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Introduction

The idea of measuring people's interests has been around since World War I, when military psychologists wrestled with the problem of how to determine which recruits should be cooks and which should be members of the cavalry. After the war, it became clear to some of those same psychologists that the idea had important implications for civilians as well. If it were possible to measure people's career interests and to use those data along with information about abilities and values, it might be possible to perform two important, interrelated services. First, individuals could be helped in making educational and career plans. Second, the common interests of people working in various occupations could be described. These ideas led to the development of the *Strong Vocational Interest Blank* (SVIB), the first formal interest inventory to be published (Campbell, 1971; Donnay, 1997).

It has been said that, "if there is one fundamental assessment tool to know and understand, the *Strong* is it" (Prince & Heiser, 2000, p. 5). The *Strong Interest Inventory*® (the *Strong*) assessment was introduced in 1927 by E. K. Strong, Jr., who had been one of those military psychologists engaged in the assessment of recruits (Most, 1993). E. K. Strong, Jr., was an academic and a researcher who spent most of his career at

Stanford University. He believed in grounding his work firmly in empirical research and in updating his materials and scoring procedures periodically. In this way, he established a tradition of scholarship and continuous improvement that has been faithfully maintained ever since by a series of dedicated career psychologists and by the publisher of the instrument.

Interest inventories such as the *Strong* have a variety of uses, but the primary purpose of interest inventories today is to help individuals match their interests with occupational, educational, and leisure pursuits that are compatible with those interests. The most common use of the *Strong* is to help people make educational and occupational choices. In education settings, both high school and postsecondary interest inventories are used to help students choose courses of study, including classes and majors. It is generally presumed that coursework and majors are used as stepping-stones to eventual occupations or careers. The *Strong* has been designed specifically for these situations, and the information it provides about a person's pattern of interests is directly applicable to making these kinds of choices.

Interest inventories are used with success in a wide range of settings outside education. The *Strong* assessment is used by social service agencies, outplacement consulting firms, and employment offices to help individuals find work or change careers, and to assist displaced employees in transition to new areas compatible with their interests. Corporations and other large organizations such as the military use the *Strong* assessment to encourage career development in their employee

ranks and to guide placement of personnel within roles that best fit the individuals' interests. Scores on the *Strong* may also be used to identify preferences for activities and situations that are not specifically work related—for example, interests in recreational activities or preferences for types of people that may guide decisions about leisure time or living arrangements. Ultimately, the *Strong* can be used to inform many different kinds of decisions, from selecting a college major or work training program to choosing an occupation or career; from making a career transition or mid-career change to preparing for retirement or other life changes.

The Newly Revised *Strong Interest Inventory*® Assessment

Although in purpose and design the newly revised version of the *Strong* is remarkably similar to the one introduced over 75 years ago, it has taken on elements that relate it to important theoretical and practical developments. Because the instrument is regularly updated, the scores received by an individual today compare that person's interests with those of people who have responded to the inventory and who may be in occupations that did not exist in Strong's day. Thus, in no way is the *Strong* limited by its legacy; it remains today the most thoroughly researched and widely used interest inventory.

The *Strong* assessment is a carefully constructed questionnaire that inquires about a client's level of interest in a wide range of familiar areas. Clients respond to inventory items made up of words or short phrases describing occupations, subject areas, activities, leisure activities, people, and personal characteristics. For each of these 291 items, clients are asked to indicate their preferences from among five response options on an answer sheet or Internet Web site. The answers are then scored to derive individual results for a variety of measures of interest type, called scales. The results are printed on a Profile, which presents the scale scores in an organized format and offers interpretive information. Although the Profile is largely self-explanatory, it is helpful to have a career professional guide each client to an understanding of the scales and an interpretation of the scores.

The *Strong* uses people's responses to the items to compare their pattern of responses to the patterns of responses of people with differing interests and in different occupations. This combination of information from the individual and other people allows career professionals to determine how likely it is that the individual will find satisfaction in the work typically done in a given occupation. Although most people can respond to the *Strong*'s items about what specific things they like and dislike with relative ease, few understand how their individual patterns of likes and dislikes are related to the patterns of people working in various occupations. Neither do they understand specific occupations well enough to know how their likes and dislikes are related to the activities pursued in those occupations. The power of the *Strong* thus rests on two assumptions: (1) that the day-to-day activities typical of a specific occupation are reflected in the interests of the people who are employed in it and (2) that those who have a similar pattern of interests will be satisfied in that occupation if they have compatible values and the necessary knowledge and abilities.

The *Strong* provides the client with five main types of information:

- Scores on six General Occupational Themes (GOTs) reflect the client's overall orientation to work
- Scores on 30 Basic Interest Scales (BISs) report consistency of interests or disinterests in 30 specific areas such as art, science, and athletics
- Scores on 122 Occupational Scales (OSs) represent different occupations and indicate the degree of similarity between the client's interests and the characteristic interests of people working in those occupations
- Scores on five Personal Style Scales (PSSs) measure aspects of the style with which an individual likes to learn, work, assume leadership, take risks, and work within teams
- The administrative indexes help to identify inconsistent or unusual Profiles for special attention

Scores throughout the Profile are rank ordered based on the client's scores on the GOTs, allowing the client to note overall trends, see how these trends are related to the world of work, and employ these findings in a program of career exploration. The emphasis is on

organizing the information in a way that best helps the client develop a general strategy toward approaching educational and career decisions.

Overview of Changes in the Newly Revised *Strong* Assessment

Although there are many fundamental similarities to the original version of the assessment first introduced by E. K. Strong, Jr., substantial changes have been made over the years. The 2004 *Strong* represents a revolutionary step forward in a number of areas. An overview of the substantive changes made to the items, GOTs, BISs, OSs, PSSs, and administrative indexes of the newly revised *Strong* assessment follows.

Items

The inventory underwent major changes for this revision including changes to the assessment's structure, item content, and item response options.

- Two parts of the 1994 317-item inventory were eliminated from the current version, and the associated items were either deleted or adapted for use in another section. Therefore, the 2004 version has six sections instead of eight.
- Of the original 317 items included on the 1994 version, 193 items are included in the current revision. In addition, 98 new items were developed or adapted from previous versions of the *Strong*. The adapted items were drawn from the forced-choice items in Part VI of the 1994 *Strong*. As a result, the 2004 *Strong* contains 291 items.
- Response options underwent two changes. First, the prior 3-point response option format was expanded to a 5-point response option format for all items on the assessment. Second, all response options were converted to Likert-type responses to make the inventory simpler to complete and easier to understand. Eliminating the two parts noted previously helped facilitate the use of Likert-type responses.

These changes make the 2004 *Strong* the most relevant, most precise interest inventory available. The items were revised to better reflect the range of contemporary career-related activities, and the response

options were expanded to improve the measurement properties of the inventory. The changes to items are discussed in more detail in chapter 2.

General Occupational Themes

The GOTs remain largely the same as they appeared in previous versions of the *Strong* assessment. The scale names and their theoretical structure remain intact, although there were minor changes in the content of the scales and some improvements in reliability.

An effort was made to broaden the item content and associated BISs of the revised GOTs to take into account changes in the workplace, especially the increased use of computers and technology. The Conventional Theme, for example, was broadened to include items focused on programming and working with software, while the Realistic Theme was broadened to include items focused on working with computer hardware. It is important to note, though, that these revisions have not altered the basic configuration of the GOTs, and that their meanings remain consistent for counseling use, theory, and research.

The new item response options and careful item selection resulted in improved internal consistency reliability (Cronbach's alpha) for five of the six GOTs, with the Realistic Theme remaining constant at .93. All six measures now have alphas of at least .90, and test-retest reliabilities are stable, averaging .87 across all six GOTs. Additional detail on the GOT scales is included in chapter 3.

Basic Interest Scales

The BISs have been extensively renovated for the second time since their introduction to the *Strong* in 1968. The 2004 *Strong* has 30 BISs, representing a significant expansion in content to better reflect the broad range of careers available today. Seventeen of the 30 BISs are retained from the 1994 *Strong* and are largely unchanged in terms of their item content and definitions. These may, however, have undergone name changes to make them more contemporary. Four of the 2004 BISs resulted from changing the content and therefore the definitions of the 1994 BISs. These changes were made on statistical and conceptual grounds. For example, the new Nature & Agriculture BIS is a combination of many of the items that were

reported separately in the 1994 Nature BIS and the 1994 Agriculture BIS. Four of the 1994 BISs were eliminated from the *Strong*, although some of their items may remain on the inventory and contribute to new or revised BISs. An example of this change occurred for the 1994 Computer Activities BIS, which was replaced by two new BISs—one focused on hardware, the other on software—and associated with different GOTs. This change reflects the increased importance of technology and eliminates a scale that was quickly outdated by evolutionary advances in information systems. Finally, there are 10 BISs that are essentially new to the *Strong*.

The measurement properties of the BISs generally show higher internal consistency reliability (Cronbach's alpha) compared with the 1994 BISs, and the 30 BISs typically contain fewer items than the 1994 BISs. More on the changes to the BISs can be found in chapter 4.

Occupational Scales

The 2004 *Strong* has 244 OSs compared with 211 in 1994 (and 122 distinct occupations compared to 109). In addition, all the Occupational Scales have separate scoring routines for women and men, eliminating some of the prior Occupational Scales that were scored for a single gender. Besides increasing the number of occupations, particular attention was paid to adding business (e.g., “Top executive,” “Financial analyst”) and technology (e.g., “Network administrator,” “Technical support specialist”) occupations. These changes not only provide test takers with more occupational interest data with which to compare their interests, but also make the 2004 *Strong* assessment more relevant for today's world of work. Generally speaking, the newly revised OSs comprise fewer items than those in 1994, although efforts were made for each scale to maintain a reasonable correlation between the prior OS and the corresponding revised scale. Occupational Scales were developed using the same approach as prior versions of the *Strong*, but changes to item content on the 2004 *Strong* forced some technical changes to this process. Additional details on this process can be found in chapter 5.

Personal Style Scales

The number of PSSs on the 2004 *Strong* assessment increased from four to five, with the addition of the

Team Orientation scale. The Team Orientation scale's two poles are “Accomplishes tasks independently” and “Accomplishes tasks as a team.” While all PSSs have been updated, the other significant change is in the content of the Risk Taking scale, previously called Risk Taking/Adventure. As the name change suggests, this scale has been revised to emphasize different types of risk taking, including financial and physical risks. Details on the PSSs can be found in chapter 6.

Administrative Indexes

The administrative indexes in the Response Summary section of the Profile underwent some changes due to differences between the newly revised *Strong* assessment and prior versions. The total responses index was changed to match the number of items in the revised assessment and to report out separately the number of items responded to by the client and the number of items omitted. The item response percentages, reported as a table, have been expanded to include the two additional response options used on the newly revised *Strong*. In this way, the career professional can quickly see how the client has used the response options, ranging from “Strongly Like” to “Strongly Dislike,” across each section of the inventory as well as overall. The largest change in the administrative indexes was the discontinuation of the infrequent responses index from the 1994 version of the *Strong*. The infrequent responses index was found to be problematic for many career professionals and their clients. Replacing it is the newly developed typicality index. This new index automates the process of identifying inconsistent or atypical response patterns. The typicality index is computed based on consistency of responses to 24 pairs of *Strong* items. Additional detail on the administrative indexes can be found in chapter 7.

Research for the Newly Revised Strong Assessment

The *Strong* has gained a loyal following of users over the years, probably due, at least in part, to a commitment to updating and improving the inventory on the part of everyone associated with it since its introduction, beginning with E. K. Strong, Jr. In addition, the various revisions of the *Strong* have been heavily researched, both by its developers and by other scholars. The rest of