Developing a Conceptual Framework for Life Skills Interventions Ψ

Ken Hodge,[1] Steven Danish,[2] and Julia Martin[3]

Abstract

The purpose of the article is to outline a comprehensive conceptual framework for life skills interventions by integrating aspects of Basic Needs Theory (BNT) and Life Development Intervention (LDI). In particular, we advocate the integration of (a) the three basic psychological needs of autonomy, competence, and relatedness and (b) the needs-supportive motivational climate from BNT with the LDI framework. When these basic psychological needs are satisfied, people experience positive psychological development and optimal psychological well-being—the stated outcome goals of most life skills programs. Without the development of a conceptual framework, it is difficult to determine whether individual life skills interventions achieve optimal psychological well-being. By developing this framework, we seek to identify and articulate the key underlying psychological mechanisms (i.e., basic needs of autonomy, competence, and relatedness) that contribute to optimal human functioning and positive psychosocial development in all life skill programs. The implications for counseling psychologists' research and practice are also considered.

[1]University of Otago, Dunedin, New Zealand
[2]Virginia Commonwealth University, Richmond, VA, USA
[3]Kessler Foundation Research Center, West Orange, NJ, USA

Corresponding Author:
Ken Hodge, PhD, School of Physical Education, University of Otago, PO Box 56, Dunedin, New Zealand.
Email: ken.hodge@otago.ac.nz

Keywords

lifespan development intervention model, basic psychological needs, autonomy, competence, relatedness

Since at least the mid-1970s, when Super (1977) characterized the differences between counseling and clinical psychology as the "difference between developmental and remedial help, between education and medicine, between pathology and hygeiology" (p. 11), counseling psychology has been concerned about promoting and enhancing development and competence. With the advent of positive psychology (Seligman & Csikszentmihalyi, 2000; Sheldon & Ryan, 2011), the interest in strength-based approaches has grown more prominent. Life Development Intervention (LDI; Danish & D'Augelli, 1983; Danish, D'Augelli, & Ginsberg, 1984), based on a life-span human development perspective, is one framework that fits the counseling psychology tradition. LDI's emphasis is on self-directed change, being goal-directed, and focusing on the future, with an understanding of what needs to be done in the present to reach one's best possible future.

However, LDI is more than a conceptual framework for understanding the process of positive change; it also describes an intervention methodology based on a psychoeducational approach. The approach is a skills-based teaching format to promote positive development. The specific goal of LDI is to increase the likelihood of success by enhancing personal competence through the teaching of *life skills* (LS) (Danish & Forneris, 2008). The major purpose of this article is to strengthen and expand the conceptual framework for LS interventions beyond the LDI framework provided by Danish and D'Augelli (1983) so that it may have more utility as a research and intervention model for counseling psychologists.

One of the key challenges in developing a conceptual framework for LS is that there are multiple definitions of *life skills*. For example, the World Health Organization (WHO, 1999) identified five basic areas of LS that it deemed were applicable across cultures: (a) decision making and problem solving, (b) creative thinking and critical thinking, (c) communication and interpersonal skills, (d) self-awareness and empathy, and (e) coping with emotions and stress. LS education, according to WHO (1999), "is aimed at facilitating the development of psychosocial skills that are required to deal with the demands and challenges of everyday life" (p. 1). Gould and Carson (2008a) defined *sport-based life skills* as "those internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem, and hard work ethic that can be facilitated or developed in sport and are transferred for use in non-sport settings" (p. 60). Finally, Danish, Forneris, Hodge, and Heke

(2004) defined *life skills* as "those skills that enable individuals to succeed in the different environments in which they live such as school, home and in their neighborhoods. Life skills can be behavioral (communicating effectively with peers and adults) or cognitive (making effective decisions); interpersonal (being assertive) or intrapersonal (setting goals)" (p. 40).

Several points stand out as a result of these varied definitions. First, what constitutes LS has multiple meanings, and how we define LS significantly affects both the kinds of interventions developed and how we measure whether we have successfully taught these skills. Second, we are considering LS to be psychosocial characteristics rather than isolated behaviors, such as learning to manage money, balancing a checkbook, or cooking a meal. Third, although we are aware that others have used terms similar to LS, such as social-emotional learning, emotional intelligence, positive psychology, resilience, and character education, we have chosen to focus on the term *life skills* because we are concentrating on the teaching of *skills*. Fourth, to date, interventions to teach or enhance LS have been primarily under the purview of those studying positive youth development (Larson, 2000). While positive youth development is an area where LS has been successfully taught, we believe it is short-sighted to limit the teaching of these skills only to youth. Therefore, we will consider how learning LS can have utility across the lifespan (e.g., veterans returning from combat, individuals looking to choose or change careers, retirees).

Why Do We Need a LS Model?

The range of LS taught and the definitions used in interventions limit our ability to make comparisons about the relative effectiveness of these intervention programs. If each LS intervention program highlights a particular set of LS, then meaningful comparisons and any consensus about the relative worth of such programs becomes problematic. In this article, we argue that one solution to this problem is to generate a comprehensive conceptual framework/model of LS development that seeks to identify and articulate the key underlying psychological mechanisms that underpin optimal human functioning and positive psychosocial development (see also Gould & Carson, 2008a, 2008b).

Another reason why a comprehensive conceptual model of LS development is needed is the paucity of empirical research evaluating the effectiveness of LS intervention programs. The LS literature consists of a number of position papers (Gould & Carson, 2008a; Petitpas, Cornelius, Van Raalte, & Jones, 2005; Theokas, Danish, Hodge, Heke, & Forneris, 2007), reviews of LS programs (Danish & Forneris, 2008; Hodge & Danish, 1999), and

Table 1. Summary of SUPER Workshops (Danish, 2002c; Danish et al., 2004).

Workshop 1 Developing a Team – The program and the peer leaders are introduced. Participants engage in several team-building activities designed to enhance communication and understand each other's strengths and weaknesses.

Workshop 2 Dare to Dream – Participants learn about and discuss the importance of having dreams for the future. They then identify career/school and sport dreams they have for 10 years in the future. The peer leaders share some of their dreams.

Workshop 3 Setting Goals (Part 1) – Participants learn the difference between dreams and goals and how to turn a dream into a goal. They identify people who support them in achieving their goals (Goal Keepers) and people who may prevent them from achieving their goals (Goal Busters).

Workshop 4 Setting Goals (Part 2) – Participants learn the four characteristics of a reachable goal (positively stated, specific, important to the goal setter and under the goal setter's control). They practice distinguishing goals that are important to the goal setter and goals that are positively stated.

Workshop 5 Setting Goals (Part 3) – Participants practice distinguishing goals that are specific from ones that are not specific and goals that are under their control from those that are not.

Workshop 6 Making Your Goal Reachable – Participants apply the four characteristics of a reachable goal to their own goals. They set two 6-week goals; one for sport and a personal goal.

Workshop 7 Making a Goal Ladder – Participants learn the importance of developing plans to reach goals (called a Goal Ladder) and make plans to reach the two goals they have set. Making a ladder involves placing the goal at the top of the ladder and identifying six steps to reach their goal.

Workshop 8 Identifying and Overcoming Roadblocks to Reaching Goals – Participants learn how different roadblocks (e.g., using drugs, getting into fights, lack of confidence) can prevent them from reaching their goals. They identify possible roadblocks and learn and practice a problem-solving strategy called STAR to help them overcome the roadblocks.

Workshop 9 Seeking Help From Others – Participants learn the importance of seeking social support when working on goals. They identify people in their lives, a Dream Team, who can provide doing and/or caring help to assist them in achieving their goals.

Workshop 10 Using Positive Self-Talk – Participants learn the importance of identifying their self-talk, how to distinguish positive from negative self-talk, and how to identify key positive self-talk statements related to their goals. They then practice making positive self-talk statements.

Workshop 11 Learning to Relax – Participants learn the importance of relaxation to reduce tension and how to focus and breathe as a means to help them relax.

Workshop 12 Managing Emotions – Participants learn that managing their emotions, both in sport and life, is learning to be smart. They learn and practice a procedure, the 4 R's (Replay, Relax, Redo, Ready), to help them play smart both inside and outside sport.

(continued)

Table 1. (continued)

Workshop 13 Developing a Healthy Lifestyle – Participants develop an
understanding of the importance of being healthy in all areas of their lives. They
also learn how to make changes to insure they are living a healthy lifestyle and are
asked to make a commitment to such a lifestyle.

Workshop 14 Appreciating Differences – Participants identify differences among
individuals in the group and determine which ones are important and which ones
are insignificant in reaching goals.

Workshop 15 Having Confidence and Courage – Participants understand the
importance of believing in themselves and learn how to develop more self-
confidence.

Workshop 16 Learning to Focus on Your Personal Performance – Participants learn
what it means to compete against oneself and understand that competing against
oneself to attain personal excellence can enhance performance.

Workshop 17 Identifying and Building on Your Strengths – Participants identify
personal strengths and learn how to use the skills associated with these strengths
and the skills learned in the program in other areas of their lives.

Workshop 18 Goal Setting for Life – Participants learn that goal setting is a lifetime
activity, and they set two goals to attain over the next 3 months. One goal is
school related; the other relates to home or community. They assess whether the
goals meet the four characteristics of a reachable goal and develop a goal ladder
for each goal.

descriptions of specific LS programs (Danish, 2000, 2002a, 2002b; Danish & Forneris, 2008; Petitpas, Van Raalte, Cornelius, & Presbrey, 2004) (see Table 1 for a description of the LS workshops/sessions for an example program— the SUPER Program; Danish, 2002b). However, to the best of our knowledge, the LS literature consists of less than 30 published empirical studies evaluating the effectiveness of LS programs, and much of this research has not examined the causal effects of LS interventions. We argue that one explanation for this lack of empirical research is the absence of a comprehensive conceptual framework of LS development to inform, guide, and direct such research.

Empirical Research on
LS Intervention and Its Limitations

While there is a considerable amount of literature that purports to empirically examine LS interventions (see Botvin & Griffin, 2004; Gould & Carson, 2008a; Hodge & Danish, 1999, for reviews), there are a number of studies that claim to have examined LS but fail to provide the reader with a detailed explanation of the LS program, the specific LS addressed in the program, the

content of the LS program sessions/workshops (i.e., *what* is taught and *how* is it taught), the training of the practitioners who are charged with delivering the LS program, how the setting where the intervention is conducted affects the outcome, and evidence of intervention fidelity with respect to LS program delivery (e.g., Delva et al., 2010).

For example, LS programs have been shown to be effective in preventing adolescent misuse of legal and illegal substances, preventing youth violence (e.g., Skara & Sussman, 2003; Tobler et al., 2000), and raising levels of HIV awareness (e.g., Delva et al., 2010), but few evaluation studies have analyzed why these LS programs are effective or identified what mediating processes may be involved (Botvin & Griffin, 2004). In general, the specific LS addressed in these programs, the content of the LS program sessions/ workshops, the training of the practitioners delivering the LS programs, the manner in which the programs are implemented, and evidence of intervention fidelity are not always reported. The underlying assumption of the LS approach with respect to these health behaviors is that the prevention of problem behavior is aided by the promotion of both general and specific LS (WHO, 1997, 1999). Thus, it is assumed that improvements in intra- and interpersonal competencies contribute to the effectiveness of these LS prevention programs (Cuijpers, 2002). However, this LS research has not fully examined, or in some cases identified, the underlying psychological development that may have occurred as an outcome of an LS intervention.

On the other hand, a number of studies in the sport development literature have provided a detailed examination of both LS programs and the specific content of these programs. Biddle, Brown, and Lavallee (2008) sought to review the causal effects of sport on positive personal development, specifically youth development. As part of their report, they examined 11 LS interventions, all of which focused on youth and adolescents (age range = 10 to 18 years); took place in a school environment, community organization, or sports club; and had as its goal positive change in the youth populations. Despite the commonalities in participant age, contextual environment, and research goals, the studies differed greatly in sample size, design, and method. Sample size in particular ranged from over 4,000 participants to a sample of 9. Similarly, the research design and methods differed substantially among the interventions, separating into experimental design, nonexperimental pre-post design, and longitudinal design.

Five of the 11 reviewed interventions were of experimental design, four of which came from Goudas' Greece-based research team (Goudas, Dermitzaki, Leondari, & Danish, 2006; Goudas & Giannoudis, 2008; Kolovelonis, Goudas, Dimitriou, & Gerodimos, 2006; Papacharisis, Goudas, Danish, & Theodorakis, 2005). These four studies employed a similar research design,

using a cluster randomized controlled trial design in which participants were assigned to either experimental or control conditions by a preexisting group (e.g., school class) before the LS intervention was delivered.

Papacharisis et al. (2005) adapted the SUPER program (Danish, 2002b) for use with youth (age range = 10 to 12 years) volleyball and football/soccer teams (see Table 1 for a description of the LS workshops/sessions for the SUPER Program). The experimental groups were taught LS at the beginning of each training session for 8 weeks. The results of the study indicated that students who received the intervention had higher self-beliefs for personal goal setting, problem solving, and positive thinking than did those on the control teams. In addition, the intervention group demonstrated an increase in program knowledge and improvement in physical skills compared to the control condition. Goudas et al. (2006) extended Papacharisis et al.'s (2005) work by using the GOAL Program (Danish, 2002c) and teaching this LS intervention in middle-school physical education classes (age range = 12 to 14 years). As in the previous studies, the researchers found that the experimental group had improved significantly more than the control group on the same three variables and maintained the positive changes over follow-up testing periods. Kolovelonis et al. (2006) expanded on Goudas et al.'s (2006) study by examining intrinsic motivation (labeled *self-determination*) and extrinsic motivation and found that higher positive scores in LS knowledge and self-belief correlated with greater self-determination.

Although the experimental design of these studies is critical, because it establishes how teaching LS can directly result in positive changes in targeted variables, these experimental assessments of LS programs still have some common limitations. These studies focused solely on increasing knowledge and self-beliefs about LS, such as goal setting, problem solving, and positive thinking. There were no indications that either the knowledge can be applied or that the self-beliefs resulted in actual behavior change. In other words, are the participants able to problem-solve in the sports domain? Are they able to set and achieve goals in sport? How well do they transfer what is learned in the programs to other domains such as school or home? While this focus does provide teachers, parents, and coaches with important information, it is difficult to examine their overall effectiveness, as these studies did not reveal or even explore the underlying psychological mechanisms that enabled the targeted LS to be effective.

Perhaps the most rigorous study assessing LS was conducted by O'Hearn and Gatz (2002; also see O'Hearn & Gatz, 1999). They evaluated the 10-week school-based GOAL Program intervention among predominantly Hispanic middle-school students (age range = 12 to 14 years) using an experimental control group design. These researchers found that participants demonstrated

increased knowledge of LS as well as an improvement in problem-solving skills that was maintained at a 10-week follow-up assessment (O'Hearn & Gatz, 2002). The studies reviewed above do not represent the universe of either sport-based LS studies or studies assessing the effectiveness of LS interventions (also see Botvin & Griffin, 2004; Brunelle, Danish, & Forneris, 2007; Bühler, Schröder, & Silbereisen, 2008; Camire, Trudel, & Forneris, 2009; Forneris, Danish, & Scott, 2007; Maro, Roberts, & Sorensen, 2009; Sandford, Duncombe, & Armour, 2008; Wenzel, Weichold, & Silbereisen, 2009), but they represent both the strengths and weaknesses of this body of research.

LS Research Summary

In addition to being largely atheoretical with respect to LS program variables, most of the empirical studies reviewed above employed superficial or indirect measures of LS outcomes. While providing useful descriptive information, these measures are at best only indirect assessments of any underlying psychological development that may have occurred as an outcome of an LS intervention. To truly assess underlying psychological development that may have occurred as an outcome of a LS intervention, we need direct measures of psychological mechanisms that affect such development. As the old axiom says, "there is nothing more practical than a good theory [model]" (Lewin, 1952; Vansteenkiste & Sheldon, 2006). One of the most important practical outcomes of employing a conceptual model of LS development is that the model will allow researchers to examine direct measures of key psychological mechanisms that affect LS development, which in turn will provide important information about "how" practitioners can adapt, modify, and improve aspects of their LS intervention program(s). In other words, a conceptual understanding and explanation of "why" an LS program works will in turn help us to better identify ways that affect "how" the program works—if you do not understand why something works, you will be at a loss to "fix" it when it breaks down, nor will you be able to fine-tune and improve its performance. In the absence of a conceptual model of LS development, such improvement efforts will continue to be based on experience and commonsense, which may or may not be effective.

An LS Development Model

Our aim is to develop a stronger conceptual framework for LS development that complements the LDI model provided by Danish and D'Augelli (1983;
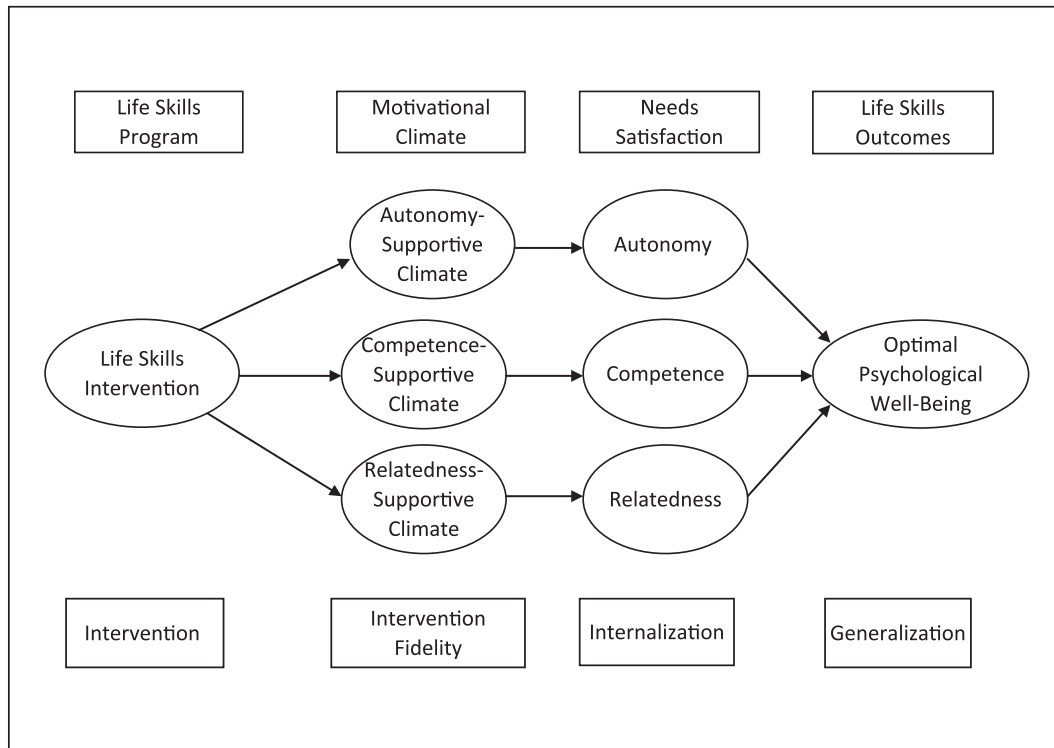
Figure 1. Hypothesized Conceptual Model of LS Development: The LDI/BNT LS Model.

Danish et al., 1984). We propose integrating aspects of Self-Determination Theory (SDT; Deci & Ryan, 2002) with the LDI model. SDT is a theory of motivation, development, and wellness with a focus on optimal functioning, psychological health, well-being, and life satisfaction (Deci & Ryan, 2002, 2008; Ryan & Deci, 2008). In particular, we advocate integrating Basic Needs Theory (BNT), a subtheory within SDT (Deci & Ryan, 2000; Ryan & Deci, 2000a; Van Petegem, Beyers, Vansteenkiste, & Soenens, 2012; Vansteenkiste, Niemiec, & Soenens, 2010), with LDI. BNT includes (a) the three basic psychological needs of autonomy, competence, and relatedness and (ii) the needs-supportive motivational climate (see Figure 1; explained in detail later).

Autonomy is defined as being the perceived origin of one's own behavior and having an authentic sense of self-direction and volition (Deci & Ryan, 2000; Ryan & Deci, 2000a). In sport, business, or the military, for example, perceptions of autonomy may result in increased opportunities for decision-making regarding training options and tactical options as well as opportunities to act as a leader. It can also mean setting your own goals and working toward them and, when you achieve them, feeling competent. Competence refers to individuals feeling effective in their ongoing interactions with the

social environment and experiencing opportunities to exercise and express their capacities (Ryan & Deci, 2000a). Relatedness refers to having a sense of belonging both with other individuals and with one's community, feeling connected to others, and caring about and being cared for by others (Ryan & Deci, 2000a). As Deci and Ryan (2000) contend, when these three needs are satisfied, people experience positive psychological development and optimal psychological well-being—the stated outcome goals of most LS programs (e.g., Danish, 2000; Larson, 2000; WHO, 1999).

Deci and Ryan (2000) consider the three psychological needs of competence, autonomy, and relatedness to be "innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being" (p. 229) for all individuals regardless of age, gender, or culture. There is considerable empirical evidence that the BNT psychological needs hold across cultures (e.g., Chirkov, 2011; Chirkov & Ryan, 2001; Chirkov, Ryan, & Sheldon, 2011; Lynch, Vansteenkiste, Deci, & Ryan, 2011; Roth, Assor, Kanat-Maymon, & Kaplan, 2006; Rudy, Sheldon, Awong, & Tan, 2007; Ryan & Deci, 2003; Van Petegem et al., 2012); thus, a focus on BNT psychological needs as the foundation for LS programs will ensure that counseling psychologists have culturally competent resources available when working to enhance the health and well-being of diverse clients and communities (Sue, Zane, Hall, & Berger, 2009). We argue that LS interventions should be designed to directly support the satisfaction of these three basic psychological needs. Indeed, it appears that many LS interventions may already indirectly focus on satisfying these three basic needs.

The context or setting within which LS programs are delivered is also a crucial factor to consider (Danish, 2000; O'Hearn & Gatz, 2002). From a BNT perspective, the influence of a needs-supportive motivational climate is viewed as a critical environmental influence for the satisfaction of the three basic needs (Baard, Deci, & Ryan, 2004; Moreau & Mageau, 2012; Williams, Grow, Freedman, Ryan, & Deci, 1996). A needs-supportive motivational climate refers to the goals and behaviors emphasized with respect to the three basic needs and the values that are salient in the social environment created by significant others (e.g., LS leaders/mentors, teachers, coaches, peers, parents; Baard et al., 2004; Williams et al., 1996). From an LS program fidelity perspective, it is essential to assess the influence of not just the "content" of an LS intervention (e.g., workshops/exercises/activities designed to satisfy autonomy, competence, and relatedness), but also the "context" surrounding the individuals participating in the LS intervention (see Figure 1). Does the implementation of an LS intervention generate a motivational climate that supports the satisfaction of the three basic needs?

LDI is based on a life-span human development perspective, the major assumption of which is an emphasis on continuous growth and change (Danish & D'Augelli, 1983). Since change is sequential, it is necessary to consider any period of life within the context of what has happened in the past and what will happen in the future. As change occurs in one's life, it may result in problems or crises, but the results are not necessarily negative. In our view, it is during these life "changes" that LS programs focused on autonomy, competence, and relatedness can be the most effective.

Given that change disrupts our routines and relationships with others and may result in stress, most of us try to avoid change (Danish & D'Augelli, 1983). We like continuity without having to confront life decisions and change. For this reason, changes resulting from life situations have been called critical life events (Danish & D'Augelli, 1983). We experience many critical life events throughout our life. Two examples clearly depict these changes regarding how individuals may experience a number of stressful concurrent life changes and events. Adolescents experience biological changes with the onset of puberty; a reference change from a child to an adolescent and then to a teenager; a physical relocation from elementary school to middle or junior high school; and a social change from family members to peers being the strongest influence.

Service members returning from deployment in Iraq or Afghanistan experience a biological change from hyperarousal to a state of equilibrium; a reference change from a warrior to a spouse, parent, son or daughter, and/or community member; a relocation change from a combat zone to a community; and a social change from being part of a military family to a civilian family (Danish & Antonides, 2009). In instances of change, one often experiences a sense of loss related to the end of the status quo. During this "loss," the importance of social support (e.g., needs-supportive motivational climate) for an adolescent and the returning service member reflects the BNT basic psychological need for "relatedness." Thus, satisfying the basic need for relatedness may be one important psychological mechanism underlying LS development. Returning service members must also develop and satisfy their need for autonomy and competence in order to experience volition and assertiveness in their efforts to adjust to, and cope with, the relatively unstructured civilian lifestyle as well as identify skills and abilities that they can use successfully in their civilian careers.

The general goal of LDI is to enhance personal competence (Danish et al., 1984). From an LDI perspective, personal competence is defined as the ability to do life planning, be self-reliant, and seek the resources of others with the result that the individual will have the ability to work well, play well, love

well, think well, serve well, and be well (Bloom, 2000; Danish, 2000). In other words, competence has both an interpersonal dimension as well as an intrapersonal dimension (Danish et al., 1984). From a BNT perspective, competence is viewed as a basic psychological need and is defined as being effective in one's ongoing social interactions and experiencing opportunities to exercise and express one's capacities (Deci & Ryan, 2000). This definition of competence is also both interpersonal (e.g., effective in one's ongoing social interactions) and intrapersonal (e.g., exercise and express one's capacities; cf., autonomy).

Throughout we have discussed the need to be competent in different environments and the importance of knowing how to transfer what has been learned in one environment to another (e.g., from sport to school, from the war zone to home/civilian life). For an individual to have the motivation and confidence to transfer behaviors from one setting to another, he or she needs a strong level of autonomy, volition, and self-directedness (i.e., the basic psychological need of "autonomy"; Deci & Ryan, 2000; Ryan & Deci, 2008).

Basic Needs with LDI

BNT is a subtheory within SDT (Deci & Ryan, 2000; Vansteenkiste et al., 2010), one of the most commonly used models of motivation, optimal growth, and psychological well-being employed in psychology (e.g., Gagné, 2003; Gagné, Ryan, & Bargmann, 2003; Reeve, 2002; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000; Ryan & Deci, 2008; Ryan, Lynch, Vansteenkiste, & Deci, 2011). Considerable research has demonstrated that satisfaction of these three basic needs predicts intrinsic motivation, well-being, and other positive outcomes in various life domains such as work, health (Baard et al., 2004; Levesque et al., 2007), education (Ferrer-Caja & Weiss, 2000), sport (Hollembeak & Amorose, 2005), and exercise (Wilson & Rogers, 2004). In addition, a needs-supportive motivational climate has been shown to predict needs satisfaction in work (Baard et al., 2004), health (e.g., Williams et al., 1996), school (Black & Deci, 2000), sport (Reinboth, Duda, & Ntoumanis, 2004), exercise (Wilson & Rogers, 2004), and physical education (Taylor & Ntoumanis, 2007) contexts.

Autonomy and LS development. Perceived control (cf., autonomy) is viewed as an important component of LS interventions directed at improving an individual's problem-solving and coping skills (O'Hearn & Gatz, 1999, 2002). Numerous researchers have noted the association between an internal locus of control (i.e., autonomy) and resilience (e.g., Cowen, Wyman, Work, & Iker, 1995; Springer & Gastfried, 1995). Other elements of LS programs

that have clear connections to the basic need of autonomy include "positive thinking" (Papacharisis et al., 2005), "independent thinking" (Nishida et al., 2007, 2010), "self-directed learning" and "self-control" (Nishida et al., 2007, 2010), and "self-regulation" (O'Hearn & Gatz, 1999, 2002). Nevertheless, as Chirkov et al. (2011) explain, the manner in which autonomy leads to positive psychological outcomes will likely manifest differentially between/across different cultural and ethnic groups. For example, related concepts such as spirit, life force, agency, intentionality, and self-determination are recognized as key autonomy-related issues at both the group and individual level for many indigenous peoples and ethnic minorities struggling for equal rights and equal access to life opportunities (Duran, 2006; Gone, 2010; Heke, 2005).

Competence and LS development. A key competency emphasized in a number of LS programs is "problem-solving" (e.g., Forneris et al., 2007; O'Hearn & Gatz, 1999, 2002)—a life skill that encompasses elements of both the basic needs of autonomy (able to independently identify problems) and competence (able to "solve" problems). Other elements of LS programs that have clear connections to the basic need of competence include "coping with stress" and "self-learning" (Nishida et al., 2007, 2010). A perception of competence for an individual may also include perceived skill with respect to physical tasks (e.g., manual labor, motor skills, sport skills) and cognitive tasks (e.g., problem solving, decision making), as well as social competencies (e.g., interpersonal communication, etiquette, cultural rules). For example, related concepts such as cultural protocols, traditions, and rituals are recognized as key social competencies at both the group and individual level for many indigenous peoples and ethnic minorities working to retain their cultural identity and cultural practices (Duran, 2006; Gone, 2010; Heke, 2005).

Relatedness and LS development. The importance of social support rests on a substantial body of literature demonstrating the mediating effects of social support for psychological well-being (e.g., Kessler & McLeod, 1985). Social support has also been identified as a concept central to resilience and competence. Other elements of LS programs that have clear connections to the basic need of relatedness include "cooperation with others" and "consideration for others' feelings" (Nishida et al., 2007, 2010) and "increased social interest" and "social responsibility" (Brunelle et al., 2007). Relatedness incorporates both caring about others and being cared for by others—along with the social competencies mentioned above, relatedness can also include a feeling of connection with one's culture through family and community relationships and through involvement in cultural practices, traditions, and rituals (Gone, 2010; Heke, 2005; Sue et al., 2009).

Balance across the three basic needs. Within the BNT literature, there is a growing body of evidence that a "balance" of needs satisfaction across the three psychological needs is more important for psychological well-being than being high in one need and being moderate in the other two needs (e.g., Sheldon & Niemic, 2006). Furthermore, there is some evidence that a "balance" of psychological needs satisfaction across different life domains/contexts (e.g., school, sport, family, part-time job) is also important for psychological well-being (Milyavska et al., 2009). From an LS development perspective, one could argue that a "balanced" satisfaction of the three psychological needs across life contexts (i.e., LS transfer from one life domain to another life domain) should be regarded as the *ultimate outcome goal* for LS programs.

Internalization and generalization. Another key aspect of BNT is the proposition that adaptive psychological outcomes will result the more that an individual internalizes the basic needs of autonomy, competence, and relatedness (Deci & Ryan, 2000; Niemiec & Ryan, 2007; Ryan et al., 2011; Ryan & Connell, 1989; Ryan & Deci, 2008; Sheldon, Kasser, Houser-Marko, Jones, & Turban, 2005). BNT provides a model for understanding the internalization of values generally and applies equally well to values associated with LS programs (also see Deci & Ryan, 2000; Ryan & Deci, 2000b). The BNT model represents an increasing internalization of values, as well as increasing self-regulation, as one's basic psychological needs are progressively satisfied. Internalization of values is conceptualized as the process by which individuals progressively accept values and integrate them into their sense of self, such that their behavior becomes internally regulated rather than primarily externally controlled (Ryan & Deci, 2000b). Furthermore, when LS values are central to an individual's sense of self, those values are more likely to motivate LS-related actions. From a BNT perspective, lower levels of internalization (i.e., low levels of needs satisfaction) emphasize compliance with values, whereas at higher levels of internalization (i.e., high levels of needs satisfaction), value-congruent behavior is perceived as being self-initiated and self-regulated (Ryan & Deci, 2000b). Consequently, the more that individuals internalize the basic needs (see Figure 1), the more likely they are to develop the ability to "generalize" LS to a number of life contexts (e.g., school, family, part-time work, job).

The integrated LDI/BNT LS model depicted in Figure 1 characterizes LS development as occurring via the satisfaction of the three basic psychological needs of autonomy, competence, and relatedness. Such LS development begins with participation in an LS intervention program (left-hand side of Figure 1). The specific content (i.e., workshops, exercises, activities, skills, homework; see examples in Table 1) of a LS program that follows the LDI/

BNT LS model should be designed to provide opportunities for participants to learn LS that help satisfy one or more of the psychological needs of autonomy, competence, and relatedness (see Figure 1). According to the LDI/BNT conceptual model, the LS intervention will only be successful in satisfying these three needs if the motivational climate created and nurtured by the LS instructors/leaders is needs-supportive—that is, if the social environment within which the LS program occurs is specifically engineered to support the three basic psychological needs (see Figure 1). A needs-supportive motivational climate is created when a participant in an LS program is provided with choice and a rationale for tasks, their feelings are acknowledged, opportunities to show initiative and independent work are provided, participants are given noncontrolling competence feedback, and the use of guilt-inducing criticism and overt control is avoided by the LS instructor/leader (Gagné et al., 2003). Peers and fellow participants can also influence the creation of a needs-supportive motivational climate through similar means as the LS instructor/leader (also see Moreau & Mageau, 2012). Evaluating the effective provision of a needs-supportive motivational climate can also serve as a manipulation check regarding LS intervention fidelity. If the LS program and the needs-supportive motivational climate are effective, then the participant will likely report greater satisfaction of his or her three basic psychological needs; the more these three needs are satisfied, the more they become internalized by the participant. Finally, the greater the level of needs satisfaction and internalization, the increased likelihood that the participant will report higher levels of markers of optimal psychological well-being such as intrinsic motivation, subjective well-being, less stress, enjoyment, and work/life satisfaction. According to the LDI/BNT LS model, such an outcome will increase the potential for program participants to be able to generalize their LS skills to multiple life domains (right-hand side of Figure 1).

Intervention Fidelity

The issue of intervention fidelity and program integrity is critical to a comprehensive evaluation of LS programs (O'Hearn & Gatz, 2002). Unfortunately, intervention fidelity research is noticeably absent in the LS literature. "Does an LS intervention work?" That is one of the most fundamental questions that should drive evaluation of LS programs. We want to know whether a program worked, is working, or can work. These questions also move us from merely knowing if a program works toward understanding why, how, and under what conditions it works. These questions are all related to the issue of *fidelity* (fidelity of implementation; FOI). FOI is defined by Century,

Rudnick, and Freeman (2010) as "the extent to which the critical components of an intended program are present when that program is enacted" (p. 202); that is, the extent to which delivery of an intervention adheres to the protocol or program model originally developed (Mowbray, Holter, Teague, & Bybee, 2003). A number of researchers have described the critical components of FOI (see Dane & Schneider, 1998; Mowbray et al., 2003 for details).

One of the few LS program effectiveness studies to include an examination of FOI was conducted by O'Hearn and Gatz (2002). They investigated the issue of Leader Fidelity (teaching fidelity) in their evaluation of the GOAL program with adolescent middle-school students. The leader fidelity ratings showed no significant differences across leader groups and generally good fidelity. However, because leaders and students were not matched one-to-one and because some leaders switched small groups to assure coverage when other leaders were absent, it was not possible to directly correlate leaders' knowledge with student LS gains. Clearly more FOI research is needed regarding LS program interventions. We propose that SDT basic needs satisfaction and the associated assessment of participant perceptions of the needs-supportive motivational climate may offer a useful means to evaluate important FOI elements of LS programs (see Figure 1).

Future Research Using the LDI/BNT Conceptual Model

As identified previously, the vast majority of LS intervention research has been atheoretical and has employed descriptive and correlational designs. Seldom have participants or sites been randomly assigned to conditions and control and/or placebo control groups employed. While causal inference research designs will be difficult to conduct, they should not be avoided because of their logistical difficulties (Cook, Scriven, Coryn, & Evergreen, 2010; Cook, Shadish, & Wong, 2008). We need to conduct theoretically driven causal inference research regarding LS intervention; thus, we offer our conceptual model of LS development as a potential framework to guide such research.

Potential research designs. Researchers can employ a range of research designs to examine causal inference, not just randomized control trials (Cook et al., 2010; Shadish, Cook, & Campbell, 2002). For example, regression discontinuity designs can be used to make causal inferences when random assignment is not practical or ethical (Lesik, 2006), while interrupted time-series designs (Scriven, 2008), within-study comparisons (Cook et al., 2008), success case method designs with a time-series element (Coryn, Schroter, & Hanssen, 2009), and qualitative impact analyses (Mohr, 1999) all offer alternative research design options.

Furthermore, one could examine the effect of experimental interventions designed to promote LS development (e.g., interventions aimed at developing needs-supportive behaviors from LS leaders). Such research efforts could seek to use multiple informants (e.g., teacher, parent, co-worker, coach, teammate, peer ratings of behaviors) and direct behavioral observation of LS actions to compare with participant self-report responses. Qualitative research is also needed to examine, in-depth, the important role that psychological needs satisfaction appears to play in facilitating LS development.

Finally, some research in the mental health domain indicates the effectiveness of LS programs as adjunct therapy interventions for individuals with serious and persistent mental illness (e.g., May, Gazda, Powell, & Hauser, 1985; Patterson et al., 2003). The LDI/BNT model offers a potentially useful heuristic for future research to examine the usefulness of LS programs for mental health benefits.

Potential measurement issues. One advantage of incorporating BNT principles into an integrated LDI/BNT conceptual model of LS development (see Figure 1) is the ready ability to accurately measure (a) the three psychological needs of autonomy, competence, and relatedness and (b) needs-supportive motivational climates. Psychometrically valid and reliable measures of needs satisfaction currently exist for the following life domains: (a) work (Baard et al., 2004), (b) school (Black & Deci, 2000; Grolnick & Ryan, 1987), (c) health (Levesque et al., 2007; Williams et al., 1996), (d) relationships (Patrick, Knee, Canevello, & Lonsbary, 2007), (e) sport (Ng, Lonsdale, & Hodge, 2011), (f) exercise (Wilson, Rogers, Rodgers, & Wild, 2006), (g) physical education (Ntoumanis, 2005), (h) combat veterans (Kashdan, Julian, Merritt, & Uswatte, 2006), and (i) life in general (Kashdan et al., 2006). In addition, psychometric measures of needs-supportive motivational climates exist for (a) work (Baard et al., 2004), (b) school (Black & Deci, 2000), (c) health (Williams, Cox, Kouides, & Deci, 1999), (d) sport (Reinboth et al., 2004), (e) exercise (Wilson & Rogers, 2004), and (f) physical education (Taylor & Ntoumanis, 2007).

Practical applications of the LDI/BNT model. As indicated in Figure 1, the first practical application of the integrated model relates to the specific content (i.e., workshops, exercises, activities, skills, homework; see Table 1 for example activities) of a LDI/BNT LS program. As stated earlier, the LS workshops, exercises, and activities should be designed to provide opportunities for participants to learn LS, such as goal setting, problem solving, coping, and developing a social support network, that help the satisfaction of one or more of their basic psychological needs for autonomy, competence, and relatedness (see Figure 1). The second practical application of the LDI/BNT conceptual model relates to the need for the motivational climate created and

nurtured by the LS instructors/leaders to be needs-supportive; that is, the social environment within which the LS program occurs should be specifically engineered to support the three basic psychological needs (see Figure 1). To generate a needs-supportive motivational climate, the LS instructors/leaders need to carefully monitor their behaviors to ensure that that they are providing LS program participants with choice and a rationale for tasks; acknowledging their feelings about the LS workshops, exercises, and activities; providing participants opportunities to show initiative, leadership, and independent work; and ensuring that participants are given noncontrolling competence feedback. Depending on the particular LS program, there may also be opportunities to incorporate peer instruction within the program structure; peer instruction/leadership can offer the potential for peer leaders to satisfy their psychological needs for autonomy (opportunity for self-direction and choice), competence (test and develop leaderships skills), and relatedness (enhance their relationship/social skills).

Implications for Counseling Psychologists

Hage et al. (2007) identified 15 practice guidelines for prevention. These authors' guidelines included not only stopping a behavior from occurring, delaying the behavior's onset, and reducing its impact, but also strengthening other behaviors that promote or enhance well-being (Hage et al., 2007). In other words, prevention as conceived by these authors focused on a strength-based approach. It is within this counseling psychology context that our LDI/BNT LS model fits. Not only does it bring counseling psychology back to its roots, but it also provides a bridge to the growing interest in positive psychology (Sheldon & Ryan, 2011). Moreover, by specifically embedding BNT as a framework within LS, interventions based on this framework are seen as prime examples of how counseling psychologists can apply LS to their research and practice.

For counseling psychologists to be able to implement LS interventions, it is essential that they act as indirect service providers as opposed to being direct service providers (Danish & Antonides, 2009). By indirect service providers, we are referring to the ability to develop and evaluate programs, consult, train, and supervise others who actually implement the programs. Because LS programs are skill based, the counseling psychologists must understand how skills are taught. Moreover, they must be able to work in communities. When working in communities, there are a number of new skills that must be learned and/or applied, including coalition building, group facilitation, needs assessment, and organization development. For example,

if the program is to be implemented in a sport environment, the counseling psychologist must understand the game itself and the needs and motivations of the parents, coaches, and the participants. If the program focus is with veterans and their families, it is important to understand military culture (Danish & Antonides, 2009). It is essential to identify a credible local person to assist in developing contacts and serve as a champion for the program. Additionally, the community must feel that the planning of the intervention is being done *with* them, not *to* or *for* them. For example, in an LS program conducted with *Māori* adolescents (the indigenous people of New Zealand), the success of the program rested with the fact that the intervention was developed by *Māori* for *Māori* and incorporated both *Māori* language and *Māori* cultural practices (Heke, 2005).

Counseling psychologists may already possess many of these skills; however, working in communities requires a different mindset. First, LS programs are designed to enhance competence and promote well-being rather than remediate problems. Second, in this model, psychologists adopt a seeking rather than a waiting mode (Rappaport, 1977). In other words, instead of waiting for individuals to seek out services, providers must reach out to individuals who will benefit from LS programming where they are and provide whatever services are needed by the participants given their particular strengths, weaknesses, and life circumstances.

Conclusion

The purpose of this article was to strengthen and expand the conceptual framework for LS interventions beyond the lifespan development intervention framework (Danish & D'Augelli, 1983). We have advocated an integration of BNT (Deci & Ryan, 2000; Vansteenkiste et al., 2010) into the LDI model: in particular, (a) the three basic psychological needs of autonomy, competence, and relatedness and (b) the needs-supportive motivational climate (see Figure 1). When these three needs are satisfied, people experience positive psychological development and optimal psychological well-being (Deci & Ryan, 2000; Ryan & Deci, 2000b, 2008)—the stated outcome goals of most LS programs.

A key aspect of BNT is the proposition that adaptive psychological outcomes will result the more that an individual internalizes the basic needs of autonomy, competence, and relatedness (e.g., Niemiec & Ryan, 2007). The more that an individual internalizes the basic needs, the more likely they are to develop the ability to "generalize" LS to a number of life contexts (e.g., school, family, part-time work, job). Furthermore, when LS values

are central to an individual's sense of self, those values are more likely to motivate LS-related actions and the transfer of LS from one life domain to others.

Declaration of Conflicting Interests

Funding

References

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology*, *34*, 2045-2068.

Biddle, S., Brown, H., & Lavallee, D. (2008). *The development of life skills in children through golf*. Loughbrough, UK: Loughborough University, the Institute of Youth Sport.

Black, A. E., & Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: A self-determination theory perspective. *Science Education*, *84*, 740-756.

Bloom, M. (2000). The uses of theory in primary prevention practice: Evolving thoughts on sports and after-school activities as influences of social competence. In S. J. Danish & T. Gullotta (Eds.), *Developing competent youth and strong communities through after-school programming* (pp. 17-66). Washington, DC: CWLA Press.

Botvin, G., & Griffin, K. (2004). Life skills training: Empirical findings and future directions. *Journal of Primary Prevention*, *25*, 211-232.

Brunelle, J., Danish, S. J., & Forneris, T. (2007). The impact of a sport-based life skill program on adolescent prosocial values. *Applied Developmental Science*, *11*, 43-55.

Bühler, A., Schröder, E., & Silbereisen, R. K. (2008). The role of life skills promotion in substance abuse prevention: A mediation analysis. *Health Education Research*, *23*, 621-632.

Camire, M., Trudel, P., & Forneris, T. (2009). High school athletes' perspectives on support, communication, negotiation and life skill development. *Qualitative Research in Sport & Exercise*, *1*, 72-88.

Century, J., Rudnick, M., & Freeman, C. (2010). A framework for measuring fidelity of implementation: A foundation for shared language and accumulation of knowledge. *American Journal of Evaluation*, *31*, 199-218.

Cook, T., Scriven, M., Coryn, C., & Evergreen, S. (2010). Contemporary thinking about causation in evaluation: A dialogue with Tom Cook and Michael Scriven. *American Journal of Evaluation*, *31*, 105-117.

Cook, T. D., Shadish, W. R., & Wong, V. C. (2008). Three conditions under which experiments and observational studies produce comparable causal estimates: New findings from within-study comparisons. *Journal of Policy Analysis & Management*, *27*, 724-750.

Coryn, C. L. S., Schroter, D. C., & Hanssen, C. E. (2009). Adding a time-series design element to the Success Case Method to improve methodological rigor: An application for non-profit program evaluation. *American Journal of Evaluation*, *30*, 80-92.

Cowen, E., Wyman, P., Work, W., & Iker, M. (1995). A preventive intervention for enhancing resilience among stressed urban children. *Journal of Primary Prevention*, *15*, 247-260.

Chirkov, V. I. (2011). Dialectical relationships among human autonomy, the brain, and culture. In V. I. Chirkov, R. M. Ryan, & K. M. Sheldon (Eds.), *Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom and well-being* (pp. 65-91). New York, NY: Springer.

Chirkov, V. I., & Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and US adolescents: Common effects on well-being and academic motivation. *Journal of Cross-Cultural Psychology*, *32*, 618-635.

Chirkov, V. I., Ryan, R. M., & Sheldon, K. M. (2011). The struggle for happiness and autonomy in cultural and person contexts. In V. I. Chirkov, R. M. Ryan, & K. M. Sheldon (Eds.), *Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom and well-being* (pp. 1-30). New York, NY: Springer.

Cuijpers, P. (2002). Effective ingredients of school-based drug prevention programs: A systematic review. *Addictive Behaviors*, *27*, 1009-1023.

Dane, A. V., & Schneider, B. H. (1998). Program integrity in primary and early secondary prevention: Are implementation effects out of control? *Clinical Psychology Review*, *18*, 23-45.

Danish, S. J. (2000). Youth and community development: How after-school programming can make a difference. In S. J. Danish & T. Gullotta (Eds.), *Developing competent youth and strong communities through after-school programming* (pp. 275-302). Washington, DC: CWLA Press.

Danish, S. (2002a). *Going for the goal: Leader manual* (4th ed.). Richmond, VA: Life Skills Associates.

Danish, S. (2002b). *SUPER* (*Sports United to Promote Education and Recreation) Program* (3rd ed.): *Leader manual and student activity book*. Richmond, VA: Life Skills Center, Virginia Commonwealth University.

Danish, S. J. (2002c). Teaching life skills through sport. In M. Gatz, M. Messmer, & S. Ball-Rokeach (Eds.), *Paradoxes of youth and sport* (pp. 49-60). Albany, NY: State University of New York Press.

Danish, S., & Antonides, B. (2009). What counseling psychologists can do to help returning veterans. *The Counseling Psychologist*, *37*, 1076-1089.

Danish, S. J., & D'Augelli, A. R. (1983). *Helping skills II: Life development intervention*. New York, NY: Human Sciences.

Danish, S., D'Augelli, A., & Ginsberg, M. (1984). Life development intervention: Promotion of mental health through the development of competence. In S. Brown & R. Lent (Eds.), *Handbook of counseling psychology* (pp. 520-544). New York, NY: John Wiley & Sons.

Danish, S. J., & Forneris, T. (2008). Promoting positive development and competency across the lifespan. In S. D. Brown & R. W. Lent (Eds.), *Handbook of counseling psychology* (4th ed., pp. 500-517). Hoboken, NJ: John Wiley & Sons.

Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure*, *3*, 38-49.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*, 227-268.

Deci, E. L., & Ryan, R. M. (Eds.). (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.

Deci, E., & Ryan, R. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, *49*, 14-23.

Delva, W., Michielsen, K., Meulders, B., Groeninck, S., Wasonga, E., Ajwang, P., Temmerman, M., & Vanreusel, B. (2010). HIV prevention through sport: The case of the Mathare Youth Sport Association in Kenya. *AIDS Care*, *22*, 1012-1020.

Duran, E. (2006). *Healing the soul wound: Counseling with American Indians and other Native peoples*. New York, NY: Teacher's College Press.

Ferrer-Caja, E., & Weiss, M. R. (2000). Predictors of intrinsic motivation among adolescent students in physical education. *Research Quarterly for Exercise & Sport*, *71*, 267-279.

Forneris, T., Danish, S. J., & Scott, D. L. (2007). Setting goals, solving problems, and seeking social support: Developing adolescents' abilities through a life skills program. *Adolescence*, *42*, 103-114.

Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial behavior engagement. *Motivation & Emotion*, *27*, 199-223.

Gagné, M., Ryan, R., & Bargmann, K. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, *15*, 372-390.

Gone, J. P. (2010). Psychotherapy and traditional healing for American Indians: Exploring the prospects for therapeutic integration. *The Counseling Psychologist*, *38*, 166-235.

Goudas, M., Dermitzaki, I., Leondari, A., & Danish, S. J. (2006). The effectiveness of teaching a life skills program in a physical education context. *European Journal of Psychology of Education*, *21*, 429-438.

Goudas, M., & Giannoudis, G. (2008). A team-sports-based life-skills program in a physical education context. *Learning & Instruction*, *18*, 528-536.

Gould, D., & Carson, S. (2008a). Life skills development through sport: Current status and future directions. *Sport & Exercise Psychology Reviews*, *1*, 58-78.

Gould, D., & Carson, S. (2008b). Personal development through sport. In O. Bar-Or & H. Hebestreit (Eds.), *The encyclopedia of sports medicine—The child and adolescent athlete* (pp. 287-301). Oxford, UK: Blackwell Science.

Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality & Social Psychology*, *52*, 890-898.

Hage, S., Romano, J., Conyne, R., Kenny, M., Matthews, C., Schwartz, J., & Waldo, M. (2007). Best practice guidelines on prevention practice, research, training, and social advocacy for psychologists. *The Counseling Psychologist*, *35*, 493-566.

Heke., J. I. C. (2005). *Nga hokowhitu o te toru mano: Naa te tarukino ki te taakaro whakaora ma ngaa rangatahi Māori* [Warriors of the third millennium: Designing a sporting intervention to address alcohol and substance abuse in adolescent Māori). Unpublished PhD thesis, University of Otago, Dunedin, New Zealand.

Hodge, K., & Danish, S. (1999). Promoting life skills for adolescent males through sport. In A. M. Horne & M. S. Kiselica (Eds.), *Handbook of counseling for boys and adolescent males: A practitioner's guide* (pp. 51-70). Thousand Oaks, CA: Sage.

Hollembeak, J., & Amorose, A. J. (2005). Perceived coaching behaviors and college athletes' intrinsic motivation: A test of self-determination theory. *Journal of Applied Sport Psychology*, *17*, 20-36.

Kashdan, T. B., Julian, T., Merritt, K., & Uswatte, G. (2006). Social anxiety and posttraumatic stress in combat veterans: Relations to well-being and character strengths. *Behavior Research & Therapy*, *44*, 561-583.

Kessler, R. C., & McLeod, J. D. (1985). Social support and mental health in community samples. In S. Cohen & S. L. Syme (Eds.), *Social support and health* (pp. 219-240). New York, NY: Academic Press.

Kolovelonis, A., Dimitriou, E., Goudas, M., & Gerodimos, V. (2006). The effect of a life skills training program on students' self-determination. *Inquiries in Sport & Physical Education*, *4*, 379-389.

Larson, R. (2000). Towards a psychology of positive youth development. *American Psychologist*, *55*, 170-183.

Lesik, S. (2006). Applying the regression-discontinuity design to infer causality with non-random assignment. *Review of Higher Education*, *30*, 1-19.

Levesque, C. S., Williams, G. C., Elliot, D., Pickering, M. A., Bodenhamer, B., & Finley, P. J. (2007). Validating the theoretical structure of the Treatment Self-Regulation

Questionnaire (TSRQ) across three different health behaviors. *Health Education Research*, *22*, 691-702.

Lewin, K. (1952). *Field theory in social science: Selected theoretical papers*. London, England: Tavistock.

Lynch, M., Vansteenkiste, M., Deci, E. L., & Ryan, R. M. (2011). Autonomy as process and outcome: Revisiting cultural and practical issues in motivation for counseling. *The Counseling Psychologist*, *39*, 267-275.

Maro, C. N., Roberts, G. C., & Sorensen, M. (2009). Using sport to promote HIV/AIDS education for at-risk youths: An intervention using peer coaches in football. *Scandinavian Journal of Medicine & Science in Sports*, *19*, 129-141.

May, H. J., Gazda, G. M., Powell, M., & Hauser, G. (1985). Life skill training: Psychoeducational training as a mental health treatment. *Journal of Clinical Psychology*, *41*, 359-367.

Milyavska, M., Gingras, I., Mageau, M., Koestner, R., Gagnon, H., Fang, J., & Boiche, J. (2009). Balance across contexts: Importance of balanced needs satisfaction across various life domains. *Personality & Social Psychology Bulletin*, *35*, 1031-1045.

Mohr, L. (1999). The qualitative method of impact analysis. *American Journal of Evaluation*, *20*, 69-84.

Moreau, E., & Mageau, G. (2012). The importance of perceived autonomy support for the psychological health and work satisfaction of health professionals: Not only supervisors count, colleagues too! *Motivation & Emotion, 36*, 268-286.

Mowbray, C. T., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: Development, measurement, and validation. *American Journal of Evaluation*, *24*, 315-340.

Ng, J. Y. Y., Lonsdale, C., & Hodge, K. (2011). The Basic Needs Satisfaction in Sport Scale (BNSSS): Instrument development and initial validity evidence. *Psychology of Sport & Exercise*, *12*, 257-264.

Niemiec, C., & Ryan, R. (2007). Autonomy, competence, and relatedness in the classroom: Applying self-determination theory to educational practice. *Theory & Research in Education*, *7*, 133-144.

Nishida, T., Sasaki, B., Isogai, H., Sugiyama, Y., Shibukura, T., & Hodge, K. (2007). *Fostering a zest for living through physical education: From the perspectives of learning motivation, adaptation to stress, and life skills*. Unpublished manuscript, Nagoya University, Japan.

Nishida, T., Sasaki, B., Isogai, H., Sugiyama, Y., Shibukura, T., & Hodge, K. (2010, March). *Zest for living through physical education: A self-determination theory perspective*. Paper presented at the Zest for Living project conference, Nagoya University, Japan.

Ntoumanis, N. (2005). A prospective study of participation in optional school physical education based on self-determination theory. *Journal of Educational Psychology*, *97*, 444-453.

O'Hearn, T., & Gatz, M. (1999). Evaluating a psychosocial competence program for urban adolescents. *Journal of Primary Prevention*, *20*, 119-124.

O'Hearn, T., & Gatz, M. (2002). Going for the goal: Improving youth's problem-solving skills through a school-based intervention. *Journal of Community Psychology*, *30*, 281-303.

Papacharisis, V., Goudas, M., Danish, S. J., & Theodorakis, Y. (2005). The effectiveness of teaching a life skills program in a sport context. *Journal of Applied Sport Psychology*, *17*, 247-254.

Patrick, H., Knee, R. C., Canevello, A., & Lonsbary, C. (2007). The role of need fulfillment in relationship functioning and well-being: A self-determination theory perspective. *Journal of Personality & Social Psychology*, *92*, 434-457.

Patterson, T. L., McKibbin, C., Taylor, M., Goldman, S., Davila-Fraga, W., Bucardo, J., & Jeste, D. V. (2003). Functional Adaptation Skills Training (FAST): A pilot psychosocial intervention study in middle-aged and older patients with chronic psychotic disorders. *American Journal of Geriatric Psychiatry*, *11*, 17-23.

Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *The Sport Psychologist*, *19*, 63-80.

Petitpas, A. J., Van Raalte, J. L., Cornelius, A. E., & Presbrey, J. (2004). A life skills development program for high school student athletes. *Journal of Primary Prevention*, *24*, 325-334.

Rappaport, J. (1977). *Community psychology: Values, research and action*. New York, NY: Holt, Rinehart & Winston.

Reeve, J. (2002). Self-determination theory applied to educational settings. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 183-203). Rochester, NY: University of Rochester Press.

Reinboth, M., Duda, J. L., & Ntoumanis, N. (2004). Dimensions of coaching behavior, need satisfaction, and the psychological and physical welfare of young athletes. *Motivation & Emotion*, *28*, 297-313.

Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, R., & Ryan, R. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality & Social Psychology Bulletin*, *26*, 419-435.

Roth, G., Assor, A., Kanat-Maymon, Y., & Kaplan, H. (2006). Assessing the experience of autonomy in new cultures and contexts. *Motivation & Emotion*, *30*, 361-372.

Rudy, D., Sheldon, K., Awong, T., & Tan, H. (2007). Autonomy, culture, and well-being: The benefits of inclusive autonomy. *Journal of Research in Personality*, *41*, 983-1007.

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality & Social Psychology*, *57*, 749-761.

Ryan, R. M., & Deci, E. L. (2000a). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, *11*, 319-338.

Ryan, R. M., & Deci, E. L. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68-78.

Ryan, R. M., & Deci, E. L. (2003). On assimilating identities to the self: A self-determination theory perspective on internalization and integrity within cultures. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 253-272). New York, NY: Guilford Press.

Ryan, R. M., & Deci, E. L. (2008). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology*, *49*, 186-193.

Ryan, R. M., Lynch, M. F., Vansteenkiste, M., & Deci, E. L. (2011). Motivation and autonomy in counseling, psychotherapy, and behavior change: A look at theory and practice. *The Counseling Psychologist*, *39*, 193-260.

Sandford, R. A., Duncombe, R., & Armour, K. M. (2008). The role of physical activity/sport in tackling youth disaffection and anti-social behavior. *Educational Review*, *60*, 419-435.

Scriven, M. (2008). A summative evaluation of RCT methodology: An alternative approach to causal research. *Journal of MultiDisciplinary Evaluation*, *5*, 11-24.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*, 5-14.

Shadish, W. R., Cook, T. D., & Campbell, D. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin.

Sheldon, K. M., Kasser, T., Houser-Marko, L., Jones, T., & Turban, D. (2005). Doing one's duty: Chronological age, felt autonomy, and subjective well-being. *European Journal of Personality*, *19*, 97-115.

Sheldon, K. M., & Niemiec, C. P. (2006). It's not just the amount that counts: Balanced need satisfaction also affects well-being. *Journal of Personality & Social Psychology*, 91, 331-341.

Sheldon, K. M., & Ryan, R. M. (2011). Positive psychology and self-determination theory: A natural interface. In V. I. Chirkov, R. M. Ryan, & K. M. Sheldon (Eds.), *Human autonomy in cross-cultural context: Perspectives on the psychology of agency, freedom and well-being* (pp. 33-44). New York, NY: Springer.

Skara, S., & Sussman, S. (2003). A review of 25 long-term adolescent tobacco and other drug use prevention program evaluations. *Preventive Medicine*, *37*, 451-474.

Springer, S., & Gastfried, D. (1995). A pilot study of factors associated with resilience to substance abuse in adolescent sons of alcoholic fathers. *Journal of Addictive Diseases*, *4*, 53-66.

Sue, S., Zane, N., Hall, G. C. N., & Berger, L. K. (2009). The case for cultural competency in psychotherapeutic interventions. *Annual Review of Psychology*, *60*, 10.1-10.24.

Super, D. E. (1977). The identity crisis of counseling psychologists. *The Couseling Psychologist, 7*, 13-15.

Taylor, I., & Ntoumanis, N. (2007). Teacher motivational strategies and student self-determination in Physical Education. *Journal of Educational Psychology*, *99*, 747-760.

Theokas, C., Danish, S., Hodge, K., Heke, I., & Forneris, T. (2007). Enhancing life skills through sport for children and youth. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 71-81). London, England: Routledge.

Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V., & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention*, *20*, 275-336.

Van Petegem, S., Beyers, W., Vansteenkiste, M., & Soenens, B. (2012). On the association between adolescent autonomy and psychosocial functioning: Examining decisional independence from a Self-Determination Theory perspective. *Developmental Psychology*, *48*, 76-88.

Vansteenkiste, M., Niemiec, C. P., & Soenens, B. (2010). The development of the five mini-theories of self-determination theory: A historical overview, emerging trends and future directions. In T. Urdan & S. Karabenick (Eds.), *Advances in motivation and achievement: Vol. 16*. (pp. 105-166). Bingley, UK: Emerald.

Vansteenkiste, M., & Sheldon, K. M. (2006). There's nothing more practical than a good theory: Integrating motivational interviewing and self-determination theory. *British Journal of Clinical Psychology*, *45*, 63-82.

Wenzel, V., Weichold, K., & Silbereisen, R. K. (2009). The life skills program IPSY: Positive influences on school bonding and prevention of substance misuse. *Journal of Adolescence*, *32*, 1391-1401.

Williams, G. C., Cox, E. M., Kouides, R., & Deci, E. L. (1999). Presenting the facts about smoking to adolescents: The effects of an autonomy supportive style. *Archives of Pediatrics & Adolescent Medicine*, *153*, 959-964.

Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality & Social Psychology*, *70*, 115-126.

Wilson, P. M., & Rogers, W. M. (2004). The relationship between perceived autonomy support, exercise regulations and behavioral intentions in women. *Psychology of Sport & Exercise*, *5*, 229-242.

Wilson, P. M., Rogers, W. T., Rodgers, W. M., & Wild, T. C. (2006). The psychological need satisfaction in exercise scale. *Journal of Sport & Exercise Psychology*, *28*, 231-251.

World Health Organization. (1997). *Life skills education in schools*. Geneva, Switzerland: Author.

World Health Organization. (1999). *Partners in life skills education*. Geneva, Switzerland: Author.

Author Biographies

Ken Hodge is a Professor in sport and exercise psychology at the School of Physical Education, University of Otago, New Zealand. His research focuses primarily on the psycho-social effects of participation in sport. In particular, he has investigated issues such as life skill development through sport, prosocial and antisocial behavior in sport, motivational orientations in sport, athlete burnout and athlete engagement. Dr. Hodge currently serves as an Associate Editor for the *Journal of Applied Sport Psychology* and is a member of the Editorial Boards for *Psychology of Sport & Exercise, The Sport Psychologist,* and *Sport, Exercise, & Performance Psychology* (APA Div 47).

Steven Danish is Director of the Life Skills Center and Professor of Psychology at Virginia Commonwealth University. He previously served as Chair of the Department of Psychology. He received his doctorate in Counseling Psychology from Michigan State University. Dr. Danish is a licensed psychologist and a Diplomate in Counseling Psychology, a fellow of three divisions (17, 27 and 47) and a registered sport psychologist of the Sports Medicine Division of the United States Olympic Committee. He received the 2007 Lifetime Achievement award in "Prevention" from the Society of Counseling Psychology and the 2008 Distinguished Alumni Award from the College of Education at Michigan State University. His research interests include developing and evaluating life skills programs for returning veterans and their families as well as for youth.

Julia Martin is a first year doctoral student in Clinical Psychology at Fairleigh Dickinson University. Previously, she has worked as a Research Assistant in the Stroke Rehabilitation Research Laboratory at the Kessler Foundation Research Center, in the Graduate School of Counseling Psychology at Virginia Commonwealth University and in the Department of Behavioral Health at Geisinger Medical Center. She currently volunteers as a Research Assistant in Child Psychiatry at Columbia University. Julia completed her undergraduate studies as a Kalman Research Fellow at Bucknell University. Her research interests include developmental psychopathology, cognitive behavioral therapy, and mood disorders in children and adolescents.