distribution, & Logistics	.093	−.018	−.396	−.128	**.522***	.113	−.175	−.371

** = Correlation is significant at the 0.01 level (2-tailed)

* = Correlation is significant at the 0.05 level (2-tailed)

Table 6: *TSS* Correlations with *SkillScan Card Sort* (N = 25)

TSS Scales	*SkillScan* Scales						
	Humanitarian	Communication	Leadership	Mental	Creative	Expressive	Physical
Analytical	.085	.538	−.031	**.704***	.320	.320	−.051
Numerical	−.287	−.109	.067	−.269	−.076	−.076	**.614***
Interpersonal	.312	**.708***	.234	.458	**.618***	**.618***	−.528
Organizational	−.037	.452	**.841****	−.108	.553	.553	−.560
Physical	−.026	−.201	−.569	−.051	−.234	−.234	**.818****
Informational	.128	.492	.445	−.197	.290	.290	−.127
Communicative	.397	**.873****	.228	.214	**.684***	**.684***	−.308
Creative	.322	**.725***	.155	.086	**.845***	**.845***	−.386

** = Correlation is significant at the 0.01 level (2-tailed)

* = Correlation is significant at the 0.05 level (2-tailed)

Table 7: *TSS* Correlations with *CPI* (N = 35)

CPI Scales	*TSS Scales*							
	A	N	I	O	P	I	Co	Cr
Optimist	.092	.105	−.010	.308	.329	.435	.006	.421
Analyst	.473	**.698****	.169	.343	.242	.176	.429	-.044
Realist	**.697****	.336	−.097	**.543***	−.188	**.552***	−.085	−.071
Idealist	.230	.324	**.724****	-.236	−.152	−.092	.237	−.256

** = Correlation is significant at the 0.01 level (2-tailed)

* = Correlation is significant at the 0.05 level (2-tailed)

Table 8: Subsequent Means and Standard Deviations for Adults (N = 276)

SCALES	Male (N =141)		Female (N =135)	
	Mean	SD	Mean	SD
Scale 1	25.96	4.12	25.67	4.19
Scale 2	19.17	3.83	19.53	4.59
Scale 3	24.99	5.61	25.13	5.82
Scale 4	25.73	6.35	26.13	6.60
Scale 5	19.92	4.66	19.27	4.78
Scale 6	23.34	4.50	23.33	4.60
Scale 7	27.51	5.67	27.80	6.02
Scale 8	21.98	5.37	22.87	7.07

Additional Help

A supporting document, *Tips for Using the Transferable Skills Scale in Career Decision Making and Job Search,* contains additional background information and instructional material and resources for getting the most out of the *TSS.* It includes advice for using the *TSS* in group settings, plus exercises and activities to assist test takers in using their *TSS* results in career exploration and their job search. The document is available for free download at www.jist.com/shop/web/assessment-guides.