The development of the systems theory framework over 20 years ago (STF; McMahon & Patton, 1995; Patton & McMahon, 1999, 2006, 2014) responded to the challenge presented by the convergence debate of the early 1990s (Savickas & Lent, 1994) to produce a metatheoretical framework that could recognize the contribution of all career theories and foster convergence of theory, and theory and practice. The STF has facilitated theory integration and convergence between career theory and practice, including for non-Western populations (Patton & McMahon, 2015). In its original formulation, mindful of Savickas’s (1994) conclusion at the convergence conference that “we have theories of career development but not theories of career counseling” (p. 240) and Osipow’s (1996) concern that career theorists “apply theory to counseling only as an afterthought” (p. 404), the STF integrated practice considerations can, therefore, be viewed also as a theory of career counseling, a feature that distinguishes the STF from other theories. Indeed, “theory translation” (Lent, 2017, p. 21) by the theorists themselves and also practitioners, has been a defining feature of the STF throughout its history. In addition, the STF, through its visual representation of the complex contexts of career development and career practice and clearly identified core constructs, has stimulated the development of a number of constructivist approaches to career counseling and reflective career assessment processes.

This chapter provides a brief overview of the theoretical underpinning of the STF and commentary on the relevance of integrating theory, research, and practice. In reflecting on challenges and opportunities for integration, the chapter describes the STF’s contributions to career theory integration and theory and practice integration. Theory and research integration is reflected in the development and evaluation of STF-based practices. Future directions and recommendations for the STF’s theoretical, research, and practice contributions are also discussed.

The Systems Theory Framework

The STF (McMahon & Patton, 1995; Patton & McMahon, 1997, 1999, 2006, 2014) had its genesis in practice and research. It was initially conceived as a contextual model of adolescent career decision making (McMahon, 1992). Subsequent research “established that the systems theory framework is applicable to children and adolescents” (McMahon, 1994, p. 209). Further work to refine the framework prior to its first...
publication in 1995, was conducted with students and practitioners. Twenty years on, the STF remains the first attempt to present a comprehensive metatheoretical framework of career development and the first based specifically on systems theory. As an overarching, or metatheoretical, framework, the STF can integrate concepts of extant career development theories and position them for use in theory and practice. Central to the STF is the individual who constructs his or her own meaning of career in context. The STF depicts both the content and dynamic process of career development. Illustrative examples of content influences provided in the STF relate to individuals, their social system, their environmental-societal system, and the context of time. Process influences include the interaction within and between influences known as recursiveness, change over time and chance. These elements of the STF are depicted in Figure 1. The STF has demonstrated similarities, differences, and interconnections between existing theories. In practice, career counsellors determine the relevance of extant theoretical constructs for individual clients; the individual in context is emphasized over theory and by telling career stories, individuals construct their own STFs. Therefore the STF is applicable at a macrolevel of theory analysis and at a microlevel of individual analysis. Systems theory constructs align with the philosophical shift from positivist approaches to constructivist approaches.

The Relevance of Integrating Theory, Research, and Practice

As discussed, the STF was derived from both research and practice. It was developed to create a greater integration between theories (Savickas & Lent, 1994) and to respond to practitioner concerns about developing strategies from existing theories of career development. This use is similar to that discussed by Richardson (2017), who noted that counseling for work and relationship is “a selection at a point in time of a set of theories that both ground and inform practice” (p. 40). Similarly, Sampson (2017) noted that reciprocity between theory and practice is evident when counseling issues are used to refine theory and further inform practice. It is this connection between theory, research, and practice that strengthens the questions researchers can examine and provides a guide for practitioners in drawing from relevant theory to work with different clients. To cite Lent (2017), “it is quite important to ensure that theory is both testable and usable” (p. 21).

The Challenges in Integrating Theory, Research, and Practice

For the STF to be testable and usable is a challenge in itself. As it is a metatheoretical framework, in many ways its usability is what is testable. The STF tries to integrate many theoretical perspectives, and a key challenge is to demonstrate these qualities when it is not feasible to develop testable hypotheses as individual theories can. Lent (2017) emphasized the need to collaborate with practitioners, and working to demonstrate an integration between theory and practice has been an underpinning of the STF since its development. It is interesting that Reardon (2017) noted that Holland had wanted to do more of this. The usability of the STF has been to

- demonstrate integration between theories, as well as to extend this project to new and emerging theories;
- further develop practice strategies and resources for practitioners; and
- demonstrate usability through research.
Figure 1. The systems theory framework (STF) of career development.
The Opportunities for Integrating Theory, Research, and Practice

In response to these challenges, the STF has examined several opportunities to demonstrate integration between theory, research, and practice. Ongoing work has demonstrated career theory integration, integration between theory and practice, and between theory and research. These opportunities are presented in Table 1 and are detailed below.

Table 1: Systems theory framework: Theory, research, and practice integration

<table>
<thead>
<tr>
<th>Theory, Research, and Practice</th>
<th>Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice</td>
<td>Contextual model of career decision making (McMahon, 1992)</td>
</tr>
<tr>
<td>Research</td>
<td>STF of career development (McMahon, 1994; McMahon &amp; Patton, 1995)</td>
</tr>
<tr>
<td>Theory, practice</td>
<td>Application of STF by career practitioners (Patton &amp; McMahon, 1997)</td>
</tr>
<tr>
<td></td>
<td>Refinement of STF (Patton &amp; McMahon, 1999)</td>
</tr>
<tr>
<td>Practice</td>
<td>A framework for career learning (e.g., McMahon &amp; Patton, 2003)</td>
</tr>
<tr>
<td>Theory, research, practice</td>
<td>Guidelines for using (McMahon &amp; Patton, 2002) and developing qualitative career assessment (McMahon, Patton, &amp; Watson, 2005)</td>
</tr>
<tr>
<td></td>
<td>Development of MSCI (Adolescent; McMahon, Patton &amp; Watson, 2005a,b; 2017a,b)</td>
</tr>
<tr>
<td>Theory, practice</td>
<td>Storytelling approach to career counselling based on STF (McMahon, 2005, 2006)</td>
</tr>
<tr>
<td>Theory, research, practice</td>
<td>Integration with new and emerging theories (Patton, 2007, 2008, 2015; McIlveen, 2007; McIlveen &amp; Patton, 2007)</td>
</tr>
<tr>
<td></td>
<td>Research into process of storytelling approach to narrative career counselling (McMahon, Watson, Cherty, &amp; Hoelson, 2012a,b)</td>
</tr>
<tr>
<td>Research, practice</td>
<td>MSCI (Adult; McMahon, Watson, &amp; Patton, 2013a,b)</td>
</tr>
<tr>
<td>Theory</td>
<td>STF 3rd edition (Patton &amp; McMahon, 2014)</td>
</tr>
</tbody>
</table>

In addition to the original description of the STF, which demonstrated integration with existing theories, work has continued to document integration with new and emerging theories. Potential theory integration between the STF and relational theories has been discussed (Patton, 2007) as has the integration of dialogical theory (Hermans, 2002, 2003) with both the STF and career construction theory (McIlveen, 2007; McIlveen & Patton, 2007). These authors described how the multiple voices and positions of the dialogical self-contribute to understanding how individuals construct and co-construct career-related stories of life themes. Patton (2008) compared and contrasted the STF and career construction theory and noted the contribution of both to the convergence agenda. More recently, drawing from the connections between the STF and contextual action theory noted by Young, Valach, and Marshall (2007), Patton (2015) expanded a discussion on these commonalities, focusing in particular on theoretical developments that have enhanced our understanding of conceptual (e.g., individual, systemic thinking, the notion of story, and recursiveness) and practice dimensions (e.g., connectedness, meaning-making, the nature of learning, agency, and the nature of the counseling relationship).

In discussing theory and practice integration, Lent (2017) emphasised the importance of including practitioners in theory generation and theory usefulness, suggesting “an ‘SCCT in practice’ type of book in which we will invite practitioners to describe novel applications of SCCT to different client groups and using different intervention modalities” (p. xx). As discussed earlier, the genesis of the STF was in practice and research,
and dialogue with practitioners has been a feature of its development. Indeed, the first book published on the STF (Patton & McMahon, 1997) was an edited text in which practitioners described applications of the STF to various client groups and in various settings. In the original contextual model that was the precursor of the STF, McMahon (1992) illustrated its practical application through the use of genograms, social atoms, sociodrama, structured peer interviews and adolescent-parent interviews. Subsequently, in considering the utility of the STF, Patton and McMahon (1999, 2006, 2014) emphasized career development learning as central to the practical application of the STF, and discussed it as an underpinning process in career counseling, career education, and training and supervision. As a “conceptual and practical map for career counsellors” (McMahon & Patton, 2006, p. 94), the STF is readily applied in practice and encourages clients to “relate the details and reality of their own maps through the telling of their career stories” (p. 97).

Specific activities for career counselors using the STF were outlined in McMahon and Patton (2003, 2015). Further, in applying the STF to career counseling, McMahon (2005) identified foundational conceptual understandings and practical considerations. The conceptual understandings of the individual, systemic thinking, recursiveness, and story encourage systemic thinking; career counselors take an “individual in context perspective” (McMahon, Watson, & Patton, 2014) and consider their clients in the context of their recursive relationships, including their complex and dynamic systems of influence, which are revealed by the stories clients tell. Clients are encouraged to think systemically about their careers and to identify themes and patterns evident within and across stories (learning), and, as a result, play a more active role in constructing their future identities and career stories (agency). In this way a thematic connectedness between past and present experiences and future aspirations is facilitated. (McMahon, Watson, & Patton, 2015, p. 151)

STF application to career counseling. Building on the work of McMahon, Patton, and Watson (2004), McMahon (2006) conceptualized career counseling through the metaphor “working with storytellers” (p. 16). Founded on the STF and this metaphor, the “emerging approach to narrative career counselling” (McMahon & Watson, 2013, p. 278), the storytelling approach has been developed (McMahon, 2006; McMahon & Watson, 2010, 2012, 2013). This approach directly applies the STF by incorporating the conceptual understandings and practical considerations as well as STF’s core constructs of connectedness, meaning making, agency, reflection, and learning.

The storytelling approach encourages individuals to engage in a reflective process (reflection) during which they tell their stories in relation to the systems of influence within which they live (connectedness), begin to understand how identified influences have impacted on their story (meaning making), identify themes and patterns evident within and across stories (learning), and, as a result, play a more active role in constructing their future identities and career stories (agency). In this way a thematic connectedness between past and present experiences and future aspirations is facilitated. (McMahon, Watson, & Patton, 2015, p. 151)

The storytelling approach provides an opportunity for both the career counselor and the client to engage with systemic influences in a collaborative and discursive narrative counseling relationship (McMahon & Watson, 2008). This approach (McMahon & Watson, 2008; McMahon, Watson, Chetty, & Hoelson, 2012a, 2012b) provides a holistic process for incorporating career assessment into career counseling, including applications of the STF such as the My System of Career Influences (MSCI; McMahon, Patton, & Watson, 2005a, b; 2017a, b; McMahon, Watson, & Patton, 2013a, b) qualitative career assessment reflection process (to be discussed in the next section).
Figure 2. The therapeutic system
**STF applications in career assessment.** The STF has stimulated the development of several qualitative career assessment instruments as well as a quantitative career measure (McMahon et al., 2015). These theory-based interventions can be used in career counseling and in small group sessions and continue to be tailored to meet the needs of individuals (Reardon, 2017) and diverse groups. These instruments and measures are briefly described in the following subsections, as is their contribution to the integration between theory, research, and practice.

**My System of Career Influences (MSCI).** The My System of Career Influences (MSCI) qualitative career assessment process in its adolescent (McMahon, Patton, & Watson, 2005a, b; 2017a, b) and adult versions (McMahon, Watson, & Patton, 2013a, b) operationalizes the STF visual and conceptual frameworks (Patton & McMahon, 2014). The development of the MSCI followed criteria suggested for the development (McMahon, Patton, & Watson, 2003; McMahon, Watson, & Patton, 2005) and use (McMahon & Patton, 2002) of qualitative career assessment processes, including that these processes should be grounded in theory.

The development of both MSCI versions involved an extensive process including research and practice that have been described elsewhere (McMahon et al., 2005b, 2017b; McMahon et al., 2013b). The adolescent workbook and facilitator’s guide were developed over a four year and three stage process across two nations (Australia and South Africa; McMahon et al., 2005b). Subsequently, the MSCI (adolescent version) has been translated into other languages, including Cantonese (Yuen, McMahon, Jin, Lau, Chan, & Shea, 2009) and German (Schindler & Schreiber, 2015), for research, which has shown promising results. For example, Sgaramella et al. (2015) used the MSCI (adult) with 20 adults with substance use disorders and found that the narratives constructed following the completion of the MSCI may help facilitate the construction of future non-addictive narratives.

The MSCI provides a user’s workbook that facilitates a structured step-by-step process through which individuals (in either individual or group settings) reflect on and subsequently better understand the holistic pattern of influences on their career development. All pages of the workbook contain introductory information, a set of instructions, illustrative examples, and space for clients to record their reflections and further individualize their MSCI (McMahon, Patton, & Watson, 2005a, 2017a; McMahon, Watson, & Patton, 2013a). The MSCI’s relevance to diverse populations was noted in a recent review (Henfield, 2013).

An increasing body of research highlights the MSCI’s usefulness with diverse population groups and career-related issues, demonstrating a strong reciprocal relationship between theory and practice (Sampson, 2017). The MSCI adolescent version has proved useful with disadvantaged (McMahon, Watson, Foxcroft, & Dullabh, 2008) and middle class (Kuit, 2005) South African adolescents as well as with Swiss adolescents who completed the MSCI German version (Schindler & Schreiber, 2015). Comparison of parental and adolescent perceptions of career influences on adolescent career development has been investigated (Collett, 2011). In higher education, McMahon et al. (2012b) demonstrated how other forms of career assessment could be integrated within the metaframework of the MSCI process by describing how the administration of a values card sort was stimulated from a MSCI (adult) conversation between a career counselor and a Black African woman. Case studies have demonstrated how the MSCI can assist adolescents to become more active in the career counseling process and to holistically consider their career decisions (McMahon & Watson, 2008). At a more systemic level, Watson and McMahon (2006) considered the utility of the MSCI in relation to challenges facing career education on the basis of Patton...
and McMahon’s (2015) conceptualization of the school system. Specifically, the school system encourages and enables practitioners to map stakeholders and contextualize their career education programs.

**Career Systems Interview (CSI).** The Career Systems Interview (CSI; McIlveen, 2003; McIlveen, McGregor-Bayne, Alcock, & Hjertum, 2003) is a semistructured interview process theoretically grounded in the STF. Clients are initially familiarized with the holistic STF diagram (see Figure 1) to establish rapport and background for the CSI. Subsequently, three dimensions of the CSI move from identifying the reason for the initial consultation through to a “relaxed conversation” in which the client reflects on all the STF influences (McIlveen, 2015a). This reflective process is a precursor to the client writing an autobiography, either in the My Career Chapter qualitative assessment process (discussed in the following subsection) or in other forms of career assessment.

In discussing cultural considerations related to the influences of the STF, McMahon et al. (2013b) recommended that individuals progress through the MSCI systems of influence in an order that suits them rather than progressing from intraindividual influences to the social and environmental-societal influences. Similarly, McIlveen (2015a) proposed that the CSI discussion moves in the reverse order from how influences are identified in the STF because clients may find it easier to discuss environmental-societal influences that are more neutral and less personal. Initial research on a small (n = 18) group of undergraduate students using a pre-post experimental-group design indicates promise for using the CSI in career counseling (McIlveen et al., 2003). Findings from the study demonstrated that career counseling underpinned by a breadth of personal inquiry based on systems theory contributed to client improvement on a number of dimensions, including self and environment exploration and attributions for career decision making.

**My Career Chapter (MCC).** Completion of the CSI will determine the next step of career counselling or assessment (McIlveen, 2015a). The use of the My Career Chapter (MCC; McIlveen, 2006), emanating from a sentence completion process (McIlveen, Ford, & Dun, 2005), is suggested as a logical follow-on to the CSI approach. The goal of the MCC is to assist clients to write “an autobiography of their career” (McIlveen & Patton, 2007, p. 76) in a semistructured format of seven steps based on the systems of influence identified by the STF. The resultant short story is “proof read” (verbally) and edited (written) (McIlveen, 2015a) by the clients from differing imagined perspectives or voices, such as themselves five years younger, and then as that younger person in written feedback to the older person. Besides reading the autobiography, the client also identifies themes from which to derive meaning. Similar to the MSCI and its parent framework, the STF, the MCC also offers a metaframework in that other forms of career assessment can also be used but with the proviso that their results are interpreted within the themes identified by the MCC.

Research on the use of the MCC to date suggests that it is useful in career counseling (McIlveen, 2007), a positive experience that can be used with adolescents (McIlveen, Patton, & Hoare, 2007), and a useful reflective-practice tool for career counsellors’ professional development that can encourage “reflective practice and self-supervision with regard to facilitating self-reflexivity” (McIlveen & Patton, 2010, p. 149). McIlveen (2015a) reported on further research that aims to develop a shortened version of the MCC.

**Career Development Influences Scale.** The initial development and validation of the Career Development Influences Scale (Bridgstock, 2007) has been reported. Bridgstock applied the STF to investigate the career decision making of arts students and arts professionals. Using exploratory and confirmatory factor analysis, she found that an initial six-factor structure, based on 20 of the 28 STF influences, produced an eventual stable five factor structure consisting of 19 items across two population groups. Three of the final identified factors related to the STF’s individual system (interests and beliefs, skills and abilities, and physical characteristics), and one factor each to the STF’s social (interpersonal influences) and environmental-societal (environmental-societal influences) systems. The Career Development Influences Scale could provide a contextual perspective when combined with other quantitative measures of career development (Bridgstock, 2007).
Recommendations for the Future

In 2007, McMahon and Watson suggested areas for future research to maximize the contribution of the STF to theory, research, and practice. These suggestions included diversifying samples, capitalizing on the STF's metatheoretical capabilities through exploring further potential for theoretical integration, strengthening the evidence base of practices grounded in the STF, and further development of career counseling and assessment instruments. It is clear from the research previously described in this chapter that McMahon and Watson's research agenda has been advanced. Other researchers have identified the utility of the STF in guiding research activity. For example, Byrne (2007) used the STF to classify the factors influencing the decision to study speech pathology. The STF elements of learning (i.e., creating a learning environment, the content of learning, and reflection on learning) were applied in a clinical supervision experience that was shown to be beneficial to participants (Hall & LaCroix, 2015). The STF was used by McIlveen (2015b) as the underpinning for his vocational psychology of agriculture framework because it enables the integration of conceptually different vocational psychology theories. When coherently organised by the systems theory framework, these theories will furnish novel research questions that may populate the research agenda and, ultimately, foster research and development that enhance agriculture's capacity to feed and clothe the world. (p. 157)

As per the discussion on the relevance of integrating theory, research, and practice described by Sampson (2017), the STF continues to guide theory integration, theory-informed practice, and theory-driven research. A strong community of practice, including academic researchers and practitioners from many countries, as advocated by Sampson (2017), continues to work collaboratively to refine the utility of the STF for theorists, researchers, and practitioners, and more importantly for clients. A “useful theory” (Krumboltz, 1994, p. 27) enables us to answer practical questions related to accuracy, responsibility, comprehensiveness, integration, and adaptability. The STF, as a metatheory, fulfills all of Krumboltz's criteria for a “useful theory” through its capacity to accurately describe career behavior, afford personal responsibility to individuals, take a holistic contextual perspective, integrate and converge with other theories, and evolve over time. The usefulness of the STF is attested to by its practical applications, which are original, theoretically grounded, rigorously developed, and supported by an emergent evidence base. Moreover, the STF has demonstrated its utility in diverse contexts through its practical applications. Further development of evidence-based practical applications of the STF, particularly in diverse contexts, will ensure that its influence will continue to grow.

References


Chapter 4


Integrating Theory, Research, and Practice in Vocational Psychology: Current Status and Future Directions


