

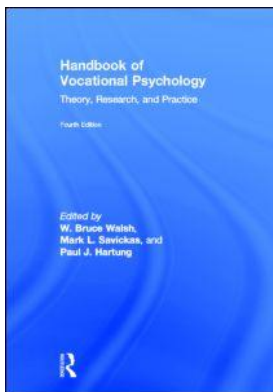
This article was downloaded by: 10.3.97.143

On: 08 Dec 2023

Access details: *subscription number*

Publisher: *Routledge*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London SW1P 1WG, UK



Handbook of Vocational Psychology Theory, Research, and Practice

W. Bruce Walsh, Mark L. Savickas, Paul J. Hartung

Advances in Theories of Career Development

Publication details

<https://www.routledgehandbooks.com/doi/10.4324/9780203143209.ch1>

Richard S. Sharf

Published online on: 31 May 2013

How to cite :- Richard S. Sharf. 31 May 2013, *Advances in Theories of Career Development from: Handbook of Vocational Psychology, Theory, Research, and Practice* Routledge

Accessed on: 08 Dec 2023

<https://www.routledgehandbooks.com/doi/10.4324/9780203143209.ch1>

PLEASE SCROLL DOWN FOR DOCUMENT

Full terms and conditions of use: <https://www.routledgehandbooks.com/legal-notices/terms>

This Document PDF may be used for research, teaching and private study purposes. Any substantial or systematic reproductions, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The publisher shall not be liable for an loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

Part I

Theory

This page intentionally left blank

Advances in Theories of Career Development

Richard S. Sharf

In this chapter, I describe advances as well as problems that interfere with advances in career development theories. To provide a context for this approach, I first discuss the need for and importance of career development theories. Then, I examine problems in developing new theories. To understand advances in career development theories, I consider the role of the theorist and others in this process, as well as the uses of theories. This provides a perspective to examine advances in career development theories beginning with trait-and-factor approaches. Then I discuss advances in developmental models of career choice followed by constructivist and narrative approaches and more recent relational and other approaches to career development. After considering social cognitive career theory, the chapter ends with concluding remarks about the future of career choice and development theories.

THE NEED FOR CAREER DEVELOPMENT THEORIES

Globally and politically, one of the most important issues individuals must deal with is work and the lack of work. Agricultural subsistence is an option for few people. With advances in technology, individuals must specialize, whether that be mathematics, engineering, roofing, cooking, or health. To help individuals maximize their earnings and creative potential is a major contribution of those who provide career counseling, whether in schools, universities, or private practice. Globally, competition for jobs is almost universal. Training and education give individuals an advantage in finding work. Typically, more education and training leads to higher pay and greater job opportunities. Counselors who help in this process provide an invaluable service in helping people find work that is best for them. Career development and work are both complex topics. Having an understanding of work and of how people make career choices provides a system for helping people find work. Career development theories provide a way of assessing the concerns a client presents. Having a method to think about or conceptualize the client's problems and strengths can be extremely helpful. Some career development theories, especially cognitive and behavioral theories, also suggest specific counseling techniques to use to help clients make career choices or adjust to problems at work.

Perhaps the best known system or theory is Holland's theory of types. The counselor can use it to organize occupations as well as information about the client's interests, abilities,

values, and personality. Career development theories provide a great help to counselors in assisting them in finding work. Although this work is an essential part of psychology and of counseling, it tends to be a smaller area of study than other areas of psychology and counseling. I suspect a major reason is because there is less urgency to help people find work than to help with immediate problems such as depression or substance abuse. This may be one reason that career development theory receives less attention than other fields of psychology and counseling. But there are other reasons as well.

LIMITS TO CAREER DEVELOPMENT THEORY

When Frank Parsons and others developed trait-and-factor theory over 100 years ago, they attended to interests, values, and abilities of clients. Parsons's (1909) formal statement was new. Since then, most (but not all) career development theories have been extensions of this theory, adding significant aspects. Some theories examine types of people; other theories look at how career choices are affected by age or stage of life. After Holland developed his typological theory, his analyses of interests and abilities as well as the analyses of others have not revealed any major differences in types. After Donald Super (1957) developed a life-stage theory, there have been minor suggestions to change his theory, but no new competing life-span theories. Some theories, like Gottfredson's (2005) theory of career development of children fit with Super's, adding some new ideas, but do not address adult career development. Basically, the concepts used in these two theories are broad enough so that it is difficult or impossible to have a totally different typological career development theory or a totally different life stage theory. New theories that have been developed more recently are based on different ways of seeing individuals such as cognitive psychology, relational psychology, and constructivist psychology. Career development theories appear to be limited, in that it becomes more and more difficult to develop new theories. This by itself is not a problem. The problem is that once a theorist is no longer working on a theory, most research on the theory becomes very limited, and in some cases stops.

In the case of career development theories, work on the theory may lose its impetus and direction when a theorist retires, discontinues work on a theory, has little interest in doing research on a theory, becomes ill for a long time, or dies. Such occurrences present several problems for continuing to do research on a theory and to change or develop it. I will point this out as I describe advances and lack of advances in several theories. A theory can be viewed as intellectual property. When the theorist either is unable to or does not want to continue work on a theory, how can one or more individuals take responsibility for it? This is a question that has not been addressed and seems not to have an answer. A career development theory is frequently developed by one or two people. To take over someone else's theory is like taking someone else's property. To do research on a theory that is not updated or directed by anyone can be awkward. Additionally researchers are often rewarded through academic promotions by being creative in their work. Working on someone else's theory may not provide the rewards that some researchers want. My best answer to the dilemma of dealing with the absence of a theorist is to coordinate and collaborate with other researchers who seem to have an interest in the specific theory, and to continue efforts on the theory. Of the career development theories that I will discuss, fewer than half have theorists that are actively involved in the theory. Most of the older theories do not have any individuals responsible for them. However, some research continues to be done on many of the theories.

There are two types of research that provide support or lack of support for a theory: intentional and unintentional. *Intentional research* for career development theories are theories that set out to test concepts, constructs, or propositions of a theory. Almost all research on relatively new theories such as social cognitive career theory and constructivist theories is intentional. *Unintentional research* on a career development theory is research which relates to a theory, but the study was not designed to test any aspects of a specific theory. For example, a researcher may wish to study the relationship of abilities to interests. Such a study has value to a theory, whether or not it is designed to test a theory. In this case, such a study would provide useful information to relate to Parsons's trait-and-factor theory.

When I describe advances in a theory, I also briefly explain the theory to make clear how research relates to that theory. Fuller descriptions of specific theories can be found in Andersen and Vandehey (2012), Sharf (2010), and Swanson and Fouad (2010). To illustrate recent advances in the theory, I describe the research conducted between 2008 and 2012 that relates to the theory. Also, if the theory has been changed or revised, I describe that revision. In some cases I describe new theories that have just been developed.

TRAIT-AND-FACTOR THEORY

Parson's (1909) trait-and-factor theory comprises three basic steps: (a) assess and understand your attitudes, abilities, interests, values, and personality; (b) learn occupational information (job description, required training, salary, and so forth) about areas that fit with your attitudes, abilities, interests, values, and personality; and (c) make decisions based on considering both a and b. Most career development theories that followed Parsons incorporate his theory in some way. His emphasis on self-assessment was in many ways the impetus for the development of ability tests and values, interests, and personality inventories. Little research has been done on the theory itself; rather, the focus has been on the development of measures of abilities, interests, personality, and values.

Research on trait-and-factor theory has continued to focus on abilities, interests, values, and personality for more than 60 years. Much of the research makes use of assessment instruments reviewed in the *Eighteenth Mental Measurements Yearbook* (Spies, Carlson, and Geisinger, 2010), and in *Tests in Print VIII* (Murphy, Geisinger, Carlson, and Spies, 2011). This research, using assessment instruments, is unintentional, as it is not designed to address the validity of the theory itself, but to present information about abilities, interests, values, or personality measures. I give examples here of research of these concepts that has been done between 2008 and 2012.

Abilities

Some studies on aptitudes and ability added to the general knowledge of assessment of these concepts. Many studies on ability tend to focus on prediction of college grades. Predicting grade point average from SAT scores showed that predictions were better for high ability students than for other students (Coyle, Snyder, Pillow, and Kochunov, 2011) Actual high school grades predicted college freshmen's grades better than students' self-reports (Zwick and Himelfarb, 2011). Also, academic aptitude tests predict intelligence quite well (Koenig, Frey, and Detterman, 2008) because scores on both academic aptitude tests and intelligence tests are highly correlated. When young adults with disabilities were studied,

these individuals had as wide a range of abilities as individuals without disabilities (Turner, Unkefer, Cichy, Peper, and Juang, 2011).

Interests

Perhaps the most frequent area of study is interests. Examining changes of interests in women between 1976 and 2004, Bubany and Hansen (2011) found an increase in business and management interests among women. A study of American Indian/Alaskan Native, Asian/Hawaiian/Pacific Islanders, Black/African American, and Latina/Latino high school youth found that the college major of these students was predicted by their interests (Diemer, Wang, and Smith, 2010). Often studies of interests such as these attend to gender and/or cultural issues.

Work values

Work values are less specific than interests and less predictive of occupational choice. However, work values are related to personality and interests, while still being separate from them. Work values are most similar to personal values (Leuty, 2011). In examining the influence of work values and part-time jobs on the career development of adolescents, work values were found to be more influential than part-time work (Porfeli, 2008).

Personality

One area of personality is one's confidence or view of one's own competence. For example, boys in grades 7 through 12 were found to have a stronger view of their own math ability than did girls in Australia, Germany, and the United States (Nagy et al., 2010). Studying an older age group, college women from underrepresented ethnic and socioeconomic groups in science, technology, engineering, and math (STEM) majors had lower levels of self-confidence in their academic ability than did their male peers (Farro, 2010, and Nagy et al., 2010).

Research summary

Information about assessment instruments continues to have value, not only for trait-and-factor theory, but also other theories as well. Assessment instruments can serve to define constructs used in a theory, as well as provide self-assessment information to clients. In addition to examining assessment instruments and the relationships among abilities, interests, personality, and values, more direct research on trait-and-factor theory itself would be helpful. Answers to questions such as how does trait-and-factor theory work, and which parts of the counseling process predict a successful outcome would be particularly useful.

WORK ADJUSTMENT THEORY

Work adjustment theory (TWA) is a specific application of trait-and-factor theory that was designed originally to help vocational rehabilitation clients adjust to problems at work due to an accident or illness. It has been used more broadly to assist individuals with adjusting to most types of problems at work as well as vocational choice issues. Developed by Rene Dawis

and Lloyd Lofquist (Dawis, England, and Lofquist, 1964) at the University of Minnesota, work adjustment theory focuses on assessment of values and abilities.

The Minnesota Importance Questionnaire (MIQ) (Dawis and Lofquist, 1984) was designed to assess values and needs believed to help predict occupational choice. The values are achievement, comfort, status, altruism, safety, and autonomy. Each value includes two to six needs. To assess abilities, TWA used the General Aptitude Test Battery (GATB). This instrument measured general learning ability, verbal ability, numerical ability, spatial ability, form perception, clerical ability, eye/hand coordination, finger dexterity, and manual dexterity. Dawis and Lofquist viewed interests as being derived from values and abilities. Unique to career development theories, Dawis and Lofquist measured the abilities and values of people in over 90 occupations and developed the Minnesota Occupational Classification system which contains an ability and values profile for over 1700 occupations. This system provided a match (Step 3 of trait-and-factor theory) between an individual's score on the GATB and the MIQ and a great number of occupations. A report form with matches to 90 occupations is available only from the Vocational Psychology Research Office at the University of Minnesota.

Most research was conducted by Dawis and Lofquist and published in the *Minnesota Studies in Vocational Rehabilitation*, a publication of the Vocational Psychology Office. Little research has been done on work adjustment theory since 1990. This has been due in part to the death of Lloyd Lofquist and the retirement of Rene Dawis. Since 1990 less than one research article every two years has been published. There is a need for new research on this theory for several reasons: the GATB has been replaced by the Ability Profiler; new occupations have developed since the 1980s; the Dictionary of Occupational Titles has been replaced by the O*NET; the Minnesota Occupational Classification System and Occupational Reinforcer Patterns (value patterns) need to be updated. This is probably the most detailed career development theory, yet it receives little attention.

HOLLAND'S THEORY OF TYPES

John Holland's theory of types has been popular for many years with both researchers and career counselors. Holland was active in both doing research on his theory and providing guidelines for others to do so (Holland, 1997). Since his death in 2008, work on his theory has continued but at a considerably slower pace. I will briefly describe the major constructs of his theory, so that I can show the direction that research on his theory has taken between 2008 and 2012. Holland made his constructs, both his typology and his explanation of his theory, straightforward so that his theory could be tested by different scholars. First, I will describe Holland's six types of work personalities and the six types of working environments. Holland believed that individuals were not of one type, but had varying degrees of characteristics of most types. Individuals could be characterized by one type, but in most research scores on the highest three types are used to characterize a person's type.

Types and environments

Individuals of the *realistic* type enjoy using tools and machines in hobbies or work or doing construction work such as plumbing or roofing. The environment that they work in is one where they use mechanical or physical skills such as repairing or farming. An *investigative*

person enjoys intellectual challenges or puzzles, liking to solve problems that are scientific or mechanical, and reading or talking about science. The working environment may feature solving scientific problems independently in science, engineering, medicine or similar areas. *Artistic* types value creative expression that may include art, music, writing, cooking, or similar activities. They may seek out similar activities as a vocational or avocational environment.

A major theme of the *social* person is liking to teach or help others with personal or medical problems. Environments that typify social are counseling, social work, teaching, and psychiatry.

Making money is an important feature of both the *enterprising* person and the enterprising environment. Selling, persuading, or managing others is also likely to be a part of the occupations that enterprising people choose. A preference for organizing and planning their work is characteristic of the *conventional* type. Environments that they choose are likely to include office work, organizing reports, or working with numbers, such as accounting records.

Secondary constructs

In addition to the six types and environments, four secondary constructs are important in making predictions using Holland's theory. First, *congruence* refers to the relationship of the person's type to the environment. The more similar the personality is to the environment, the more congruent the relationship. For example, individuals who are artistic types tend to enjoy working in artistic environments. Using Holland's three-letter code, an ECS personality would be most congruent with an ECS environment and slightly less congruent with an ESC environment. Second, *differentiation* refers to how different types are from each other within an individual. Holland defined differentiation by subtracting the lowest score of any type from the highest score of any type on an inventory that measures his six types. Third, *consistency* refers to the similarity or dissimilarity of types. The closer the types are to each other on Holland's hexagon, the more consistent are their characteristics. Fourth, *identity* refers to how stable and how well stated are a person's career goals. Identity also refers to the stability of the working environment. Identity is different from any of the other concepts relevant to Holland's system because it does not relate directly to his typology.

Congruence

Congruence is the most important of Holland's concepts and the one that has been most widely researched, although few recent studies have examined congruence. What seems like a straightforward concept is actually quite complex. For example, Brown and Gore (1994) evaluated ten different methods of measuring congruence between personality type and employment, and Camp and Chartrand (1992) examined 13 methods. Recently, a comparison was made of the difference between congruence and incongruence in a sample of young working adults (Dik, Strife, and Hansen, 2010). The authors concluded that these are two different variables rather than a bipolar dimension. Congruence, although not a strong predictor of job satisfaction, was a better predictor than incongruence. In a study of young adults with disabilities, fewer than 50% were reported as working in jobs that matched their Holland code (Turner, Unkefer, Cichy, Peper, and Juang, 2011). In a study of college graduates,

Ishitani (2010) found that congruence between undergraduate major and occupational setting depended more on traits such as income and marital status than on personality type.

Consistency

Several studies have added information about consistency. Smart, Ethington, and Umbach (2009) examined methods of teaching used by faculty members of majors that had consistent codes and compared them to the teaching methods of those teaching majors with inconsistent Holland codes. Although there were differences depending on the academic discipline, there were differences in teaching approaches for majors with consistent and inconsistent codes. Evidence has also been found to support the ordering of the RIASEC typology and to find equivalent distances between each Holland type (Tang, 2009). Another study with Filipino high school students found a general fit with Holland's types, and gender differences similar to those reported by Holland (Primavera et al., 2010). Regarding South Asian Americans, females fit the hexagonal Holland model but males did not (Kantamneni, 2010). Using the Personal Globe Inventory rather than the Self-Directed Search, Long, Watanabe, and Tracey (2006), unlike the studies above, did find that Holland's typological model fitted the students well. Support for Holland's framework was also found in a study of 156 Greek college students (Sidiropoulou-Dimakakou, Mylonas, and Argyropoulou, 2008). Holland's typology has been studied along with personality factors and abilities to describe an overall or integrative model to understand how many factors fit together (Armstrong, Day, McVay, and Rounds, 2008; Armstrong and Rounds, 2008; Armstrong and Rounds, 2010; Tay, Su, and Rounds, 2011; Tracey, 2008). These studies show general support for Holland's model, but the intention of the studies is to include other variables along with Holland's typology.

Vocational identity

To assess vocational identity, Holland developed a brief measure called *My Vocational Situation*. Japanese high school students, who were temporarily living in the United States, increased their vocational identity scores after using the *Self-Directed Search* and tended to score high on the Investigative scale (Ohashi, 2009). Testing students aged 12 to 16 living in Switzerland, Hirschi and Läge (2008) found that being able to predict the first letter of one's Holland code was related to having high scores on the German version of the *My Vocational Situation*.

RIASEC Types

Research has also been done in relating measures of personality to Holland types. Carr (2009) used two different scales of narcissism and reported that high scores on narcissism were related to scoring high on enterprising. When examining the relationship between self-efficacy and vocational interests in high school students, self-efficacy was found to be related positively to all six Holland themes (Snyder, 2009). In terms of gender, Snyder (2009) reported that men had stronger realistic interests than did women, whereas women had stronger artistic and social interests than men. Studying middle-school adolescents, boys had greater realistic interests than girls, and girls had greater artistic and social interests than boys (Turner, Conkel, Starkey, and Landgraf, 2010). When interests were studied

between 1976 and 2004, females showed an increase in enterprising, whereas males showed a decrease in interest in realistic and investigative. In general, research on Holland's theory has recently focused less on the core concepts of congruence, consistency, and differentiation than they have in the past.

DEVELOPMENTAL MODELS OF CAREER CHOICE

This section describes three broad career development periods: childhood, adolescence, and adulthood. The work of Donald Super describes all three stages. Other investigators have focused on some, but not all life stages. In explaining career development in childhood, Super (1957) describes the sequential stages of curiosity, exploration, information, key figures, internal vs. external control, development of interest, time perspective, self-concept, and planfulness. Howard and Walsh (2010, 2011) have focused on vocational reasoning and provide a useful perspective on childhood career development. Gottfredson (2002, 2005) has studied three orientations to career development in childhood (and extending into adolescence: orientations to size and power, sex roles, and social valuation). In adolescence, Super has identified stages of career development which has been added to by the work of Howard and Walsh (2010, 2011). Additionally, research on Super's concept of vocational maturity and Vondracek's concept of vocational identity that describe the career choice process of adolescents is discussed here. Recent research on Super's stages of adult career development—exploration, establishment, maintenance, and disengagement—is described here. The work of Arnett (2004, 2011) on emerging adulthood also provides a useful perspective on the career choice process of young adults.

SUPER'S MODEL OF CHILDHOOD CAREER DEVELOPMENT

Super's (1957) model of childhood career development has received some attention from researchers and from others who have added to or modified his theory. Super's model follows child development in terms of key concepts of curiosity, exploration, information, key figures, internal vs. external control, development of interest, time perspective, self-concept, and planfulness. *Curiosity* can lead to exploration of the environment, home, school, and peer and parental relationships. Curiosity refers to the desire for knowledge or for something new or unusual. *Exploration* is the act of searching or examining. Curiosity is a need; exploration is a behavior. *Information* and the process of learning is essential to a child's development and success as an adolescent and as an adult. *Key figures* for children are parents, teachers, public figures such as athletes and television personalities, and people with whom they come in contact in their own community, such as police officers or mail carriers. *Internal control* happens as children are successful in completing tasks and projects. *External control* from parents and teachers becomes less necessary. *Interests* develop as children's fantasies of occupations are affected by information about the world. *Time perspective* means an orientation to the future rather than only the present. *Self-concept* refers to how individuals view themselves and their situation.

There is some research support for Super's model of childhood career development (Schultheiss and Stead, 2004a; Schultheiss and Stead, 2004b; Stead and Schultheiss, 2003; Stead and Schultheiss, 2010). Support for the validity of these constructs has been documented in South Africa (Stead and Schultheiss, 2010). In a sample of rural fourth grade

school children in the United States, the lowest scores on these constructs were on curiosity, information, time perspective, and key figures. Girls scored higher on curiosity than did boys (Wood and Kaszubowski, 2008). It is very difficult to study children for a long period of time due to practical matters such as families moving from one place to another. Through a series of studies, Helwig (2008), who studied a group of children from about the age of 8 to 23, reported that career choices appeared to be quite varied and based on individual interests, abilities, and experiences as Super's model would predict.

HOWARD AND WALSH'S MODEL OF CHILDREN'S VOCATIONAL REASONING

Howard and Walsh (2010, 2011), studying groups of children, have described six levels of the development of vocational reasoning of children and adults. The first three are described here and the last three are explained in the following section on adolescent career development. *Pure Association (Level 1)*: when children are asked to describe their career choices, they often make statements about a job or career. At this level, children may give attributes of a job, such as where it is done, what equipment is used, or what is worn on the job. They do not know how one gets the job; they just know people do the job. *Magical Thinking (Level 2)*: at this level, children's career choices are simple. Career choices just occur with little thought as to how they occur. *External Activities (Level 3)*: Howard and Walsh (2010, 2011) describe the sequence of participating in an event or activity and how children can see its relationship to a career choice. Children are also able to see that making a career choice does not mean that one is able to attain the career.

GOTTFREDSON'S THEORY OF CIRCUMSCRIPTION AND COMPROMISE, AND SELF-CREATION

Gottfredson (2002, 2005) describes in detail how hereditary or biological factors influence the choices that individuals make as they deal with a complex world. From these factors, individuals create themselves. Choosing a career includes the development of a cognitive map of occupations that is integrated into an individual's self-concept. Thus, people must determine which occupations are compatible with how they see themselves. However, the occupations must not only be compatible with their view of themselves, but they must be accessible or attainable. Related to the notions of compatibility and accessibility are Gottfredson's concepts of circumscription and compromise. *Circumscription* is a process in which young people eliminate alternatives that they feel will not be appropriate to them. Stage 1: orientation to size and power (3–5 years old); Stage 2: orientation to sex roles (6–8 years old); Stage 3: orientation to social valuation (9–13 years old). *Compromise* is a process in which young people give up alternatives that they may like for ones that may be more accessible to them. In these two concepts, Gottfredson acknowledges that individuals must not only make choices about occupations (circumscription) but must also deal with the influence of the outside world, which includes culture, discrimination, the job market, and competition with others. This brief description presents a simplified view of Gottfredson's theory. Gottfredson (2002, 2005) describes several predictions about career choice that are complex.

Its complexity is one reason that her theory has not generated much research. Another reason is that her theory is longitudinal and can require following up a sample of children

over a period of time. Although many earlier studies have focused on circumscription rather than compromise, two recent studies examined compromise. A longitudinal study of career compromise focusing on college students' career aspirations found that sex type was less stable for both men and women than either interests or prestige (Junk and Armstrong, 2010). Also, the investigators found that relationships between career aspirations and other variables was considerably complex. Another study also focused on career compromise in college students. The larger the career compromise that individuals made, the greater the emotional impact was on individuals, and the less frequently they reported satisfaction with work (Tsaousides and Jome, 2008). The sophistication of Gottfredson's theory and its focus on children's career choice makes it a difficult career development topic for research.

SUPER'S STAGES OF ADOLESCENT CAREER DEVELOPMENT

Donald Super (1957) described three stages of adolescent career development: the development of capacities; the development of values; and the transition to the adult exploration substage called crystallizing. The *capacity substage* occurs between the ages of 11 and 14 years, where adolescents are more able to assess accurately their own abilities than they would have been able earlier. The development of *values* takes place at different times for different values, depending on the individual. At the ages of 15 and 16 years, some adolescents are able to take their goals and values into consideration when making a career decision. During the *transition period*, reality conditions, such as not being able to get the job you want or admission to the college you prefer, start to play an important role in career choice. This period usually occurs in the last year of high school, at 17 or 18 years of age.

HOWARD AND WALSH'S LEVELS OF ADOLESCENT DEVELOPMENT

In both Level 3 (Interests), discussed above, and Level 4, children make use of sequence. They see an activity or event that may lead to a career choice. For example, they may enjoy biology, which may lead to a career in medicine. In Level 4, Internal Processes and Capacities, which starts at about the age of 11, they may become aware of an ability they have to accomplish certain tasks well, and an awareness of not having other abilities. There is also an awareness of skills needed for certain jobs. In Level 5: Interaction at about the age of 14, children are able to value aspects of work and types of work differently and see careers as varying greatly in prestige. Students at this level are recognizing that they have their own abilities or capacities, traits, and values. By Level 6: Systemic Interaction, adolescents can make complex career decisions. They are able to evaluate their interests by making discriminating observations, such as differentiating fixing airplanes from designing airplane engines.

Super's stages and Howard and Walsh's levels of adolescent career development are similar to each other. The only research directly related to Howard and Walsh's levels is the work that they did to develop their levels (Howard and Walsh, 2010, 2011). Other research on adolescent career development was not intentionally designed to test either theory, but is generally supportive of both. In a study of eighth graders, Hirschi (2010a) found that students who were more certain about their interests and had interests in different fields had developed more positive career attitudes. A study in Switzerland showed that eighth graders who placed more importance on values than those who did not place importance on values showed more positive career development (Hirschi, 2010b). In another study,

high school students who were about to graduate were influenced more by values that they associated with their future full-time work than by values associated with current part-time work (Porfeli, 2008). The evidence was stronger for intrinsic work values, such as variety at work, helping others, and interesting work, than for extrinsic work values such as high income, leisure time, and job security. This research tends to support both models of career development in a general rather than a specific way.

CAREER MATURITY AND VOCATIONAL IDENTITY

Throughout the extensive research that Super and colleagues did with adolescents, they were concerned with the readiness of individuals to make good choices. They do not assume that just because a student reaches ninth grade that he or she is ready to plan his or her future career. Not only did they see differences in career maturity among individuals, but they were also able to identify different components of career maturity.

Super developed the concept of career maturity to help assess at what point in their lives adolescents might be able to make career decisions. The *Career Development Inventory* (Thompson and Lindeman, 1981) was developed to measure this concept using five scales: Career Planning, Career Exploration, Decision Making, World-of-Work Information, and Knowledge of the Preferred Occupational Group.

Based on Erik Erikson's (1963, 1968, 1982; Halpern, 2009; Sweitzer, 2011) concept of identity, Vondracek and colleagues (Vondracek, 2003; Vondracek and Porfeli, 2003; Vondracek and Skorikov, 2007) have used Marcia's statuses of diffusion, moratorium, foreclosure, and achievement statuses rather than vocational maturity to identify four levels of vocational identity development. *Diffusion* refers to having few clear ideas of what one wants and not being concerned about making career decisions. A *moratorium* is a time, several months or longer, when one explores options while not having a direction, but wanting one. *Foreclosure* refers to making a choice, often based on family tradition, without exploring other options. *Achievement* means to know what one wants and to plan to attain a career goal.

Several recent studies support the use of these four statuses. Porfeli, Lee, Vondracek, and Weigold (2011) developed the *Vocational Identity Status Assessment* inventory based on models that include career exploration, commitment, and reconsideration. Scores on these four statuses can vary greatly by gender and in different cultures. For example, among Isixhosa-speaking South African adolescents, 75% of males were found to be in the achievement phase contrasted with 35% of females (Mdikana, Seabi, Ntshangase, and Sandlana, 2008). Also, 53% of females were classified as foreclosed in their career decision making compared to 15% of the males. The number of jobs that college students have held was predictive of career identity, as well as a sense of being effective in making career decisions (Stringer and Kerpelman, 2010).

Much research was done on the concept of career maturity in the 1960s and 1970s. Currently this concept attracts little attention. One study done in India found that adolescents from single-parent homes scored lower on vocational maturity than those from two-parent homes (Mathur, Jain, Anshu, and Saxena, 2009). In addition, adolescents from homes where one parent had died had lower vocational maturity scores than those experiencing parental divorce. One aspect of Super's concept of vocational maturity is realism. In Switzerland, a study of seventh graders showed that 82% had at least one career aspiration that was realistic (Hirschi, 2010c).

ADULT CAREER DEVELOPMENT

Little work has been done on career life stages of adults since Super's (1957) description of stages. Adult lives are very complex making it difficult to find a stage model that applies to people in general. First, I will describe Arnett's emerging adulthood stage. It is not a career development theory, but rather a broader life-span stage. I will focus on its implications for career development. Then I will describe Super's stages.

Emerging adulthood

Recently Jeffrey Arnett (Arnett, 2000; Arnett, 2004; Arnett and Brody, 2008; Arnett, 2011; Crounce and Corbin, 2010) proposed a stage that he calls emerging adulthood that encompasses roughly the ages of 18 to the late 20s and includes Super's transition stage and continues into his exploration stage. Emerging adulthood is a psychological stage that includes career development but also other issues such as love and marriage, living arrangements, and general explorations of identity development.

Arnett (2004, 2011) described five features that show how emerging adulthood differs from adolescence and young adulthood (which follows emerging adulthood): the age of identity explorations, the age of instability, the self-focused age, the age of feeling in-between, and the age of possibilities. The *age of identity* occurs when people are making crucial choices about work and love. In work, they are choosing jobs that fit with how they see themselves, given the opportunities that are available to them. This period is an *age of instability* in that young people may be changing jobs, or trying new areas of study in college or graduate school. This time of life can be seen as a *self-focused age* because individuals have few responsibilities and may be able to concentrate on career decisions and their potential effects. This period is referred to as the *age of feeling in-between* because young people are likely to feel that they are neither adolescents nor adults, but on the road to becoming adults. In addition, it is called the *age of possibilities* because young people are likely to feel that their life will get better (Arnett 2004, 2011).

In the United States and Europe emerging adults tend to seek employment that gives them satisfaction and they may move from one job to another trying to find work that fits with their interests, values, and abilities (Arnett, 2011). Arnett's theory has considerable potential for career development, but it has been examined from the point of view of general psychological development, whereas Super's theory has been applied almost entirely to career development.

Super's stages

Super's theory has four major stages, with each having several substages. The stages are exploration, establishment, maintenance, and disengagement. According to Super (1957), the exploration stage ranges from about 15 to 25 years of age. Exploration includes acquiring occupational information, choosing career alternatives, deciding on occupations, and starting to work. The establishment stage generally ranges from the age of 25 to about 45 years and is mainly involved with starting in a job that will lead toward work in an occupation that will probably be steady for many years. In the maintenance stage (about 45 to 65), individuals update their knowledge of a field and try to innovate. The disengagement stage refers to decreasing work, and planning for and then retiring from work.

Almost all research that relates to Super's adult development stages has been on retirement. It is unintentional in the sense that the research is coincidental to Super's theory and not done to support or disprove it. For example, a study of 35 Canadian executives gives four positive metaphors for retirement: exploring new horizons, searching for meaning, contributing on your own terms, and putting your feet up (Sargent, Bataille, Vough, and Lee, 2011). When retirees believed they were being forced into retirement, they were likely to show an increased use of alcohol in retirement compared to those who felt retirement was voluntary (Bacharach, Bamberger, Biron, and Horowitz-Rozen, 2008). In general, having a positive experience when leaving employment predicted positive adjustment to retirement (Donaldson, Earl, and Muratore, 2010; Wong and Earl, 2009). Also, having a high personal sense of mastery contributed to the prediction of adjustment to retirement (Donaldson et al., 2010). Recently, research has been done with lesbian, gay, bisexual, and transgendered individuals (Kimmel, Rose, and David, 2006) and adults with an intellectual disability (Cordes and Howard, 2005). Suggestions for retirees for approaching retirement are given in *Revitalizing Retirement: Reshaping your Identity, Relationships, and Purpose* (Schlossberg, 2009). Retirement continues to be an active area for both research and for self-help books.

CONSTRUCTIVIST AND NARRATIVE APPROACHES

When discussing constructivist approaches to career development, it is helpful to consider how different this approach is from others. Constructivists see individuals as creating their own views of events and relationships in their lives. Constructivist counselors attend not only to the meanings that their clients give to their own problems, but they also help clients see problems as meaningful options that are no longer helpful. Individuals are viewed from their own subjective frame of reference, and in a sense each individual can be seen as his or her own theorist. This makes it very difficult to design research studies on this approach.

Two different constructivist approaches—narrative counseling and career construction theory—have been applied to career counseling. In the narrative approach, the client is seen as an active player in a story. Cochran's (1997) seven-episode counseling method shows how clients can actively understand their own career story and apply this understanding to actively constructing the future of their careers. Career construction theory (Savickas 2002, 2005, 2011, 2012) draws from Super, Holland, and other theories to develop an integrative therapy that relies on a constructivist approach to career counseling that influences both assessment and career counseling.

Savickas' perspective on the constructivist approach is helpful in understanding this point of view. To assist the client in working with his or her story, Savickas applies an approach called *life designing* (Savickas et al., 2009), 2012) that attends to career construction through using stories across four phases: constructing, deconstructing, reconstructing, and co-constructing. *Construction* starts with small stories, called *micro-narratives*. These stories help the counselor understand how a client organizes her view of herself and her career. Listening to a micro-narrative, the counselor *deconstructs* it by discussing parts of the story that indicate self-limitations or external barriers. The counselor and client then *reconstruct* the micro-narrative into one that has positive outcomes and in which the values and strengths of the client are present. In *co-construction*, a *macro-narrative* emerges from organization of the many micro-narratives, and the client and counselor develop a tentative portrait of the client's life and career theme. As a result of *co-construction*, the client has a

new perspective on her career transition and is ready to make choices and engage in action. Constructing, deconstructing, reconstructing, and co-constructing apply both to the client's storytelling and the client's discussion of goals.

Some recent research on career development uses a constructivist viewpoint. For mothers who are re-entering the workforce, constructivist approaches can be helpful in exploring new career paths (Locke and Gibbons, 2008). Cuzzocrea (2011) studied youth in England and Italy. In England, young people were worried about working, but saw themselves as workers, whereas in Italy young people saw themselves as uncommitted and unsure about career decisions for a longer time than youth in England. Studying Canadian youth, Young (2009) described the Canadian culture as a field of action or activity that is changing and complex, an approach that is consistent with constructivism. In a study of ten mother-daughter pairs and eight mothers-son pairs, who were working towards a successful future, mother-daughter pairs were usually more active in experiencing these projects and had less conflict than mother-son pairs (Domene, Socholotiuk, and Young, 2011). Often constructivist research is done using interviews with individuals and small groups so that the unique stories of individuals can be assessed.

RELATIONAL APPROACHES TO CAREER DEVELOPMENT

Relationships with others affects almost everything that we do in our lives including our career development. There have been several theories that focus on relationships as they impact career choices and work adjustment. I will discuss four here: attachment theory, parent-child interactions, family systems therapy, and Blustein's relational theory.

Attachment theory

Relationships with parents are the focus of attachment theory, as it studies how attachments (primarily parental) play a role in shaping the life of an individual (Obegi and Berant, 2009). Attachment theory grew out of object relations theory, a development of psychoanalysis (Sharf, 2012), which emphasizes the relationship the infant has with others, particularly the mother. To study attachment, Ainsworth (Ainsworth, Blehar, Waters, and Wall, 1978) used the "strange situation" method to observe how children were attached to their mothers, observing how children behave when the mother comes and goes, when a stranger enters, and when the child is alone. From these observations, three types of responding were found: (a) the *secure* pattern, in which the infant responds to the caregiver easily and is able to continue exploratory behavior; (b) the *anxious-ambivalent* pattern, where a child becomes anxious in response to an inconsistent caregiver; and (c) the *avoidant pattern* where the infant ignores or rejects the care that an adult provides.

Reviewing several studies, Wright and Perrone (2008) showed how attachment theory can be useful in understanding the role of the relationship in career development. When social support was weak, the impact of career maturity was greater than when social support was strong (Gallo, 2009). In another study, the stronger adolescents felt attachment towards parents, the easier it was for them to make career choices (Vignoli, 2009). However, Lease and Dahlbeck (2009) found that attachment style predicted women's sense of self-efficacy better than men's. Downing and Nauta (2010) reported that college students with high attachment anxiety were more likely to experience personal-emotional career indecision

than students with low attachment anxiety. This may be due to interpersonal closeness and not feeling secure enough to take on risks. Similarly, studying students three times during their senior year of high school, Germeijs and Verschueren (2009) found that students who believed that they had more security with their mother than with their father did more exploration of their selves and their career choices than did other students. Attachment continues to be an area of research as it affects college student's career choice.

Parent-child career interactions

Richard Young and colleagues have observed the influence of parents on the career development of young people (Collin and Guichard, 2011; Valach and Young, 2009; Young, Marshall, Valach et al., 2011; Young and Valach, 2009; Young, Valach, and Marshall, 2007). They refer to their research which studies conversations between parents and their children as an Action Project Method (Young, Valach, and Domene, 2005). Choosing a career has also been studied along with other important issues that emerge in the relationship with parents, especially mothers (Young et al., 2008). In one study, parental, peer, and career issues were seen as identity projects with adolescents talking to parents about how career choices and work-related career concerns affect them (Young, Marshall, Foulkes et al., 2011). The direct observation of parent-child discussions sets this research apart from that of others.

Family systems therapy

Only a few researchers in the area of family therapy have studied career development (Chope, 2006). Of particular interest to researchers on family processes has been the enmeshed and the disengaged family (Goldenberg and Goldenberg, 2013). An enmeshed family is one in which members of the family do not have specific roles for dealing with each other. In a disengaged family, one of the parents assumes an authoritarian role and makes decisions for others in the family. A few recent studies have examined family relationships as they impact career development. For example, in Korea, family adaptability (lack of authoritarianism) predicted the career maturity of tenth graders (Lee and Yi, 2010). For middle school students, parental support for career questions was more predictive of career development than was occupational information (Keller and Whiston, 2008). Genograms are often used in family therapy. Kakiuchi and Weeks (2009) suggest using the Occupational Transmission genogram that includes two sets of questions, one set about relationships involving careers and jobs and another set of questions about gender and race.

Blusteins' relational theory of working

Blustein's (2011) relational theory of working has been recently developed based on research that he and others have done. In his description of his theory, Blustein lists seven relational propositions that are supported by research on topics explaining the importance of relationships. All emphasize the importance of relationships with others, while working or outside of work. This work is directly related to writings on the psychology of working (Blustein, 2006, 2011; Richardson, 2012), which is concerned about ways of helping individuals (usually poor or unemployed) who may not have options to choose work based on their interests, abilities, or values. Richardson (2012) separates work into two categories: market work that

is done for pay; and personal care work that is done to care for family, friends, or others. She sees personal care work as devalued in the United States and recommends ways of valuing it more. The category of personal care work reflects a feminist and relational point of view (Jordan, 2010). Jordan and other relational writers (Schultheiss, 2007, 2009) explain the importance of relating to others and providing care for others. This can be contrasted with the marketplace, which has as its purpose profit making and financial success.

Blustein's (2011) propositions emphasize the value of relationships regardless of whether an individual likes or dislikes their work. He presents examples of research that connect work to relationships. For example, when individuals are laid off or fired, this experience can make a difference in the relationships that they have with family members, co-workers, and peers (Paul and Moser, 2009). Another example is bullying. Bullying takes place not only in school, but in the workplace and can have a significant negative effect on the relationships that individuals have (Lee and Brotheridge, 2006).

Blustein (2011) believes that our previous relationships may have an influence on the way we relate to others in working situations. Influenced by object relations psychoanalysis, Blustein believes the way that we interact at work can be a reflection (in part) of how we dealt with others (particularly parents) when we were children, adolescents, or more recently. When we face career crises, such as being laid off or being transferred, our previous ways of relating may influence how we relate to past and present co-workers, employers, and family.

A SPIRITUAL PERSPECTIVE

A spiritual perspective provides a different view of career development than other theories discussed here. In their book, *Soul Work*, Bloch and Richmond (2007) describe seven themes that individuals can use to understand their lives and to make career decisions as well as deal with work difficulties. These seven themes include change, balance, energy, community, harmony, unity, and calling. Being open to *change* can give individuals opportunities that they previously had not considered for both selecting an occupation and adjusting to work. Individuals may seek a *balance* among work and play, as well as in relationships with others. Individuals apply *energy* to their work as well as generate energy in their work. There are three types of *communities* in which individuals are likely to participate: communities of companionship, communities of culture, and the cosmic community. *Unity* of career refers to feeling a sense of flow or being totally involved in one's work: that is, to be a part of, not apart from, the work. *Harmony* comes from a sense of appreciation and understanding of the work you wish to do or are doing now so that it meets your interests, values, and abilities. *Calling* implies a sense that you are doing the work you were meant to do (Hall and Chandler, 2005).

Of all of these seven themes, only calling has received research attention, and it has been an active area of research. Dik and Duffy (2009) investigated different definitions of calling. A study of 242 college students showed that many viewed calling as referring to finding meaning in work, rather than viewing it as based on religious views (Steger, Pickering, Shin, and Dik, 2010). Another study of 295 college students showed that the students saw calling as coming from a guiding force, fitting the person in a unique way, giving a sense of well-being, being involved in helping others, and affecting other aspects of life as well as work (Hunter, Dik, and Banning, 2010). For college freshman, having a calling was shown to be related to being decided, being comfortable about career choice, and being clear about choice-related

issues (Duffy and Sedlacek, 2007). Among a sample of college students, those who were more likely to see career as a calling (44% of the sample) were also moderately more likely to find meaning in their lives (Duffy and Sedlacek, 2010). The researchers found that having a calling was minimally related to satisfaction in their lives. In another study, having a calling was associated with having career-related goals, being motivated to follow through on a career choice, and making career plans, which then was related to satisfaction with coursework (Duffy, Allan, and Dik, 2011). In a sample of German college students, Hirschi (2011) found that calling involved examining one's plans and having confidence in one's career choices. Contrasting students who wished to pursue a career to serve others with other students, those wishing to serve others were more optimistic about their future than those choosing other careers (Duffy and Raque-Bogdan, 2010). Dik and Steger (2008) developed a two-session career development workshop that included exercises and discussion of topics related to following a calling, and compared it to a two-session workshop using trait-and-factor theory, as well as to a control group. Both groups were found to be superior to the control group with few differences between the two workshops. Using a sample of 370 employees at a university, Duffy, Dik, and Steger (2011) found that individuals who saw their work as a calling were more likely than those who did not see their work as a calling to have commitment to both their job and the university they worked for. Bryan Dik and Ryan Duffy and their colleagues have made significant efforts to advance research on viewing career as a calling.

THE CHAOS THEORY OF CAREERS

A recent addition to career theories, chaos theory has some resemblance to the spiritual theory of careers (Bloch, 2005) and a constructivist approach. Chaos theory focuses on the unpredictable factors in life and the lack of control individuals have in life (Bright, Pryor, Chan, and Rijanto, 2009; Pryor, Amundson, and Bright, 2008; Pryor and Bright, 2009). Chaos theory is based on principles derived from physics. Using this model, Pryor and Bright (2011) have developed exercises and suggestions for using chaos theory in counseling. A study of workers in Spain, who kept work motivation diaries, showed how chaotic dynamics influence their daily work. Researchers observed the impact of unrelated chance events on individuals, examining the impact of negative outcome chance events on individuals (Bussolari and Goodell, 2009). Chaos theory provides a different view of career development and research on it is in its early stages.

KRUMBOLTZ'S HAPPENSTANCE LEARNING THEORY

John Krumboltz and his colleagues developed a theory of how individuals make career decisions that emphasizes the importance of behaviors and cognitions in making career decisions (Krumboltz, 1994b; Mitchell and Krumboltz, 1996; Krumboltz, 2009). His approach is to teach clients how to make career decisions and to help them use these techniques to make career choices and to deal with unexpected events. Cognitive and behavioral techniques and skills can be used by the client and the counselor in dealing with many career concerns when encountering unplanned situations.

Krumboltz (Mitchell, Levin, and Krumboltz, 1999; Krumboltz and Henderson, 2002; Krumboltz and Levin, 2004, Krumboltz, 2009) recognizes the importance of chance events in people's lives, providing systematic suggestions for helping clients with career issues

and dealing with chance events. Krumboltz (2009) has recently renamed this approach Happenstance Learning Theory. There are four basic steps (Mitchell, Levin, and Krumboltz, 1999). *Step 1*: normalize planned happenstance in the client's history. *Step 2*: assist clients to transform curiosity into opportunities for learning and exploration. *Step 3*: teach clients to produce desirable chance events. *Step 4*: teach clients to overcome blocks to action. Krumboltz (1988) also developed the *Career Beliefs Inventory*, which contains 25 scales that measure a wide variety of beliefs, relating to such issues as beliefs about jobs, self-improvement, and learning to overcome difficulties. Although there has been some research on the *Career Beliefs Inventory* (Krumboltz, 1994a), there has been almost no research on Krumboltz's theory since the 1960s. However, Krumboltz has continued to make revisions to his theory and it remains popular with career counselors.

SOCIAL COGNITIVE CAREER THEORY

Social cognitive career theory (Lent, Brown, and Hackett, 1994, 2000) has generated about as much research in the last four years as all of the other career development theories that are discussed in this chapter combined. Social cognitive career theory (SCCT) explains three important cognitive concepts that regulate the career decision-making process and are essential to social cognitive career theory: self-efficacy, outcome expectations, and personal goals. Other factors outside the individual (contextual factors) may present barriers to career choices or provide support for them. SCCT has four different models: career choice; development of interests; predicting educational and occupational performance; and predicting work and life satisfaction. I will describe each of these models and recent research on each of them.

The key concept is self-efficacy. Bandura (1986) describes *self-efficacy* as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). Career self-efficacy can be described as the way individuals view their abilities and capacities that in turn affect their academic, career, and similar choices. *Outcome expectations* are estimates individuals make of the probability of an outcome. Outcome expectations can be defined by this question: "If I try doing this, what will happen?" (Lent, 2005). Setting *goals* help individuals to organize their behavior and to guide their actions over various periods, as in this question: "How much and how well do I want to do this?" (Lent, 2005). Self-efficacy, outcome expectations, and goals are at the core of SCCT.

Self-efficacy, outcome expectations, and goals can be seen in the context of *background contextual factors* that occur as individuals learn about and interact with their own culture and learn gender role expectations. These factors also become a part of a person as people learn social and academic skills. In contrast, *contextual influences proximal to choice behavior* refer to factors outside of the individual that occur at particular academic and career choice points.

In addition to personal factors such as interests, abilities, and values, barriers (such as limited financing) and support (such as encouragement from parents) also are important career choice considerations (Lent, Brown, Talleyrand, McPartland, Davis, Chopra, Alexander, Suthakaran, and Chai, 2002).

Research on support and barriers further explains their role in SCCT. Family and peer support, financial background, and the outlook of the job market were common types of

support in a sample of college students (Dahling and Thompson, 2010). Social supports and barriers also predicted self-efficacy in a study of racial ethnic minority and white engineers (Cardenas, 2010). In a study of tenth through twelfth grade students, environmental supports such as career exploration and emotional support were positively related to career self-efficacy and to outcome expectations (Conkel Ziebell, 2011). Studying support (including parental support and number of career sessions), student and parent ratings of support were related to career self-efficacy and career decidedness (measured later). These were associated with persistence as measured by reduced turnover in a program (measured at a third time) (Restubog, Florentino, and Garcia, 2010). High school boys and girls in Taiwan were compared, with girls believing that having inadequate work experience was a barrier more frequently than did boys. In pursuing non-traditional careers, boys saw more barriers than girls (Tien, Wang, and Liu, 2009). In a study of pre-medical students in college, barriers did appear to have an effect on setting and following goals (Oetting, 2009). This research is useful in understanding supports and barriers as they affect SCCT models.

THE SOCIAL COGNITIVE MODEL OF THE DEVELOPMENT OF CAREER CHOICE

In this section, I will describe support for the SCCT model of career choice. In the sections that follow, I will describe support for the models of interest development, academic and occupational performance, and work and life satisfaction (Lent, 2005; Lent, Brown, and Hackett, 1994, 2000, 2002). The social cognitive model of career choice is quite complex, involving interactions among self-efficacy, outcome expectations, goals, choice, outcome, and contextual factors. Briefly put, the model states that learning experiences affect self-efficacy and outcome, which affect interests, that in turn affect choice goals that affect choice actions, which in turn affect performance and attainments. All are affected by contextual factors

The social cognitive model of career choice has been the subject of considerable research. Most research on this model examines interests using the six Holland types. In a meta-analysis of 40 studies, there was evidence that supports and barriers predicted performance through self efficacy and outcome expectations rather than through goals and actions (Sheu et al., 2010). Studying high school students in the U.S., the social cognitive model of career choice was found to help to increase self-efficacy and raise students' sense of hope in their future (Medina, 2010). In a study of Australian students aged 14 to 15, the social cognitive model of career choice was predictive of selection of school subjects and selection of academic tracks (Patrick, Care, and Ainley, 2011). Studying tenth to twelfth grade students in Australia, Rogers and Creed (2011) found general support for the model. Holland types tended to vary in their prestige. By relating the Holland types to the social cognitive model of career choice, the complexities of the model can be explained (Thompson and Dahling, 2011). Examining the prestige level of college students, Metheny (2010) found that it was a significant predictor of career decision-making self-efficacy. Support for the model has also been found with students with learning disabilities (McAllister, 2009). These studies are examples of recent research that is supportive of the social cognitive model of career choice.

SOCIAL COGNITIVE MODEL OF THE DEVELOPMENT OF INTERESTS

The social cognitive career development model of interest is similar to the model of career choice (Lent, 2005). The major difference is the attention to interest rather than career choice. SCCT views interests as developing as individuals see themselves as effective in a variety of activities and events. Individuals then have positive outcome expectations in continuing the activities. In contrast, disinterest occurs when individuals question their ability and do not expect positive outcomes. Interests emerge along with the development of self-efficacy and outcome expectations. The goals that individuals develop increase the likelihood of trying out and working in an activity, which then serves to develop self-efficacy and increased outcome expectations. In SCCT, interests are seen as being subject to change depending on the availability of certain activities and appropriate learning experiences. These experiences help individuals to increase their self-efficacy and positive expectations. In social cognitive career theory, changes in interest are affected by changes in self-efficacy beliefs and outcome expectations.

Research on the SCCT model of interests can be illustrated by two studies. Interests across Holland types in college students was the subject of a study in Portugal. Support for the model was found, as self-efficacy and outcome expectations both predicted interests (Lent et al., 2011). In the United States, the social cognitive model of interests was applied to low socioeconomic youth who were at a juvenile detention center (Herrmann, 2011). Both self-efficacy and outcome expectations were predictive of the degree of interests. Outcome expectations were a stronger predictor of interests for this population, whereas for other adolescents, self-efficacy was found to be a stronger predictor of interests. Such studies provide support for this model.

SOCIAL COGNITIVE MODEL OF PERFORMANCE

One's ability to perform, both academically and on a job, can be predicted by the social cognitive model of performance. SCCT recognizes both the importance of the development of interest and the ability to perform, both at school and at work. In the model, individuals' ability in schoolwork or at their job affects self-efficacy and outcome expectations. These then affect the educational or occupational goals that individuals have, which in turn affects the quality of their academic or job performance. Additionally, one's performance will affect one's ability, which again will affect one's self-efficacy and outcome expectations. A variety of environmental features can affect the learning experiences of individuals, which in turn influence their performance. Examples of these environmental features include the quality of the education they receive, the helpfulness of instructors, support from parents, and support from friends, teachers, and others.

Using the results of eight previous meta-analyses, support was found for the social cognitive theory of work performance (Brown, Lent, Telander, and Tramayne, 2011). By adding the variable of conscientiousness to the model of work performance, the model worked well. A re-analysis of a previous meta-analysis provided support for the SCCT model of academic performance and persistence (Brown et al., 2008). When general cognitive ability was used rather than high school grade point average as the ability variable, the model worked better in predicting academic performance and persistence. A recent study predicted the performance of students studying to be elementary school teachers, who were taking a

course on using technology in teaching (Perkmen and Pamuk, 2011). When freshmen were omitted from the analysis, support was found for the social cognitive theory of performance. These studies support previous work on the social cognitive theory of work and academic performance.

SOCIAL COGNITIVE MODEL OF WORK AND LIFE SATISFACTION

The most recent model within SCCT examines predictions about work and life satisfaction (Lent, 2005; Lent and Brown, 2008; Lent et al., 2005). As Lent and Brown (2008) and Lent et al. (2005) show, many studies have found a moderate relationship between satisfaction with one's work and satisfaction in life. The social cognitive theory of work and life satisfaction has been studied from several points of view including job satisfaction and a sense of well-being.

In describing subjective well-being, Lent and Brown (2008) view job satisfaction as one aspect of subjective well-being. Using the social cognitive theory of work and life satisfaction to study teachers in North Carolina, teachers who were most satisfied with their job described the work environment as supportive, and felt that they were able to carry out their teaching functions (Duffy and Lent, 2009). In a study of teachers in Italy, job satisfaction, positive emotional affect, and progress in achieving personal goals were able to predict life satisfaction (Lent et al., 2011). Studying youth who went from high school into sales or service work, Kelly (2011) reported some support for the SCCT theory of work and life satisfaction. Outcome expectations, career decision self-efficacy, and life satisfaction were correlated with job satisfaction. These studies help to broaden the findings of SCCT so that it includes not only predictions about career choices and interests but also satisfaction with work and with life.

RESEARCH ON GENDER AND CULTURAL ISSUES

A considerable amount of research has been done in the last four years that examines the four SCCT models as they relate to culture and gender. Of particular interest is the role of supports and barriers for men and women from different cultures. A number of studies have been concerned with career barriers that women encounter. Studying college students, Metz, Fouad, and Ihle-Helledy (2009) reported that perceived career barriers as well as career decision-making self-efficacy may be related to the difference between the careers students wish to enter and the occupations they actually expect to enter. Examining college athletes' experiences, male student athletes involved in social activities had a stronger view of their career situation as a result of participation in social activities (Cox, Sadberry, McGuire, and McBride, 2009). However, female college athletes' involvement in social activities tended to lead to the perception of career barriers. In a study of high school students in Taiwan, girls found more barriers to their career choice than did men (Tien et al., 2009). In developing a *Careers Barriers Inventory* for Chinese college students, investigators found that women experienced more gender discrimination and responsibility within the family as barriers than did men (Bai, Hou, and Li, 2010). In a study of Asian American social workers, first generation immigrants were more likely to perceive career barriers, followed by second generation immigrants, and third or more generation immigrants perceived the fewest career barriers (Lee, 2009). Studying ninth grade students in Portugal, Cardoso and Marques (2008) found that girls perceived more barriers than boys did, and that African ethnic

girls indicated more barriers than other girls did. Also studying Portuguese ninth graders, anticipating career barriers was related to less career planning in girls with low self-efficacy (Cardoso and Moreira, 2009). In the United States, women tended to see financial issues as barriers to career goals. In contrast, men identified time management issues as barriers (Perrone, Sedlacek, and Alexander, 2001). Coogan and Chen (2007) suggested ways that counselors could help women develop skills to overcome barriers such as early gender-role orientation, family responsibilities, and discrimination in the workplace. Using the SCCT model, Ali and Saunders (2009) suggested that lower socioeconomic rural Appalachian students would benefit from assistance to help with barriers to increase their career self-efficacy and outcome expectations.

The SCCT model has also been used to predict interests and self-efficacy in several countries. In China, SCCT was used to show that career management activities and self-efficacy predicted performance of Chinese managers (Shanchuan and Wenxian, 2009). For Chinese farmers, the SCCT model predicted self-efficacy, interests, and career choice (Zhao and Zheng, 2009). In Spain, the SCCT model was used to predict undergraduate students' interest in statistics and their interest in pursuing courses and occupations where statistics is applied (Blanco, 2011). These studies are examples of research on variables such as self-efficacy that are key concepts in SCCT as examined in different countries.

Two groups that have been frequently studied are African Americans and Latina/Latinos. In a sample of 128 Latino/a ninth graders, ethnic identity was directly related to career decision-making self-efficacy (Gushue, 2006). Flores and O'Brien (2002) studied the applicability of SCCT to Mexican American women who were seniors in high school. Self-efficacy expectations regarding nontraditional careers were predicted by how well the women felt they were a part of American culture. Feminist attitudes were a factor in predicting the students' career aspirations. Anglo orientation and Mexican orientation in Mexican American college students was studied in college students in the United States. The SCCT model predicted self-efficacy for all Holland types, although there were some gender and other differences in the fit of the models (Flores, Robitschek, Celebi, Andersen, and Hoang, 2010). For non White college students majoring in science and engineering, the SCCT model fitted well, showing significant relationships between outcome expectations and interests and between outcome expectations and goals. Evidence showed that for 109 African American and Latina ninth grade girls, the better able the girls were in integrating their views of their own ethnicity and egalitarian gender roles as a part of their self-understanding, the better able they were to deal with career decision making (Gushue and Whitson, 2006). Other-group orientation was positively related to self-efficacy (Byars-Winston, Estrada, Howard, Davis, and Zalapa, 2010). When African American middle school adolescents were studied, views of racism were negatively associated with math efficacy and outcome expectations (Alliman-Brissett and Turner, 2010). Studies of the social cognitive career theory are likely to continue to include cultural or racial variables in the future.

CONCLUSION

This chapter offers a snapshot of a very large effort to help understand how individuals choose careers and adjust to issues at work. Career development theory provides an organized way to present research so that counselors can use these ideas in helping clients, and researchers can contribute to a theory to provide new information about it. Research studies that are

intentional contribute directly to concepts and propositions of a theory. Research that may not be directly intended to relate to a theory may also provide useful information in the development of a theory. Career development theories have been faced with the difficulty of when a theorist is no longer able or wanting to contribute to a theory. This remains a perplexing problem. There are many career development theories that I have described, each providing a different perspective on the career choice and adjustment process.

The variety of approaches to career development and working allows both researchers and career counselors many productive points of view. Although early approaches to career development examined career choice issues as they present problems for individuals in the present (trait-and-factor theory and the similar approaches of work adjustment theory and Holland's theory of types), they are receiving fewer research efforts than most theories due to lack of leadership or organization. Super's developmental model of career choice has attracted little research recently, but other models such as Howard and Walsh's model of children's vocational reasoning, Vondracek's work on vocational identity, and Arnett's work on emerging adulthood have attracted interest from researchers. Also of recent interest are constructivist and narrative approaches that include methods developed by Cochran as well as Savickas to help clients deal with career choice issues. Relational approaches to career development, including attachment theory, parent-child career interactions, family systems therapy, and Blustein's relational theory of working, are relatively new and are attracting some research and suggestions for counseling. Research on vocation as a calling has contributed to interest in the spiritual perspective and there is some work on the chaos theory of careers. However, the most work has been on the four models of social cognitive career theory and on concepts such as self-efficacy and barriers and supports as they relate to career choice. This array of career development theory presents many excellent opportunities for those wanting to add to research on the crucial topic of choosing occupations and encountering issues at work.

REFERENCES

- Ainsworth, M. D., Blehar, M. C., Waters, E., and Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Ali, S. R. and Saunders, J. L. (2006). College expectations of rural Appalachian youth: An exploration of social cognitive career theory factors. *The Career Development Quarterly*, 55(1), 38–51.
- (2009). The career aspirations of rural Appalachian high school students. *Journal of Career Assessment*, 17(2), 172–88.
- Alliman-Brissett, A. E. and Turner, S. L. (2010). Racism, parent support, and math-based career interests, efficacy, and outcome expectations among African American adolescents. *Journal of Black Psychology*, 36(2), 197–225.
- Andersen, P. and Vandehey, M. (2012). *Career counseling and development in a global economy*. Belmont, CA: Brooks/Cole, Cengage Learning.
- Armstrong, P. I., Day, S. X., McVay, J. P., and Rounds, J. B. (2008). Holland's RIASEC model as an integrative framework for individual differences. *Journal of Counseling Psychology*, 35(1), 1–18.
- Armstrong, P. I. and Rounds, J. B. (2008). Linking leisure interests to the RIASEC world of work map. *Journal of Career Development*, 35(1), 5–22.
- (2010). Integrating individual differences in career assessment: The Atlas Model of Individual Differences and the Strong Ring. *The Career Development Quarterly*, 59(2), 143–153.
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469–80.
- (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. New York: Oxford University Press.
- (2011). Emerging adulthood(s): The cultural psychology of a new life stage. In L. A. Jensen (ed.), *Building cultural and developmental approaches in psychology: New syntheses in theory, research, and policy* (pp. 255–75). New York: Oxford University Press.
- Arnett, J. J. and Brody, G. H. (2008). A fraught passage: The identity challenges of African American emerging adults. *Human Development*, 51(5–6), 291–3.

- Bacharach, S., Bamberger, P., Biron, M., and Horowitz-Rozen, M. (2008). Perceived agency in retirement and retiree drinking behavior: Job satisfaction as a moderator. *Journal of Vocational Behavior*, 73(3), 376–86.
- Bai, R., Hou, Z., and Li, W. (2010). Development of career barriers inventory of Chinese university students. *Chinese Journal of Clinical Psychology*, 18(3), 297–300.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Blanco, Á. (2011). Applying social cognitive career theory to predict interests and choice goals in statistics among Spanish psychology students. *Journal of Vocational Behavior*, 78(1), 49–58.
- Bloch, D. P. (2005). Complexity, chaos, and nonlinear dynamics: A new perspective on career development theory. *Career Development Quarterly*, 53, 194–207.
- Bloch, D. P. and Richmond, L. J. (2007). *Soul work: Finding the work you love, loving the work you have* (rev edn). Maleny, Australia: eContent Mangement.
- Blustein, D. L. (2006) *The psychology of working: A new perspective for career development, counseling, and public policy*. Mahwah, NJ: Erlbaum.
- (2011). A relational theory of working. *Journal of Vocational Behavior*, 79(1), 1–17.
- Bright, J. E. H., Pryor, R. G. L., Chan, E. W. M., and Rijanto, J. (2009). Chance events in career development: Influence, control and multiplicity. *Journal of Vocational Behavior*, 75(1), 14–25.
- Brown, S. D. and Gore, R. A., Jr. (1994). An evaluation of interest congruence indices: Distribution, characteristics, and measurement properties. *Journal of Vocational Behavior*, 45, 310–27.
- Brown, S. D., Lent, R. W., Telander, K., and Tramayne, S. (2011). Social cognitive career theory, conscientiousness, and work performance: A meta-analytic path analysis. *Journal of Vocational Behavior*, 79, 81–90. doi: 10.1016/j.jvb.2010.11.009.
- Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., and Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and persistence: A meta-analytic path analysis. *Journal of Vocational Behavior*, 72(3), 298–308.
- Bubany, S. T. and Hansen, J. C. (2011). Birth cohort change in the vocational interests of female and male college students. *Journal of Vocational Behavior*, 78(1), 59–67.
- Bussolari, C. J. and Goodell, J. A. (2009). Chaos theory as a model for life transitions counseling: Nonlinear dynamics and life's changes. *Journal of Counseling and Development*, 87(1), 98–107.
- Byars-Winston, A. M., Estrada, Y., Howard, C., Davis, D., and Zalapa, J. (2010). Influence of social cognitive and ethnic variables on academic goals of underrepresented students in science and engineering: A multiple-groups analysis. *Journal of Counseling Psychology*, 57(2), 205–18.
- Camp, C. C. and Chartrand, J. M. (1992). A comparison and evaluation of interest congruence indices. *Journal of Vocational Behavior*, 41, 162–82.
- Cardenas, C. B. (2010). Relation of contextual supports and barriers to the choice goals of engineering majors: A multigroup analysis. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 71(3-A) (2010-99170-477; AAI3400346).
- Cardoso, P. and Marques, J. F. (2008). Perception of career barriers: The importance of gender and ethnic variables. *International Journal for Educational and Vocational Guidance*, 8(1), 49–61.
- Cardoso, P. and Moreira, J. M. (2009). Self-efficacy beliefs and the relation between career planning and perception of barriers. *International Journal for Educational and Vocational Guidance*, 9(3), 177–88.
- Carr, D. L. (2009). Relationships among overt and covert narcissism and vocational interests with respect to gender. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(4-B). (2009-99200-058; AAI3353617).
- Chope, R. C. (2006). *Family matters: The influence of the family in career decision making*. Austin, TX: Pro-ED.
- (2011). Reconsidering interests: The next big idea in career counseling theory research and practice. *Journal of Career Assessment*, 19(3), 343–52.
- Cochran, L. (1997). *Career counseling: A narrative approach*. Newbury Park, CA: Sage Publications.
- Collin, A. and Guichard, J. (2011). Constructing self in career theory and counseling interventions. In P. J. Hartung, L. M. Subich, P. J. Hartung, and L. M. Subich (Eds.), *Developing self in work and career: Concepts, cases, and contexts* (pp. 89–106). Washington, DC: American Psychological Association.
- Conkel Ziebell, J. L. (2011). Promoting viable career choice goals through career decision-making self-efficacy and career maturity in inner-city high school students: A test of social cognitive career theory. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 71(10-A) (2011-99070-218; AAI3422537).
- Coogan, P. A. and Chen, C. P. (2007). Career development and counselling for women: Connecting theories to practice. *Counselling Psychology Quarterly*, 20(2), 191–204.
- Cordes, T. L. and Howard, R. W. (2005). Concepts of work, leisure and retirement in adults with an intellectual disability. *Education and Training in Developmental Disabilities*, 40(2), 99–108.
- Cox, R. H., Sadberry, S., McGuire, R. T., and McBride, A. (2009). Predicting student athlete career situation awareness from college experiences. *Journal of Clinical Sport Psychology*, 3(2), 156–81.
- Coyle, T., Snyder, A., Pillow, D., and Kochunov, P. (2011). SAT predicts GPA better for high ability subjects: Implications for Spearman's law of diminishing returns. *Personality and Individual Differences*, 50(4), 470–4.

- Cronce, J. M. and Corbin, W. R. (2010). College and career. In J. E. Grant, M. N. Potenza, J. E. Grant, and M. N. Potenza (eds.), *Young adult mental health* (pp. 80–95). New York: Oxford University Press.
- Cuzzocrea, V. (2011). Squeezing or blurring: Young adulthood in the career strategies of professionals based in Italy and England. *Journal of Youth Studies*, 14(6), 657–4.
- Dahling, J. J. and Thompson, M. N. (2010). Contextual supports and barriers to academic choices: A policy-capturing analysis. *Journal of Vocational Behavior*, 77(3), 374–82.
- Dawis, R. V., England, G. W., and Lofquist, L. H. (1964). A theory of work adjustment. *Minnesota Studies in Vocational Rehabilitation*, 15, 1–27.
- Dawis, R. V. and Lofquist, L. H. (1984). *A psychological theory of work adjustment*. Minneapolis, MN: University of Minnesota Press.
- Diemer, M. A., Wang, Q., and Smith, A. V. (2010). Vocational interests and prospective college majors among youth of color in poverty. *Journal of Career Assessment*, 18(1), 97–110.
- Dik, B. J. and Duffy, R. D. (2009). Calling and vocation at work: Definitions and prospects for research and practice. *The Counseling Psychologist*, 37(3), 424–50.
- Dik, B. J. and Steger, M. F. (2008). Randomized trial of a calling-infused career workshop incorporating counselor self-disclosure. *Journal of Vocational Behavior*, 73(2), 203–211. doi:10.1016/j.jvb.2008.04.001.
- Dik, B. J., Strife, S. R., and Hansen, J. C. (2010). The flip side of Holland type congruence: Incongruence and job satisfaction. *Career Development Quarterly*, 58, 352–8.
- Domene, J. F., Socholotiu, K. D., and Young, R. A. (2011). The early stages of the transition to adulthood: Similarities and differences between mother–daughter and mother–son dyads. *Qualitative Research in Psychology*, 8(3), 273–91.
- Donaldson, T., Earl, J. K., and Muratore, A. M. (2010). Extending the integrated model of retirement adjustment: Incorporating mastery and retirement planning. *Journal of Vocational Behavior*, 77(2), 279–89.
- Downing, H. M. and Nauta, M. M. (2010). Separation-individuation, exploration, and identity diffusion as mediators of the relationship between attachment and career indecision. *Journal of Career Development*, 36(3), 207–27.
- Duffy, R. D., Allan, B. A., and Dik, B. J. (2011). The presence of a calling and academic satisfaction: Examining potential mediators. *Journal of Vocational Behavior*, 79(1), 74–80.
- Duffy, R. D., Dik, B. J., and Steger, M. F. (2011). Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior*, 78(2), 210–18.
- Duffy, R. D. and Lent, R. W. (2009). Test of a social cognitive model of work satisfaction in teachers. *Journal of Vocational Behavior*, 75(2), 212–223.
- Duffy, R. D., Manuel, R. S., Borges, N. J., and Bott, E. M. (2011). Calling, vocational development, and well being: A longitudinal study of medical students. *Journal of Vocational Behavior*, 79(2), 361–366.
- Duffy, R. D. and Raque-Bogdan, T. L. (2010). The motivation to serve others: Exploring relations to career development. *Journal of Career Assessment*, 18(3), 250–265.
- Duffy, R. D. and Sedlacek, W. E. (2007). The presence of and search for a calling: Connections to career development. *Journal of Vocational Behavior*, 70(3), 590–601.
- (2010). The salience of a career calling among college students: Exploring group differences and links to religiosity, life meaning, and life satisfaction. *The Career Development Quarterly*, 59(1), 27–41.
- Erikson, E. H. (1963). *Childhood and society* (2nd edn). New York: Norton.
- (1968). *Identity: Youth and crisis*. New York: W. W. Norton.
- (1982). *The life cycle completed*. New York: W. W. Norton.
- Farro, S. A. (2010). Achievements and challenges of undergraduates in science, technology, engineering, and mathematics fields in the Ronald E. McNair program. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(11-B) (2010-99100-135; AAI3385152).
- Flores, L. Y. and O'Brien, K. M. (2002). The career development of Mexican American adolescent women: A test of social cognitive career theory. *Journal of Counseling Psychology*, 49, 14–27.
- Flores, L. Y., Robitschek, C., Celebi, E., Andersen, C., and Hoang, U. (2010). Social cognitive influences on Mexican Americans' career choices across Holland's themes. *Journal of Vocational Behavior*, 76(2), 198–210.
- Germeijs, V. and Verschueren, K. (2009). Adolescents' career decision-making process: Related to quality of attachment to parents? *Journal of Research on Adolescence*, 19(3), 459–83.
- Goldenberg, H. and Goldenberg, I. (2013). *Family therapy: An overview* (8th ed.). Belmont, CA: Brooks/Cole, Cengage Learning.
- Gottfredson, L. S. (2002). Gottfredson's theory of circumscription, compromise, and self-creation. In D. Brown and Associates (eds.), *Career choice and development* (4th edn, pp. 85–148). San Francisco: Jossey-Bass.
- (2005). Applying Gottfredson's theory of circumscription and compromise in career guidance and counseling. In S. D. Brown and R. W. Lent (eds.), *Career development and counseling: Putting theory and research to work* (pp. 71–100). Hoboken, NJ: John Wiley & Sons.
- Gushue, G. V. (2006). The relationship of ethnic identity, career decision-making self-efficacy and outcome expectations among Latino/a high school students. *Journal of Vocational Behavior*, 68(1), 85–95.

- Gushue, G. V. and Whitson, M. L. (2006). The relationship among support, ethnic identity, career decision self-efficacy, and outcome expectations in African American high school students: Applying social cognitive career theory. *Journal of Career Development*, 33(2), 112–24.
- Hall, D. T. and Chandler, D. E. (2005). Psychological success: When the career is a calling. *Journal of Organizational Behavior*, 26(2), 155–76.
- Halpern, R. (2009). *The means to grow up: Reinventing apprenticeship as a developmental support in adolescence*. New York: Routledge/Taylor & Francis Group.
- Helwig, A. A. (2008). From childhood to adulthood: A 15-year longitudinal career development study. *Career Development Quarterly*, 57(1), 38–50.
- Herrmann, M. A. K. C. (2011). A test of the social cognitive career theory to predict career interests and goal setting among multi-ethnic, low SES adjudicated adolescents. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 72(2-B) (2011-99160-432; AAI3434267).
- Hirschi, A. (2010a). Individual predictors of adolescents' vocational interest stabilities. *International Journal for Educational and Vocational Guidance*, 10(1), 5–19.
- (2010b). Positive adolescent career development: The role of intrinsic and extrinsic work values. *The Career Development Quarterly*, 58(3), 276–87.
- (2010c). Swiss adolescents' career aspirations: Influence of context, age, and career adaptability. *Journal of Career Development*, 36(3), 228–45.
- (2011). Callings in career: A typological approach to essential and optional components. *Journal of Vocational Behavior*, 79(1), 60–73.
- Hirschi, A. and Läge, D. (2008). Using accuracy of self-estimated interest type as a sign of career choice readiness in career assessment of secondary students. *Journal of Career Assessment*, 16(3), 310–25.
- Holland, J. L. (1997). *Making vocational choices: A theory of vocational personalities and work environments* (3rd edn). Odessa, FL: Psychological Assessment Resources.
- Howard, K. A. S. and Walsh, M. E. (2010). Conceptions of career choice and attainment: Developmental levels in how children think about careers. *Journal of Vocational Behavior*, 76(2), 143–52.
- (2011). Children's conceptions of career choice and attainment: Model development. *Journal of Career Development*, 38(3), 256–71.
- Hunter, I., Dik, B. J., and Banning, J. H. (2010). College students' perceptions of calling in work and life: A qualitative analysis. *Journal of Vocational Behavior*, 76(2), 178–86.
- Ishitani, T. T. (2010). Exploring the effects of congruence and Holland's personality codes on job satisfaction: An application of hierarchical linear modeling techniques. *Journal of Vocational Behavior*, 76(1), 16–24.
- Jordan, J. V. (2010). *Relational-cultural therapy*. Washington, DC: American Psychological Association.
- Junk, K. E. and Armstrong, P. I. (2010). Stability of career aspirations: A longitudinal test of Gottfredson's theory. *Journal of Career Development*, 37(3), 579–98.
- Kakiuchi, K. K. S. and Weeks, G. R. (2009). The occupational transmission genogram: Exploring family scripts affecting roles of work and career in couple and family dynamics. *Journal of Family Psychotherapy*, 20(1), 1–12.
- Kantamneni, N. (2010). Contextual factors and interest-occupation congruence in South Asian Americans' vocational development. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(8-A). (2010-99031-252; AAI3373867).
- Keller, B. K. and Whiston, S. C. (2008). The role of parental influences on young adolescents' career development. *Journal of Career Assessment*, 16(2), 198–217.
- Kelly, M. E. (2011). Social cognitive career theory as applied to the school-to-work transition. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 72(1-B) (2011-99140-436; AAI3436904).
- Kimmel, D., Rose, T., and David, S. (Eds.). (2006). *Lesbian, gay, bisexual, and transgender aging: Research and clinical perspectives*. New York: Columbia University Press.
- Koenig, K. A., Frey, M. C., and Detterman, D. K. (2008). ACT and general cognitive ability. *Intelligence*, 36(2), 153–60.
- Krumboltz, J. D. (1988). *Career Beliefs Inventory*. Palo Alto, CA: Consulting Psychologists Press.
- (1994a). The Career Beliefs Inventory. *Journal of Counseling and Development*, 72, 424–8.
- (1994b). Improving career development theory from a social learning perspective. In M. L. Savickas and R. W. Lent (eds.), *Convergence in career development theories* (pp. 9–32). Palo Alto, CA: Consulting Psychologists Press.
- (2009). The happenstance learning theory. *Journal of Career Assessment*, 17(2), 135–54.
- Krumboltz, J. D. and Henderson, S. J. (2002). A learning theory for career counselors. In S. G. Niles (ed.), *Adult career development: Concepts, issues, and practices* (3rd edn, pp. 39–56). Columbus, OH: National Career Development Association.
- Krumboltz, J. D. and Levin, A. S. (2004). *Luck is no accident: Making the most of happen-stance in your life and career*. Atascadero, CA: Impact.
- Lease, S. H. and Dahlbeck, D. T. (2009). Parental influences, career decision-making attributions, and self-efficacy: Differences for men and women? *Journal of Career Development*, 36(2), 95–113.

- Lee, R. T. and Brotheridge, C. M. (2006). When prey turns predatory: Workplace bullying as a predictor of counter aggression/bullying, coping, and well-being. *European Journal of Work and Organizational Psychology*, 15, 352–77.
- Lee, S. K. and Yi, H. S. (2010). Family systems as predictors of career attitude maturity for Korean high school students. *Asia Pacific Education Review*, 11(2), 141–150.
- Lee, S. M. (2009). Asian American social workers: Exploring relationships among factors influencing career choices. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(1-A) (2009-99130-442; AAI3345129).
- Lent, R. W. (2005). A social cognitive view of career development and counseling. In S. D. Brown and R. W. Lent (eds.), *Career development and counseling: Putting theory and research to work* (pp. 101–27). Hoboken, NJ: John Wiley & Sons.
- Lent, R. W. and Brown, S. D. (2002). Social cognitive career theory and adult career development. In S. G. Niles (ed.), *Adult career development concepts, issues, and practices* (3rd edn, pp. 78–97). Columbus, OH: National Career Development Association.
- (2008). Social cognitive career theory and subjective well-being in the context of work. *Journal of Career Assessment*, 16(1), 6–21.
- Lent, R. W., Brown, S. D., and Hackett, G. (1994). Toward a unified social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45, 79–122.
- (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47, 36–49.
- (2002). Social cognitive career theory. In D. Brown and Associates (Eds.), *Career choice and development* (4th edn, pp. 255–312). San Francisco: Jossey-Bass.
- Lent, R. W., Brown, S. D., Sheu, H., Schmidt, J., Brenner, B. R., Gloster, C. S., et al. (2005). Social cognitive predictors of academic interests and goals in engineering: Utility for women and students at historically black universities. *Journal of Counseling Psychology*, 52(1), 84–92.
- Lent, R. W., Brown, S. D., Talleyrand, R., McPartland, E. B., Davis, T., Chopra, S. B., Alexander, M. S., Suthakaran, V., and Chai, C. (2002). Career choice barriers, supports, and coping strategies: College students' experiences. *Journal of Vocational Behavior*, 60, 61–72.
- Lent, R. W., Nota, L., Soresi, S., Ginevra, M. C., Duffy, R. D., and Brown, S. D. (2011). Predicting the job and life satisfaction of Italian teachers: Test of a social cognitive model. *Journal of Vocational Behavior*, 79(1), 91–7.
- Leuty, M. E. (2011). Exploring evidence of validity for the construct of work values. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 71(11-B) (2011-99100-021; AAI3422585).
- Locke, W. S. and Gibbons, M. M. (2008). On her own again: The use of narrative therapy in career counseling with displaced new traditionalists. *The Family Journal*, 16(2), 132–8.
- Long, L., Watanabe, N., and Tracey, T. J. G. (2006). Structure of interests in Japan: Application to the Personal Globe Inventory occupational scales. *Measurement and Evaluation in Counseling and Development*, 38, 222–35.
- Mathur, A., Jain, M., Anshu, and Saxena, G. (2009). Effect of single parent families on vocational maturity of adolescents. *Indian Journal of Community Psychology*, 5(1), 76–80.
- McAllister, C. A. (2009). Variables affecting the post high school outcomes of students with learning disabilities. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 69(9-A). (2009-99051-087; AAI3331971).
- Mdikana, A. A., Seabi, J., Ntshangase, S., and Sandlana, N. (2008). Career identity related decision making among Isixhosa-speaking adolescents. *Journal of Psychology in Africa*, 18, 615–20.
- Medina, B. M. (2010). Career course impact on adolescents' levels of career decision self-efficacy, hope, and self-esteem. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 71(3-B) (2010-99180-431; AAI3400883).
- Metheny, J. R. (2010). Family of origin influences on the career development of young adults: The relative contributions of social status and family support. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, 70(11-B) (2010-99100-508; AAI3384672).
- Metz, A. J., Fouad, N. A., and Ihle-Helledy, K. (2009). Career aspirations and expectations of college students: Demographic and labor market comparisons. *Journal of Career Assessment*, 17(2), 155–71.
- Mitchell, K. E., Levin, A. S., and Krumboltz, J. D. (1999). Planned happenstance: Constructing unexpected career opportunities. *Journal of Counseling and Development*, 77, 115–124.
- Mitchell, L. K. and Krumboltz, J. D. (1996). Krumboltz's learning theory of career choice and counseling. In D. Brown, L. Brooks, and Associates (eds.), *Career choice and development* (3rd edn, pp. 233–80). San Francisco: Jossey-Bass.
- Murphy, L. L., Geisinger, K. F., Carlson, J. F., and Spies, R. A. (2011). *Tests in Print VIII*. Lincoln, NE: University of Nebraska Press.
- Nagy, G., Watt, H. M. G., Eccles, J. S., Trautwein, U., Lüdtke, O., and Baumert, J. (2010). The development of students' mathematics self-concept in relation to gender: Different countries, different trajectories? *Journal of Research on Adolescence*, 20(2), 482–506.
- Obegi, J. H. and Berant, E. (eds.). (2009). *Attachment theory and research in clinical work with adults*. New York: Guilford Press.
- Oetting, R. (2009). Effects of supports and barriers on choice intentions and actions of undergraduate pre-medicine students. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(1-A) (2009-99130-532; AAI3344097).

- Ohashi, T. (2009). The effect of Holland's RIASEC interest inventory on the vocational identity development of Japanese high school students. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(4-A). (2009-99190-215; AAI3353559).
- Parsons, F. (1909). *Choosing a vocation*. Boston: Houghton Mifflin.
- Patrick, L., Care, E., and Ainley, M. (2011). The relationship between vocational interests, self-efficacy, and achievement in the prediction of educational pathways. *Journal of Career Assessment*, 19(1), 61–74.
- Paul, K. I. and Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, 74, 264–82.
- Perkmen, S. and Pamuk, S. (2011). Social cognitive predictors of pre-service teachers' technology integration performance. *Asia Pacific Education Review*, 12(1), 45–58.
- Perrone, K. M., Sedlacek, W. E., and Alexander, C. M. (2001). Gender and ethnic differences in career goal attainment. *Career Development Quarterly*, 50, 168–78.
- Porfeli, E. J. (2008). The dynamic between work values and part-time work experiences across the high school years. *Journal of Vocational Behavior*, 73(1), 143–58.
- Porfeli, E. J., Lee, B., Vondracek, F. W., and Weigold, I. K. (2011). A multi-dimensional measure of vocational identity status. *Journal of Adolescence*, 34(5), 853–871.
- Primavera, M. T., Church, A. T., Katigbak, M. S., Bruna, L., White, J. R., and Peradilla, I. (2010). The structure of vocational interests in Filipino adolescents. *Journal of Vocational Behavior*, 77(2), 213–226.
- Pryor, R. G. L., Amundson, N. E., and Bright, J. E. H. (2008). Probabilities and possibilities: The strategic counseling implications of the chaos theory of careers. *The Career Development Quarterly*, 56(4), 309–18.
- Pryor, R. G. L. and Bright, J. E. H. (2009). Game as a career metaphor: A chaos theory career counselling application. *British Journal of Guidance and Counselling*, 37(1), 39–50.
- (2011) *The chaos theory of careers: A new perspective on working in the twenty-first century*. New York: Routledge.
- Restubog, S. L. D., Florentino, A. R., and Garcia, P. R. J. M. (2010). The mediating roles of career self-efficacy and career decidedness in the relationship between contextual support and persistence. *Journal of Vocational Behavior*, 77(2), 186–95.
- Richardson, M. S. (2012). Counseling for work and relationship. *The Counseling Psychologist*, 40 (2), 190–242.
- Rogers, M. E. and Creed, P. A. (2011). A longitudinal examination of adolescent career planning and exploration using a social cognitive career theory framework. *Journal of Adolescence*, 34(1), 163–72.
- Sargent, L. D., Bataille, C. D., Vough, H. C., and Lee, M. D. (2011). Metaphors for retirement: Unshackled from schedules. *Journal of Vocational Behavior*, 79(2), 315–24.
- Savickas, M. L. (2002). Career construction: A developmental theory of vocational behavior. In D. Brown and Associates (Eds.), *Career choice and development* (4th edn, pp. 149–205). San Francisco: Jossey-Bass.
- (2005). Career construction theory and practice. Presented at the American Counseling Association meeting. April 2005. Atlanta, GA.
- (2011). *Career counseling*. Washington, DC: American Psychological Association.
- (2012). Life design: A paradigm for career intervention in the 21st century. *Journal of Counseling and Development*, 90, 13–19.
- Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J., Duarte, M. E., Guichard, J., and van Vianen, A. E. M. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, 75(3), 239–50.
- Schlossberg, N. K. (2009). *Revitalizing retirement: Reshaping your Identity, Relationships, and Purpose*. Washington, DC: American Psychological Association.
- Schultheiss, D. E. P. (2007). The emergence of a relational cultural paradigm for vocational psychology. *International Journal for Educational and Vocational Guidance*, 7, 191–201.
- (2008). Current status and future agenda for the theory, research, and practice of childhood career development. *The Career Development Quarterly*, 57(1), 7–24.
- (2009). To mother or matter: Can women do both? *Journal of Career Development*, 36, 25–48.
- Schultheiss, D. E. P. and Stead, G. B. (2004a). Childhood career development scale: Scale construction and psychometric properties. *Journal of Career Assessment*, 12(2), 113–34.
- (2004b). Construct validity of the career myths scale among South African adolescents. *Journal of Psychology in Africa; South of the Sahara*, 14(1), 9–15.
- Shanchuan, G. and Wenxian, Z. (2009). Social cognitive career theory: Exploring managers' career choice. *Psychological Science (China)*, 32(2), 404–7.
- Sharf, R. S. (2010). *Applying career development theory to counseling* (5th edn). Belmont, CA: Brooks/Cole, Cengage Learning.
- (2012). *Theories of psychotherapy and counseling: Concepts and cases* (5th edn). Belmont, CA: Brooks/Cole, Cengage Learning.
- Sheu, H., Lent, R. W., Brown, S. D., Miller, M. J., Hennessy, K. D., and Duffy, R. D. (2010). Testing the choice model of social cognitive career theory across Holland themes: A meta-analytic path analysis. *Journal of Vocational Behavior*, 76(2), 252–64.

- Sidiropoulou-Dimakakou, D., Mylonas, K., and Argyropoulou, K. (2008). Holland's hexagonal personality model for a sample of Greek university students. *International Journal for Educational and Vocational Guidance*, 8(2), 111–25.
- Smart, J. C., Ethington, C. A., and Umbach, P. D. (2009). Pedagogical approaches used by faculty in Holland's model environments: The role of environmental consistency. *Journal of Career Assessment*, 17(1), 69–85.
- Snyder, A. J. (2009). Gender, self-efficacy, and vocational interests among high school students using the Strong Interest Inventory and Skills Confidence Inventory. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 70(6-A) (2009-99230-309; AAI3361365).
- Spies, R. A., Carlson J. F., and Geisinger, K. F. (eds.). (2010). *The Eighteenth Mental Measurements Yearbook*. Lincoln, NE: University of Nebraska Press.
- Stead, G. B. and Schultheiss, D. E. P. (2003). Construction and psychometric properties of the childhood career development scale. *South African Journal of Psychology*, 33(4), 227–235.
- (2010). Validity of childhood career development scale scores in South Africa. *International Journal for Educational and Vocational Guidance*, 10(2), 73–88.
- Steger, M. F., Pickering, N. K., Shin, J. Y., and Dik, B. J. (2010). Calling in work: Secular or sacred? *Journal of Career Assessment*, 18(1), 82–96.
- Stringer, K. J. and Kerpelman, J. L. (2010). Career identity development in college students: Decision making, parental support, and work experience. *Identity: An International Journal of Theory and Research*, 10(3), 181–200.
- Super, D. E. (1957). *The psychology of careers*. New York: Harper and Row.
- Swanson, J. L. and Fouad, N. A. (2010). *Career theory and practice: Learning through case studies* (2nd edn). Thousand Oaks, CA: Sage.
- Sweitzer, E. M. (2011). Pre- and post-secondary career selection: A process for mentorship and identity development. In J. Samide, G. T. Eliason, J. Patrick, J. Samide, G. T. Eliason, and J. Patrick (eds.), *Career development in higher education* (pp. 75–88). Charlotte, NC: Information Age Publishing.
- Tang, M. (2009). Examining the application of Holland's theory to vocational interests and choices of Chinese college students. *Journal of Career Assessment*, 17(1), 86–98.
- Tay, L., Su, R., and Rounds, J. B. (2011). People–Things and Data–Ideas: Bipolar dimensions? *Journal of Counseling Psychology*, 58, 424–40.
- Thompson, A. S. and Lindeman, R. H. (1981). *Career Development Inventory: User's manual* (Vol. 1). Palo Alto, CA: Consulting Psychologists Press.
- Thompson, M. N. and Dahling, J. J. (2011). Perceived social status and learning experiences in social cognitive career theory. *Journal of Vocational Behavior*.
- Tien, H. L. S., Wang, Y., and Liu, L. (2009). The role of career barriers in high school students' career choice behavior in Taiwan. *The Career Development Quarterly*, 57(3), 274–88.
- Tracey, T. J. G. (2008). Adherence to RIASEC structure as a key career decision construct. *Journal of Counseling Psychology*, 55(2), 146–57.
- Tsaousides, T. and Jome, L. M. (2008). Perceived career compromise, affect and work-related satisfaction in college students. *Journal of Vocational Behavior*, 73(2), 185–94.
- Turner, S., Conkel, J., Starkey, M. T., and Landgraf, R. (2010). Relationships among middle-school adolescents' vocational skills, motivational approaches, and interests. *The Career Development Quarterly*, 59(2), 154–68.
- Turner, S., Unkefer, L. C., Cichy, B. E., Peper, C., and Juang, J. (2011). Career interests and self-estimated abilities of young adults with disabilities. *Journal of Career Assessment*, 183–206.
- Valach, L. and Young, R. A. (2009). Interdisciplinarity in vocational guidance: An action theory perspective. *International Journal for Educational and Vocational Guidance*, 9(2), 85–99.
- Vignoli, E. (2009). Inter-relationships among attachment to mother and father, self-esteem, and career indecision. *Journal of Vocational Behavior*, 75(2), 91–9.
- Vondracek, F. W. (2003). Career development from childhood to young adulthood: Industry to identity. Paper presented at the Tenth Annual Society for Research on Identity Formation Meeting, May 15–18, 2003, Vancouver, British Columbia, Canada.
- Vondracek, F. W. and Porfeli, E. J. (2003). The world of work and careers. In G. R. Adams and M. D. Berzonsky (eds.), *Blackwell handbook of adolescence* (pp. 100–8). New York: Blackwell.
- Vondracek, F. W. and Skorikov, V. B. (2007). Vocational identity. In V. B. Skorikov and W. Patton (eds.), *Career development in childhood and adolescence* (pp. 143–68). Rotterdam: Sense Publishers.
- Wood, C. and Kaszubowski, Y. (2008). The career development needs of rural elementary school students. *Elementary School Journal*, 108(5), 431–44.
- Wong, J. Y. and Earl, J. K. (2009). Towards an integrated model of individual, psychosocial, and organizational predictors of retirement adjustment. *Journal of Vocational Behavior*, 75(1), 1–13.
- Wright, S. L. and Perrone, K. M. (2008). The impact of attachment on career-related variables: A review of the literature and proposed theoretical framework to guide future research. *Journal of Career Development*, 35(2), 87–106.

- Young, R. A. (2009) Counseling in the Canadian mosaic: A cultural perspective. In L. H. Gerstein, P. P. Heppner, S. Ægisdóttir, S. A. Leung, Norsworthy (eds.), *International handbook of cross-cultural counseling: Cultural; assumptions and practices worldwide* (pp. 359–67). Thousand Oaks, CA: Sage.
- Young, R. A., Marshall, S. K., Domene, J. F., Graham, M., Logan, C., Zaidman-Zait, A., and Lee, C. M. (2008). Transition to adulthood as a parent–youth project: Governance transfer, career promotion, and relational processes. *Journal of Counseling Psychology*, 55(3), 297–307.
- Young, R. A., Marshall, S. K., Foulkes, K., Haber, C., Lee, C. S. M., Penner, C., and Rostram, H. (2011). Counseling for the transition to adulthood as joint, goal-directed action. *Journal of Vocational Behavior*, 79(2), 325–33.
- Young, R. A., Marshall, S. K., Valach, L., Domene, J. F., Graham, M. D., and Zaidman-Zait, A. (2011). *Transition to adulthood: Action, projects, and counseling*. New York: Springer.
- Young, R. A. and Valach, L. (2009). Evaluating the processes and outcomes of vocational counselling: An action theory perspective. *Orientation Scolaire Et Professionnelle*, 38(3), 281–306.
- Young, R. A., Valach, L., and Domene, J. F. (2005). The action-project method in counseling psychology. *Journal of Counseling Psychology*, 52(2), 215–23.
- Young, R. A., Valach, L., and Marshall, S. K. (2007). Parents and adolescents co-constructing career. In V. Shorikov and W. Patton (eds.), *Career development in childhood and adolescence* (pp. 277–94). Rotterdam: Sense Publishers.
- Zhao, L. and Zheng, Q. (2009). The influences of career cognitions and social supports on Chinese farmers' career choice consideration. *Acta Psychologica Sinica*, 41(4), 367–76.
- Zwick, R. and Himelfarb, I. (2011). The effect of high school socioeconomic status on the predictive validity of SAT scores and high school grade-point average. *Journal of Educational Measurement*, 48(2), 101–21.