

Examining the Effectiveness of a Short-Term Solution-Focused Wellness Group  
Intervention on Perceived Stress and Wellness among College Students

Dissertation

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By

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## **Abstract**

Heightened stress levels and compromised well-being are common among college students (Calicchia & Graham, 2006; Kausar, 2010). Current trends on college campuses include an increase in the number of students that are experiencing mental health challenges, and an increase in students seeking help (Watkins et al., 2011). Based on these trends, recommendations include implementing alternative strategies such as group therapy and self-help programs designed to reduce stress and improve wellness (Kitzrow, 2003; Ratanasiripong, Sverduk, Hayashino, & Prince, 2010). While evidence supports positive implications of health and wellness-based academic courses and other long-term models (Conley, Travers, & Bryant, 2013; Lockwood & Wohl, 2012), data is lacking pertaining to the effectiveness of short-term wellness-based interventions.

Research indicates that chronic illness is largely driven by lifestyle behaviors, linking factors such as inactivity, diet, smoking, and sustained stress with an increased risk for major illness and death (Smith et al., 2013). This evidence has contributed to a paradigm shift toward a holistic understanding of health and mediating factors.

According to Myers, Sweeney and Witmer (2000), wellness is “a way of life oriented toward optimal health and well-being, in which mind, body, and spirit are integrated by the individual to live life more fully within the human and natural community” (p. 252).

Critical to a short-term, wellness-based intervention is the integration of an evidence-based approach to facilitating change. Though the majority of wellness interventions examined in the research utilize a psycho-educational approach,

evidence supports that therapeutically based counseling and coaching approaches can be effective in facilitating wellness-based lifestyle change. Solution-Focused Brief Therapy (SFBT) is a strengths-based therapeutic approach defined by its emphasis on constructing solutions rather than resolving problems, and the assumption that clients have the resources and capacity to change (Gingerich & Eisengart, 2000).

This research study examined the effects of a short-term, solution-focused wellness intervention on perceived stress and wellness of college students. Eligible participants were randomly assigned to seven-week experimental or control groups. Longitudinal outcomes within groups, and between-group comparisons of experimental and control groups, were examined across multiple assessment points. Measures included the Perceived Stress Scale (Cohen, Karmack, & Mermelstein, 1983) and the Five Factor Wellness Evaluation of Lifestyle (Myers & Sweeney, 1999). The primary analysis included a repeated measures analysis of variance (ANOVA) augmented by an Applied Thematic Analysis (Guest, MacQueen, & Namey, 2011). Findings indicated that a brief (seven-week) solution-focused wellness intervention can significantly improve perceptions of wellness and stress among college students, and is more effective than treatment as usual. Additionally, outcomes support some lasting impact of the intervention over time.

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## **Field of Study**

Major Field: Social Work

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## **Chapter 1: Introduction**

Stress and compromised well-being among college students have been well documented (Calicchia & Graham, 2006; Kausar, 2010), and can contribute to poor performance and high attrition rates. Higher levels of perceived stress are inversely correlated with wellness (Myers, Mobley, & Booth, 2003). Contributing to the compromised wellness of the college student population are lifestyle habits and the prevalence of unhealthy behaviors such as alcohol consumption, tobacco use, dietary concerns, risky sexual behaviors, and lack of physical activity (Douglas et al., 1997). Consequently, many colleges and universities have developed and implemented courses and programs designed to improve wellness and reduce stress among this population (Kulina, Warfield, Jonaitis, Dean, & Corbin, 2009) in an effort to help students develop knowledge, skills, attitudes, and behaviors needed to adopt healthy behaviors.

Challenges associated with college students' well-being are compounded by increased demands on campus health resources and lack of adequate supports available (Kitzrow, 2003; Watkins, Hunt, & Eisenberg, 2012), creating a need for innovative approaches to support students in reducing stress and improving wellness (Ratanasiripong et al., 2010). For example, research indicates that college students are experiencing mental health challenges of greater severity, and an increased number of students are

seeking help (Watkins et al., 2011). Among the recommendations for better accommodation of the changing needs of the college student population are implementing alternative strategies such as group therapy, and initializing self-help programs (Kitzrow, 2003).

The concept of wellness has increasingly been examined within the college population. However, the vast majority of research studies and interventions have examined wellness within the context of academic coursework (Higgins, Lauzon, Yew, Bratseth, & Morley, 2009; Lockwood & Wohl, 2012; Milroy, Orsini, D'Abundo, & Sidman, 2013). While certain therapeutic approaches have shown promise with regard to wellness and healthy lifestyle change (Cramp & Brawley, 2006; Cummings, Cooper, & Cassie, 2009), the vast majority of wellness-based interventions for college students have utilized a psychoeducational approach. Wellness-based interventions are typically offered as “for-credit” semester-long courses (Higgins, et al., 2009; Lockwood & Wohl, 2012), and to date, little research has examined the effectiveness of short-term wellness-based intervention models. Given the existing challenges related to college student stress and wellness (Kausar, 2010), as well as the increasing demands on campus resources (Watkins et al., 2011), there is a clear need for short-term interventions that can positively affect stress and wellness with this population.

Wellness can be described as “a way of life oriented toward optimal health and well-being, in which mind, body, and spirit are integrated by the individual to live life more fully within the human and natural community” (Myers et al., 2000, p. 252). The subjective nature of wellness has led to numerous models and frameworks (e.g. Hettler, 1980; Zimpher, 1992). However, despite the many conceptualizations of wellness, few

have been empirically supported. The Indivisible Self Model of Wellness (IS-WEL) classifies wellness into second and third order factors that inform one's overall wellness (first-order factor). This conceptualization of wellness was based on factor analyses of data collected from the Wellness Evaluation of Lifestyle (WEL) (Myers, Sweeney, & Witmer, 1998), and serves as a foundational guide for intervention sessions.

In addition to the utilization of an empirically-supported model of wellness, integration of an evidence-based approach to support participants in wellness-related change is essential to the development of an effective short-term wellness intervention. The proven effectiveness of Solution-Focused Brief Therapy (SFBT) as a brief therapeutic intervention with the college population (Ng et al., 2012; Sari & Yayci, 2013), in groups (Lafountain Garner, & Eliason, 1996; Zimmerman, Jacobsen, MacIntyre, & Watson, 1996), and related to health and wellness (Dolan, 1997), makes it an ideal approach to facilitating wellness-based change with the college population. SFBT is a strength-based modality defined by its emphasis on constructing solutions rather than focusing on problems, and the assumption that clients have the resources and capacity to change (De Jong & Berg, 2013).

SFBT utilizes a collaborative and non-hierarchical relationship with clients, and recognizes that they are the experts on their goals and aspirations. The therapist is an expert on the conversation of change that allows clients to reconnect with their resources and strengths, and accomplish their self-determined goals. Additionally, SFBT differs from skill building and behavior therapy interventions, because it assumes that solution behaviors already exist for clients, and the conversational skills required of the therapist

to invite the client to build solutions are different from those needed to diagnose and treat client problems.

Solution-Focused Coaching (SFC) is an effective extension of SFBT for work with non-clinical populations (Grant, Curtayne, & Burton, 2009; Green, Oades, & Grant, 2006). Like SFBT, it is focused on helping people identify preferred outcomes and specific goals, disengaging from problem-focused thinking, identifying and utilizing resources and strengths, through a mutually respectful collaborative environment (Grant, 2013). However, SFC differs from SFBT in its focus on non-clinical goals (O'Connell, Palmer, & Williams, 2013) which may include lifestyle trends and wellness-based activities.

The purpose of this research study was to examine the effectiveness of a short-term solution-focused intervention on perceptions of wellness and stress among the college student population. The brief (seven-week) intervention integrated both the IS-WEL and a solution-focused approach, and was compared with a randomly assigned control group.

### ***Research Question and Hypothesis***

Based on review of relevant literature, there is a need for the development of evidence-based, short-term, wellness-focused interventions for college students. This need has informed the primary research questions:

- *Can college student perceptions of wellness and stress be improved through participation in a seven-week solution-focused wellness intervention?*



- *Is a seven-week solution-focused wellness intervention more effective than treatment as usual (general process group) in reducing perceived stress and improving perceptions of wellness?*
- *Do resulting changes based on intervention participation have a lasting effect on perceptions of stress and wellness?*

Consequently, the following research hypotheses informed intervention development and study design:

- *A seven-week solution-focused wellness intervention will result in a reduction in perceptions of stress and improved perceptions of wellness among college students.*
- *The seven-week solution-focused wellness intervention will be more effective than treatment as usual (general process group) in facilitating improvement in perceived wellness, and in decreasing perceived stress among college students.*
- *Changes in perceptions of stress and wellness are expected to have some lasting effect for intervention group participants.*

### ***Dissertation Organization***

This dissertation systematically presents information in a predictable sequence. Following the introduction and research hypotheses, Chapter 2 is dedicated to a review of current literature related to wellness, stress, and Solution-Focused Brief Therapy. The literature review provides background that illustrates a need for examination of research

questions, and discusses relevant intervention components. Chapter 3 builds on the review of literature by describing essential theories and approaches that informed the conceptual framework for intervention development. Chapter 4 provides details about both the quantitative and qualitative research methodology, including all pertinent steps from participant recruitment to data analysis approaches. Following the description of research methods, Chapter 5 presents both quantitative and qualitative results. These results are discussed in Chapter 6, along with implications, study limitations, future research recommendations, and conclusions. Lastly, several appendices are included illustrating quantitative measures, fidelity tools, qualitative interview questions and codes, and an intervention treatment manual, followed by a listing of references.

## **Chapter 2: Review of Literature**

College students face a variety of stressors (Hudd et al., 2000; Kausar, 2010) that can have negative implications including poor performance and high attrition rates (Daugherty & Lane, 1999; Stallman, 2010). Higher levels of perceived stress are inversely correlated with wellness (Myers, Mobley, & Booth, 2003), leading to an increase in research focused on improving wellness and decreasing stress among the college student population. The following review examines the literature related to wellness and stress management interventions, as well as theory, assessment instruments, and conceptual models, with particular emphasis on the Indivisible Self Model of Wellness. Additionally, Solution-Focused Brief Therapy is a core component of the conceptual framework for this intervention study. Literature related to this therapeutic approach is reviewed, including theoretical foundations, research studies, core tenets, and a solution-focused coaching approach.

### ***Stress***

Stress occurs when individuals perceive that they do not have the ability to cope adequately with demands being made on them (Lazarus, 1966). These demands can be internally or externally based, the resolution of which can have significant implications for wellness (Lazarus & Cohen, 1977). Sustained levels of heightened stress can have a variety of negative physical, emotional, and psychological effects. For example, among

the physical health problems associated with stress are muscular, cardiovascular, respiratory, and central nervous system symptoms (Levi, 1996), weakened immune system, and a greater susceptibility to illness (Torres & Solberg, 2001). Psychological challenges associated with stress include depressed mood, anger, irritability (“NIMH Factsheet,” n.d.), inhibited concentration, and reduced motivation (Polson & Nida, 1998). It can also play a significant role in both the onset and course of mental illnesses such as schizophrenia, depression, and anxiety disorders (Herbert, 1997).

Intricately tied to the impact of stress on well-being is one’s ability, or perceived ability, to cope with the stressor (Lazarus & Cohen, 1977). Lazarus’ Transactional Model of Stress and Coping conceptualizes stress as a relationship between the person and the environment that is appraised as stress inducing, while coping is the individual’s response to the psychological and environmental demands of specific stressful encounters (Folkman, Lazarus, Gruen, & DeLongis, 1986). This theory identifies two processes; cognitive appraisal and coping, as critical mediators of stressful encounters and their immediate and long-range outcomes.

Cognitive appraisal is a process through which an individual assesses whether a particular encounter with the environment is stressful, and is divided into primary and secondary appraisal. Primary appraisal involves initial evaluation by an individual regarding whether he or she has anything at stake in the encounter. Secondary appraisal involves assessment of whether he or she has the resources to successfully manage the stressor (Folkman, et al., 1986). Coping is defined as the specific cognitive and behavioral efforts to manage specific external or internal demands that are appraised as

stressful (Folkman, et al., 1986). Research has demonstrated that effective coping strategies are essential in reducing the detrimental effects of stress (Wheaton, 1985).

Directly related to coping with stress is the “buffering” impact of particular characteristics, resources, and behaviors. Stress-buffering refers to mitigation of stress impacts through the utilization of resources, implying that the consequences of a particular stressor should be alleviated by their implementation (Wheaton, 1985).

Among the mediators of stress examined in the research are personality characteristics, social supports, dispositions, health practices, and coping techniques (Kobasa, Maddi, & Puccetti, 1982). For example, social support has been identified as a buffer to aversive psychological impacts of stress (Cohen & Wills, 1985; Thoits, 1986), while personality type (Kobasa et al., 1982) and exercise (Brown & Siegel, 1988) also demonstrate positive buffering effects on stress.

### ***College Student Stress***

The ability to cope with stress is particularly relevant to the current study given the evidence suggesting that ineffective coping strategies are typical among college students (Bland, Melton, Welle, & Bigham, 2012). College students are a group particularly prone to stress (Calicchia & Graham, 2006; D’Zurilla & Sheedy, 1991; Kausar, 2010). The negative implications of stress with this population include lower self-esteem, lower perceived health (Hudd et al., 2000), increased mental health problems such as anxiety and depression (Frazier & Schauben, 1994; Stallman, 2010), and poor performance and high attrition rates (Daugherty & Lane, 1999; Stallman, 2010).

Within the college student population there are numerous stressors identified in the literature. For example, intrapersonal and interpersonal concerns (Hudd et al., 2000; Ross, Niebling, & Heckert, 1999), academic pressures (Hudd et al., 2000; Kausar, 2010; Ratanasiripong et al., 2010), and adjustment concerns (Ratanasiripong et al., 2010) have been shown to increase stress and negatively impact students' well-being. Additionally, economic concerns (Guo, Wang, & Johnson, 2011), family-related challenges, and concerns about the future (Mazumdar, Gogoi, Buragohain, & Haloi, 2012) have all been identified as contributing to heightened levels of stress.

An American College Health Association survey of more than 16,000 students found that approximately one third reported missing classes, receiving lower grades, or dropping courses because of stress (ACHA, 2007). The impact of stress is further compounded by utilization of ineffective coping strategies such as listening to music, surfing the internet (Bland et al., 2012), the practice of poor health habits (Hudd et al., 2000), and little dedication to stress-reducing activities (Calicchia & Graham, 2006). Research indicates a correlation between levels of stress and health-related behaviors. For example, Hudd et al., (2000) found that students with high levels of stress are more likely to practice poor health habits such as decreased regularity of exercise, poor sleep hygiene, and poor dietary choices.

The effectiveness of stress management interventions has been examined across populations (e.g., Antoni, et al., 2001; Hains, et al., 2000; Richardson & Rothstein, 2008; Rosenberg et al., 2015). Within the college student population, the impact of stress management interventions with differing presentation formats has been evaluated,

including online and face-to face delivery (Chiauzzi, Brevard, Thurn, Decembrele, & Lord, 2008; Lumley & Provenzano, 2003). In their meta-analysis, Regehr, Glancy, and Pitts (2013) provide evidence that cognitive, behavioral, and mindfulness interventions are effective in reducing stress among university students. Mind-body interventions are particularly common, as several studies demonstrate the stress-reducing effects of mindfulness-based interventions within the college population (Oman, Shapiro, Thoresen, Plante, & Flinders 2008; Greeson, Juberg, Maytan, James, & Rogers, 2014).

In conjunction with the growing research related to stress management interventions, there is an increased interest in assessing stress and its impact. This interest has led to the development of several self-assessment measures including the Perceived Stress Scale (PSS) (Cohen et al., 1983), the Perceived Stress Questionnaire (PSQ) (Levenstein et al., 1993), the Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979), the Brief COPE (Carver, 1997), and the Perceived Stress Reactivity Scale (PSRS) (Schlotz, Yim, Zoccola, Jansen, & Schulz, 2011). In addition to self-report stress scales, biofeedback technology can provide immediate information related to physiologic states (Kemper, 2010). Studies have utilized biometric tools to assess levels of stress such as heart rate variability (Salahuddin & Kim, 2006; Thayer et al., 2010) and cortisol levels (Pruessner, Hellhammer, Pruessner, & Lupien, 2003; van Eck, Berkhof, Nicolson, & Sulon, 1996).

## *Wellness*

Acceptance of a holistic conceptualization of health and wellness has been gradual within the western medical model. This approach has historically embraced the biomedical model of illness focusing exclusively on biology, while excluding psychological, environmental, and social influences on health. However, increasing evidence supports the link between lifestyle behaviors such as inactivity, diet, smoking, and sustained stress, and an increased risk for major illness and death (Smith et al., 2013). This evidence has contributed to a paradigm shift toward a salutogenic approach, and a holistic understanding of health and mediating factors. The World Health Organization supports this conceptualization of wellness, defining health as a state of complete physical, mental, and social well-being; not merely the absence of disease or infirmity (WHO, 1992).

The understanding that health and wellness are multi-dimensional constructs has contributed to an increase in wellness-related research. Multiple models of wellness have been developed and modified in recent years, indicating promise as an emerging paradigm (Larson, 1999). Early influential models include Dunn's High Level Wellness (1959), which integrates body, mind, and spirit. Dunn defined high-level wellness as "an integrated method of functioning, which is oriented toward maximizing the potential of which the individual is capable", that requires that the individual "maintain a continuum of balance and purposeful direction within the environment" (Dunn, 1977, p.4). Similar to Dunn's High Level Wellness, Ardell's Components of Wellness model (1977) incorporates three parallel domains that include physical, mental, and meaning and



purpose, centered by self-responsibility. Bill Hettler's Hexagonal Model of Wellness (1980), was developed for a college campus environment, and adopted by the National Wellness Institute. This model incorporates six dimensions of wellness including social, spiritual, physical, emotional, occupational, and intellectual domains.

Subsequent models of wellness include Zimpher's Wellness Model (1992) that is based on treatment of patients with medical illness. This model includes seven areas of treatment that are essential for patient wellness including medical health, immune function, lifestyle management, spiritual beliefs and attitudes, psychodynamics, energy forces, and interpersonal relations. Other models that conceptualize wellness as a multidimensional, synergistic construct include The Wellness Model (Adams, Bauer, & Steinhardt, 1997), and the Life Enhancement Program Wellness Model (Renger, Midyett, Soto, & Erin, 2000). The Clinical and Educational Wellness Model (Granello, 2013), is largely based on the lifespan model (Witmer & Sweeney, 1991), with modifications for use in wellness counseling within a clinical context. The model integrates eight domains including creativity, cognition, emotional regulation, physical activity and nutrition, preventative self-care, spirituality and meaning, cultural and environmental context, and social relationships. Additionally, the Wheel of Wellness (Witmer & Sweeney, 1991), which evolved into the Indivisible Self Wellness Model (Myers & Sweeney, 2004), was developed based on multiple factors that lead to holistic wellness including the five "life task" categories spirituality, self-direction, work and leisure, friendship, and love.

The increased attention to holistic models of wellness has led to the development of assessment instruments designed to measure levels of wellness. However, the multiple

definitions and models of wellness have led to various methods of assessing the construct (Roscoe, 2009). Several of the previously mentioned models have corresponding tools with which wellness is measured. For example, The Life Assessment Questionnaire (LAQ) was designed to measure the six domains of wellness identified by Hettler's Hexagonal Model. Similarly, the Perceived Wellness Survey (PWS), based on The Wellness Model (Adams, Bezner, Drabbs, Zanbarano, & Steinhardt, 2000), and the Optimal Living Profile (OLP), based on the Life Enhancement Program Wellness Model (Renger et al., 2000), both measure six dimensions of wellness using Likert scale items. The Wellness Evaluation of Lifestyle Inventory (WEL) and the Five-Factor Wellness Evaluation of Lifestyle (5F-WEL) were based on the Wheel of Wellness (Witmer & Sweeney, 1991) and Indivisible Self models (Myers & Sweeney, 2004), respectively.

### ***Indivisible Self Wellness Model***

Given the lack of a consensus operational definition and the subjective nature of wellness, there is a need for empirically tested models with supporting research bases. The development of the Indivisible Self Model of Wellness (IS-WEL) was based on data collected from the Wellness Evaluation of Lifestyle (WEL) (Myers et al., 1998). Exploratory and confirmatory factor analyses using a nearly 4000-person database resulted in the IS-WEL and its corresponding measure, the Five Factor Wellness Evaluation of Lifestyle (5F-WEL). The 5F-WEL is a valid and reliable measurement instrument that has been used extensively in wellness-related studies.

Wellness, the single higher order factor of the IS-WEL, is described as a measure of one's general well-being (Myers & Sweeney, 2005). The IS-WEL emphasizes holism, and the idea that individuals are more than the sum of their parts. This conceptualization is influenced by the work of psychologist Alfred Adler, who proposed that one aspect of self affects other aspects of self within the holistic interaction. The model's second-order factors include creative self, coping self, social self, essential self and physical self. Corresponding third-order factors include thinking, emotions, control, work, humor, leisure, stress management, worth, realistic beliefs, friendship, love, spirituality, gender identity, cultural identity, self-care, nutrition, and exercise.

Despite the many models and conceptualizations of wellness, few have been empirically supported. Based on the factor analyses supporting the conceptual model and associated assessment instrument (Hattie, Myers, & Sweeney, 2004; Myers, Luecht, & Sweeney, 2004; Rachele, Ciddihy, Washington, & McPhail, 2013), and the significant empirical attention in the literature, the IS-WEL (Myers & Sweeney, 2004) was chosen as the guiding framework for this intervention.

### ***Wellness Research***

The development of wellness models and measurement instruments has facilitated research and assessment related to individual perceptions of wellness. Among adults, wellness has been assessed in relation to marital satisfaction (Cohen & Willis, 1985), occupation and career (Puig et al., 2012), and aging (Dixon, 2007). Connolly & Myers (2003) used the Wellness Evaluation of Lifestyle (WEL) to examine job satisfaction, and

using regression analysis found that perceptions of wellness contribute significantly to job satisfaction. Wellness-based interventions have also been examined with children and adolescents (Omizo, Omizo, & D'Andrea, 1992; Tatar & Myers, 2010), related to self and body image (Golan, Hagay, & Tamir, 2014), as well as activity participation and expressive identity (Coatsworth, Palen, Sharp, & Ferrer-Wreder, 2006).

Multiple research studies support the use of the 5F-WEL measure in assessing wellness-related outcomes across populations (Hattie et al., 2004; Myers & Bechtel, 2004; Myers et al., 2004; Rachele et al., 2013). For example, Myers, Willse, and Villalba (2011) examined the role of perceptions of wellness in adolescent self-esteem using the 5F-WEL. Findings indicated that wellness factors account for a significant portion of the variance in self-esteem. Degges-White, Myers, Adelman, and Pastoor (2003) examined wellness within a medical context, using the 5F-WEL to assess perceptions of wellness among patients with chronic headaches. Findings included lower wellness-based activities (e.g. exercise, nutrition), as well as lower internal locus of control when compared to a control group.

Additionally, a number of studies have examined perceptions of wellness within the college population using the 5F-WEL (Sinclair & Myers, 2004; Spurgeon, & Myers, 2010). Several studies that utilize the 5F-WEL with a college student population can be referenced to provide insight into normative ranges of overall wellness. For instance, Myers and Mobley (2004) examined differences in wellness between traditional and nontraditional undergraduate students, finding mean overall wellness scores of 76.68 and 76.35 respectively. Lewis and Myers (2010) examined wellness as a predictor of alcohol

use among a sample of 108 undergraduate students. Using the 5F-WEL, they found an average overall wellness score of 76.39. Spurgeon and Myers (2010) examined relationships among racial identity, college type, and wellness. Findings indicated that samples from historically black colleges and universities and predominantly white institutions yielded similar mean wellness scores of 76.36 and 75.08. When comparing student-athletes and nonathletes, Watson and Kissinger (2007) found overall mean wellness scores of 76.76 among student-athletes, and a slightly higher 80.89 among non-student-athletes. These research studies provide a useful comparison to 5F-WEL test manual norms (76.22), as well as provide context for mean wellness scores in the current study.

### ***College Student Wellness***

Wellness in the college population has received particular attention in the literature. Research has revealed the prevalence of unhealthy behaviors among college students (Douglas et al., 1997). For example, studies demonstrate increased concerns related to weight gain and body image (Graham & Jones, 2002), as well as a significant decline in the frequency of vigorous physical activity (Bray & Born, 2004). According to a National College Health Risk Behavior Survey, many college students engage in behaviors that place them at risk for compromised well-being (Douglas et al., 1997), and their lifestyle habits do not meet recommended health guidelines (Everhart & Dimon, 2013). Among the prevalent behaviors that may lead to adverse health and wellness outcomes are alcohol consumption, tobacco use, dietary concerns, risky sexual behaviors, and lack of physical activity (Douglas et al., 1997). In addition to wellness-related risks

associated with unhealthy behaviors of college students, there is a clear impact on academic performance. For example, Trockel, Barnes, and Egget (2000) found that variables such as sleep habits, strength training, and spiritual study were positively correlated with semester grade point averages.

Research indicates that there are specific groups within the college population that may experience higher levels of stress and lower levels of wellness. For example, levels of stress and compromised well-being are heightened among specific college demographics, including women (Pedersen, 2012), racial minorities (Arbona & Jimenez, 2014; Nettles, Thoeny, & Gosman, 1986), and students with disabilities (Murray, Lombardi, Bender, & Gerdes, 2013; Wessel, Jones, Markle, & Westfall, 2009). Additionally, graduate students are at risk for high levels of stress and lower levels of wellness (Hyun, Quinn, Madon, & Lustig, 2006), and traditional students demonstrate lower levels of self-care than non-traditional students (defined as 24 years and older) (Hermon & Davis, 2004).

Because of stress and wellness-related challenges experienced by college students, many colleges and universities have implemented courses and programs in an effort to help students develop the knowledge, skills, and attitudes needed to adopt healthy behaviors (Kulina, Warfield, Jonaitis, Dean, & Corbin, 2009). The vast majority of research related to college wellness programs has focused on psychoeducational interventions, typically in the context of academic courses. Semester-long college wellness courses have demonstrated positive effects, including improvement in quality of life, perceptions of physical, spiritual, and psychological well-being (Higgins et al.,

2009), and gains in psychosocial adjustment and stress management (Conley et al., 2013). Hermon and Hazler (1999) identified a relationship between student adherence to a specific wellness model and state and trait aspects of psychological well-being. In addition to psychological benefits of wellness-based psychoeducation interventions, wellness courses have demonstrated positive changes related to physical activity and dietary behaviors (Hager, George, LeCheminant, Bailey, & Vincent, 2012). For example, Everhart and Dimon (2013) found that participation in a wellness course positively influenced cardiovascular exercise engagement, frequency of strength workouts, and dietary choices.

Technological advances have led to more courses being offered in online or hybrid formats, creating an increased interest in the effect that course delivery may have on wellness-related behavior change. However, research that has examined the effect of wellness course delivery formats has produced inconsistent results. Some studies support classroom lecture as superior to online delivery (Hager et al., 2012), while others indicate that students with higher perceived wellness are more likely to be enrolled in online and hybrid courses, as opposed to those with face to face delivery (Milroy et al., 2013). Everhart and Dimon (2013) examined the impact of course delivery format (web-based, traditional classroom, or blended) on wellness-related behaviors. Results indicated that participants improved cardiovascular exercise patterns more if they were in the traditional or blended delivery format than if they completed the wellness course entirely online. Findings also suggest improved overall physical activity and nutrition habits regardless of course delivery format.

Research supports the effectiveness of short-term interventions specific to stress management (Bunce, & West, 1996), and within a college population (Shapiro, Schwartz, & Bonner, 1998). Though little research has examined wellness programming provided in shorter doses, McGrady, Brennan, Lynch, and Whearty (2012) used an eight-session wellness and stress management intervention and found improvement in depressive symptoms among first-year medical students. Similarly, Deckro et al. (2002) examined the effect of a 6-week mind-body intervention on college students' psychological distress, anxiety, and perception of stress. Using the Perceived Stress Scale (PSS) as a primary measure, the study demonstrated significant improvement in perceptions of stress for students assigned to the experimental group.

### ***Solution-Focused Brief Therapy***

While the IS-WEL will serve as a guiding theoretical framework for the seven-week intervention, specific skills and techniques will be utilized by facilitators to support participants in improving wellness and reducing stress. The intervention will utilize skills and techniques consistent with a Solution-Focused Brief Therapy (SFBT) approach. This approach differs from traditional wellness-based interventions that utilize a psycho-educational approach, instead focusing on participant conceptualizations of wellness, identification of strengths, and building solutions.

A post-modern approach to counseling, SFBT adheres to tenets of social constructivist theory (Crockett & Prosek, 2013). In contrast to modernistic perspectives on human behavior, SFBT focuses on the identification and exploration of what brings



beneficial, positive changes in treatment (Lee, 2013). SFBT supports the belief that “solutions to problems are not objective ‘realities’ but rather individually constructed” (Lee, 2013, p.7). As SFBT conceptualizes problems as existing in the past, the approach focuses on the present and future rather than on past experiences.

The basic tenets of SFBT as defined in the *Treatment Manual for Working with Individuals* by the Solution-Focused Brief Therapy Association (Bavelas et al., 2013) include:

- The therapeutic focus should be on the client’s desired future rather than on past problems or current conflicts.
- Clients are encouraged to increase the frequency of current useful behaviors.
- It is based on solution-building rather than problem-solving.
- No problem happens all the time. There are exceptions, that is, times when the problem could have happened but didn’t, that can be used by the client and therapist to co-construct solutions.
- Therapists help clients find alternatives to current undesired patterns of behavior, cognition, and interaction that are within the clients’ repertoire or can be co-constructed by therapists and clients as such.
- Differing from skill building and behavior therapy interventions, the model assumes that solution behaviors already exist for clients.

- Small increments of change lead to large increments of change.
- Clients' solutions are not necessarily directly related to any identified problem by either the client or the therapist.
- The conversational skills required of the therapist to invite the client to build solutions are different from those needed to diagnose and treat client problems.

SFBT differs significantly from other therapeutic approaches. Among the characteristics that distinguish SFBT from other therapeutic approaches are: a lack of diagnosing pathology, a focus on what is right rather than what is wrong, and not assuming that what is behind the client's words is more significant than what is being said (McKergow & Korman, 2009). Language plays a critical role in SFBT therapist-client interactions. SFBT therapists ask questions to introduce new possibilities and co-construct new meanings, which can actively shape a new version of the client's life (Jordan, Froerer, & Bavelas, 2013). Clinically significant language differences from other modalities have been explored using microanalyses of expert sessions. Results have indicated that SFBT sessions were significantly higher in positive content and lower in negative content when compared to Cognitive Behavioral Therapy (CBT) (Jordan et al., 2013). SFBT formulations also preserved a significantly higher proportion of clients' exact words and added fewer therapist interpretations than did CBT or Motivational Interviewing (MI) (Korman, Bavelas, & De Jong, 2013).

Multiple studies have examined the effectiveness of SFBT on a variety of outcome variables. The evidence base for SFBT is strengthened by several outcome reviews and analyses. Reviews by Gingerich and Eisengart (2000), Gingerich and Peterson (2012), Kim (2008), and Corcoran & Pillai (2009) support the positive benefits of SFBT. Among the findings is strong evidence related to length of treatment, indicating that SFBT may be more cost-effective than other therapeutic approaches. However, consistent among the reviews are concerns related to the rigor of SFBT studies, demonstrating a need for additional randomized controlled trials in the literature.

Evidence supports the effectiveness of SFBT across a variety of populations. Within an adult population, SFBT has been shown to be effective in helping clients with a range of symptoms and behaviors (Gingerich & Peterson, 2012) including depressive symptoms (Sundstrom, 1993), medication compliance, abstinence from alcohol (Spilsbury, 2012), post-traumatic stress (Bannick, 2008), and parenting skills (Zimmerman et al., 1996). SFBT has demonstrated effectiveness across populations that include couples (Zimmerman, Prest, & Wetzel, 1997), college students (Ng, Parikh, & Guo, 2012; Sari & Yayci, 2013; Sundstrom, 1993), individuals with intellectual disabilities (Roeden, Bannick, Maaskant, & Curfs, 2009), and groups (Lafountain et al., 1996; Zimmerman et al., 1996).

Research also demonstrates the effectiveness of SFBT with children and adolescents. For example, outcome literature related to school populations demonstrates the positive effects of SFBT on behavioral and academic problems (Kim & Franklin, 2009), improved listening comprehension, reading fluency, perceptions of general

intelligence, and attitudes toward school and teachers. Daki and Savage (2010) examined the effectiveness of a short-term (five session) solution-focused intervention on academic, motivational, and socio-emotional functioning. Results demonstrate improved listening comprehension, reading fluency, motivation, and perceptions of intelligence, as well as improvement in attitudes to school and teachers, and a decrease in anxiety.

SFBT has also been utilized in a health-related context, with challenges related to weight management and diet (Dolan, 1997), and in work with athletes (Hoigaard & Johansen, 2004). Valve et al., (2013) examined the effectiveness of a SFBT health-related intervention designed for female adolescents and young adults. The SFBT intervention focused on healthy physical activity, diet, and sleeping behaviors, while encouraging clients to set and achieve goals, and acknowledge and build on their own strengths. Findings included improvements in physical activity, meal regularity and sleeping patterns.

Given the specific skills and techniques that distinguish SFBT from other therapeutic modalities, guidelines for skill-building and implementation are critical. This is addressed in part through a number of books and practice manuals that provide specific guidelines and techniques (De Jong & Berg, 2013; Greene & Lee, 2011; Miller, Hubble, & Duncan, 1996; Ratner, George, & Iveson, 2012). Additionally, there are a number of books that apply the SFBT approach with specific challenges including alcohol abuse (Berg & Miller, 1992), adjustment disorders (Araoz & Carrese, 1996), eating disorders (McFarland, 1995), and stress (O'Connell, 2001). There are also books that demonstrate the use of SFBT with specific populations such as domestic violence offenders (Lee,

Sebold & Uken, 2003), and in contexts including schools (Kelly, Kim, & Franklin, 2008), and group therapy (Metcalf, 1998).

### ***Solution-Focused Coaching***

Solution-Focused Coaching (SFC) is an adaptation of SFBT for use with non-clinical populations. Like SFBT, it is focused on helping people identify preferred outcomes and specific goals, disengaging from problem-focused thinking, and identifying and utilizing resources and strengths through a mutually respectful collaborative environment (Grant, 2013). SFC embraces several basic beliefs that guide practice including: focusing on the person and not the problem, asking questions is more important than providing answers, focusing on the future not the past, and building on the client's strengths and exploring solutions (O'Connell et al., 2013).

SFC differs from SFBT in important ways including focusing on non-clinical goals, and delivery by a trained coach rather than a counselor or psychotherapist (O'Connell et al., 2013). Coaching may include objectives such as improved task performance, skill acquisition, job transition and career development, improved team performance, enhanced self-awareness, confidence, or self-efficacy, and competency-based personal development (O'Connell et al., 2013). Solution-focused approaches are increasingly being used by managers, leaders, human resource professionals, and professional coaches to achieve a variety of goals including career development, financial management, performance, well-being, and relationship satisfaction (Caldwell, Gray, & Wolever, 2013; Grant, 2012; Grant & O'Connor, 2010).

SFC is supported in the literature as an effective approach to facilitating change. Within a coaching context, solution-focused questioning has been found to be more effective than problem-focused questioning, with notable differences in client affect, goal approach, understanding of problems (Grant & O'Connor, 2010), and improvements in self-efficacy and action planning (Grant, 2012). SFC has also demonstrated effectiveness in improving workplace well-being (Grant et al., 2009), and can be effective in-group interventions (Green et al., 2006). Similar to SFBT, SFC employs specific skills and techniques that are distinguishable from other approaches. Within the literature there are several books specific to SFC that provide rationale, guidance, and techniques related to SFC (Jackson & McKergow, 2007; O'Connell et al., 2013).

### ***Summary***

Research demonstrates that college students are at risk for heightened levels of stress and compromised well-being (Calicchia & Graham, 2006; Douglas et al., 1997) which may result in a variety of potential detrimental effects. These include increased mental health problems (Frazier & Schauben, 1994), poor performance and high attrition rates (Daugherty & Lane, 1999; Stallman, 2010), and greater susceptibility to illness (Torres & Solberg, 2001). The literature also provides evidence for the potential positive impact of stress buffers and coping strategies (Brown & Siegel, 1988; Kobasa et al., 1982; Wheaton, 1985).

Wellness as an emerging paradigm has received increased attention in the literature, resulting in the development of multiple theoretical models and assessment

measures (Roscoe, 2009). The IS-WEL is an empirically supported model of wellness (Myers et al., 1998), and its corresponding assessment tool, the 5F-WEL, has demonstrated validity and reliability in numerous research studies (Hattie et al., 2004; Myers & Bechtel, 2004).

The literature also reveals a lack of brief, evidence-based interventions designed to improve wellness in the college student population. The majority of wellness-based interventions are typically offered in the context of academic courses (Conley et al., 2013; Higgins et al., 2009). To effectively facilitate wellness-based change within a brief model, a therapeutic approach with proven short-term effectiveness must be integrated. Research supports the effectiveness of SFBT across a range of outcomes and populations (Gingerich & Eisengart, 2000; Gingerich & Peterson, 2012). Positive outcomes are also demonstrated related to health and wellness (Dolan, 1997; Valve et al., 2013), and in a short-term context (Corcoran & Pillai, 2009; Kim, 2008).

The identified need for a brief, evidence-based intervention that can improve wellness and decrease stress among college students informed the conceptual framework and intervention development. This conceptual framework is discussed in detail in Chapter 3, and integrates both the IS-WEL and SFBT as central components.

### **Chapter 3: Guiding Framework for the Research**

The solution-focused wellness intervention was developed based on a salutogenic conceptualization of health and well-being. In contrast to a pathogenic framework that examines the origins and causes of disease, a salutogenic approach focuses on how people stay healthy and what promotes well-being (Granello, 2013). The salutogenic approach views wellness as the process of moving toward the health end of the health-disease continuum (Antonovsky, 1996). Additionally, the development of the solution-focused wellness intervention was informed by a post-modern, social constructivist epistemology, which assumes that knowledge and experiences are socially constructed (Gergen, 1985).

#### ***Salutogenic Approach***

Historically, western medicine has embraced a pathogenic medical model of well-being, conceptualizing health as the absence of disease. This dualistic view of health fails to recognize the interrelationships of multiple factors that influence health and illness including psychological, environmental, and social. Gradual acceptance of a multi-dimensional conceptualization of health has led to increased awareness and promotion of salutogenic approaches to wellness. This shift in understanding of health is supported by the World Health Organization, which defines health as a state of complete



physical, mental, and social well-being, and not merely the absence of disease or infirmity (WHO, 1992).

### ***Wellness***

The acceptance of a salutogenic approach as a viable paradigm, as well as health and well-being as multi-dimensional constructs, has led to increased wellness-based research. Evidence supports an increased risk for major illness and death associated with lifestyle behaviors such as inactivity, diet, smoking, and sustained stress (Smith, et al., 2013). Research also supports the positive implications of wellness-related behaviors on health, disease prevention (Blair, Jacobs, & Powell, 1985), and quality of life (Drewnowski & Evans, 2001). Additionally, the prevalence of unhealthy behaviors specific to college students (Bray & Born, 2004; Graham & Jones, 2002) illustrates a need for wellness-based research with the college population.

Further evidence of the salutogenic approach to health and wellness as an emerging paradigm (Larson, 1999), is illustrated by multiple models of wellness in the literature (e.g. Hettler, 1980; Witmer & Sweeney, 1991) and supporting research studies (e.g. Hattie et al., 2004; Myers & Bechtel, 2004). Despite numerous models of wellness, the Indivisible Self Model of Wellness (IS-WEL) was chosen as a foundational theoretical component for this intervention based on its extensive empirical support (Myers et al., 2004; Rachele et al., 2013). The second and third order factors of the IS-WEL served as themes and discussion topics for intervention sessions. Participants were encouraged to examine their own wellness beliefs and practices, and develop strategies to move toward optimal wellness.

## ***Stress and Coping***

Consistent with a salutogenic orientation to wellness, stress appraisal and coping are critical components of a proactive and preventative model. Stressors can be defined as demands made by the internal or external environment that upset balance or homeostasis, thus affecting physical and psychological well-being (Lazarus & Cohen, 1977). The physiological and psychological implications of stress have been well documented, with clear links established between stress and both physical and psychological illness (Glanz, Rimer & Lewis, 2002). Research illustrates that heightened stress levels and compromised well-being are common among college students (Calicchia & Graham, 2006; Kausar, 2010), which can result in lower self-esteem and perceived health (Hudd et al., 2000), and increased mental health problems such as anxiety and depression (Frazier & Schauben, 1994; Stallman, 2010).

Acknowledging the potential impact of stress on wellness is consistent with a salutogenic and holistic orientation, as stress may come from multiple domains (e.g. environmental, social, and emotional). The theory of psychological stress and coping developed by Lazarus and colleagues (e.g. Lazarus, Kanner, & Folkman, 1980) identifies cognitive appraisal and coping as critical mediators of stress. Cognitive appraisal is a process in which individuals evaluate whether a particular encounter with the environment is relevant to his or her well-being (Folkman, et al., 1986).

Lazarus' theory posits that during the primary and secondary phases of appraisal, potential harm and coping options are evaluated. Coping can be defined as an individual's cognitive and behavioral efforts to manage the stress (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). The emphasis on appraisal and coping, and

wellness attainment is consistent with a salutogenic approach, and differs from a pathogenic approach in which disease is the focus (Granello, 2013). The theory of stress and coping acknowledges not only the potential holistic implications of stress on wellness, but individual perspectives, conceptualizations, and coping that may influence stress and wellness.

### ***Social Constructivism***

Central to the intervention model development was the integration of a solution-focused approach to facilitation. SFBT is a strength-based approach defined by its emphasis on constructing solutions rather than pathologizing, and assumes that clients have the resources and capacity to change (De Jong & Berg, 2013). SFBT uses a post-modern approach to counseling, and adheres to tenets of social constructivist theory (Crockett & Prosek, 2013).

Social constructivism is based on specific assumptions about reality, knowledge, and learning (Kim, 2001). Social constructivism believes that reality is constructed through human activity. It regards knowledge as a human product that is socially and culturally constructed (Gredler, 1997), and views learning as a social process. This epistemology is consistent with both wellness and salutogenic perspectives that view health and well-being as subjective and multi-dimensional.

Social constructivism is principally concerned with the processes through which people describe, explain, or account for the world and their experiences (Gergen, 1985). In an educational or group context, a social constructivist orientation requires a transition away from traditional information transmission toward one that is more interactive and complex (Prawat & Floden, 1994). The process of knowledge building and

understanding, is the result of “an active, cooperative enterprise of persons in relationship” (Gergen, 1985, p. 267). The basic assumptions of social constructivism inform both personal conceptualizations of wellness, and the intervention’s orientation to facilitating change, namely a solution-focused approach.

### ***Solution-Focused Brief Therapy***

SFBT is a strength-based therapeutic approach that is focused on the construction of solutions (Gingerich & Eisengart, 2000). As noted in the *Treatment Manual for Working with Individuals* by the Solution-Focused Brief Therapy Association (Bavelas et al., 2013), therapists work collaboratively with clients to co-construct alternatives for current undesired patterns of behavior. SFBT utilizes unique strategies and techniques that are consistent with a salutogenic and social constructivist approach. For example, clients can be supported in identifying strengths, exceptions, and “ideal” states through utilization of specific SFBT techniques such as scaling questions, “miracle” questions, amplifying, future-oriented questions, and goal setting. SFBT can support clients in focusing on abilities and potential rather than problems, deficits, and pathologies. Thus, an understanding that the future is both created and negotiable can be established, leading to the construction of future-oriented, wellness-based behaviors, and goals.

### ***Theory Integration***

Intervention development was influenced by both a salutogenic orientation to wellness, and a social constructivist epistemology. Given the personal and subjective nature of wellness, utilization of an approach that is based on tenets of social constructivism was essential. The understanding that knowledge is socially and culturally constructed (Gredler, 1997) provides an opportunity to explore and define

conceptualizations of personal wellness. The variance in wellness interpretations, as evidenced by the multiple existing models represented in the literature, allows for flexibility in client conceptualizations of their own well-being. The specific skills and techniques that are foundational to SFBT provided a natural fit for exploring wellness.

For example, finding exceptions, identifying strengths, use of scaling and miracle questions, as well as goal setting, are critical for supporting students in identifying aspects of personal wellness that they can build on to facilitate change. Working collaboratively with students to identify their strengths, resources, and ideal states, allows for the development of future-oriented goals. These self-determined goals can be related to specific domains of wellness and/or holistic well-being. Using SFBT techniques, clients can be supported in identifying and defining areas that are most pertinent to their overall wellness, and exploring relationships between the multiple dimensions of wellness.

Utilization of the IS-WEL model of wellness provides a framework with which to examine multiple factors of well-being, leading to “a way of life oriented toward optimal health and well-being” (Myers et al., 2000, p. 252). Incorporation of a solution-focused approach allows for the development of participant conceptualizations, goals, and solutions related to wellness and stress. Consistent with a salutogenic orientation, using skills and techniques specific to SFBT allows facilitators to support participants in movement towards well-being rather than away from disease. The integration of SFBT and the IS-WEL provided a foundation for the solution-focused wellness intervention, and created a context within which participants could explore personal aspects of wellness, while building upon existing strengths and developing wellness-based goals. A

conceptual model of the Solution-Focused Wellness Intervention is illustrated in Figure 1.

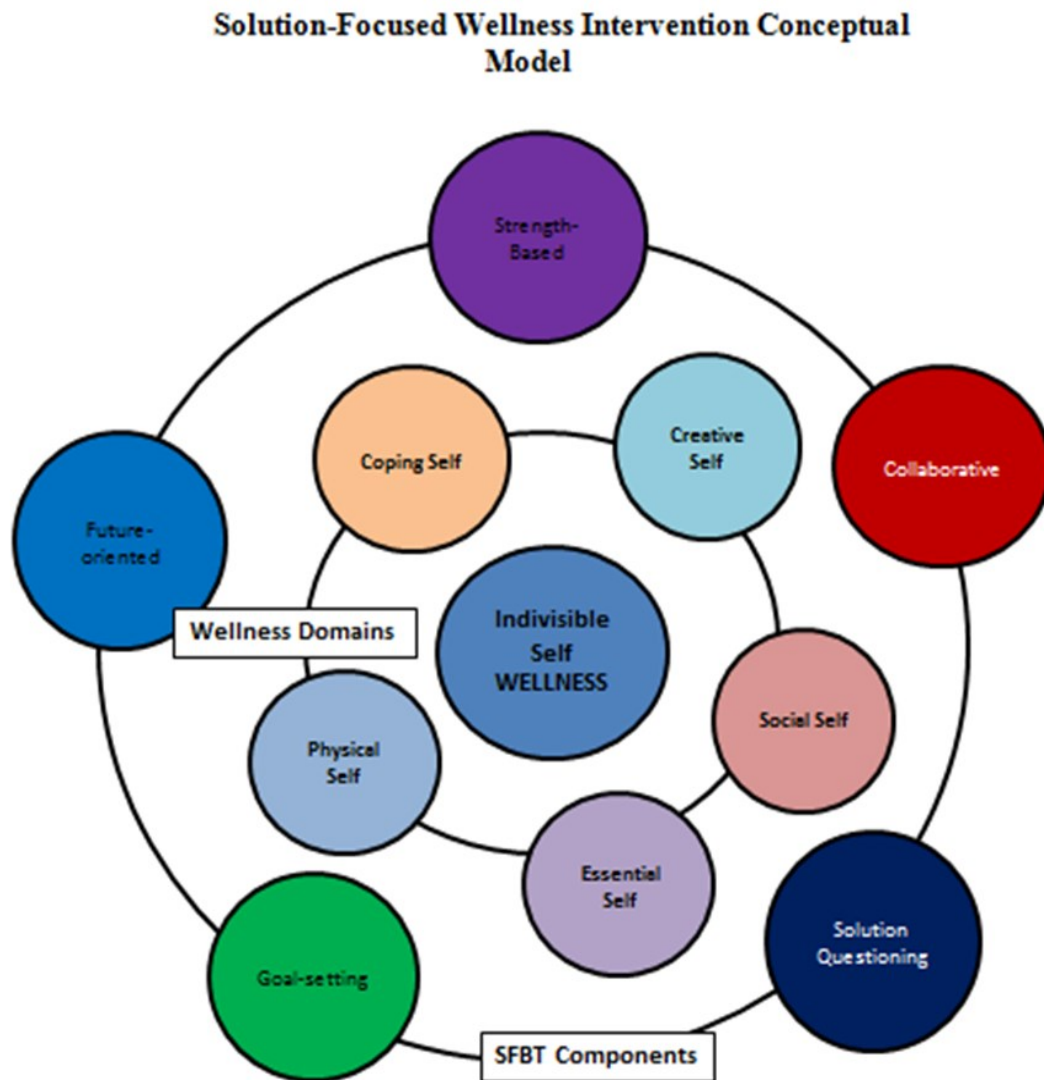


Figure 1. SF Wellness Conceptual Model

## **Chapter 4: Research Methods**

This research study examined the effectiveness of a brief solution-focused wellness intervention in reducing stress and improving wellness among college students, using a randomized controlled study (RCT) design. A mixed-methods approach was utilized to examine longitudinal outcomes within groups, and between-group comparisons of experimental and control groups related to perceptions of stress and wellness.

Perceived stress can be defined as the degree that events or situations are appraised as stressful (Lazarus & Cohen, 1977), whereas wellness can be described as the integration of mind, body, and spirit as a measure of one's general well-being (Myers et al., 2000). In order to assess these constructs, the Perceived Stress Scale (PSS) (Cohen, et al., 1983) and the Five-Factor Wellness Evaluation of Lifestyle (5F-WEL) (Myers & Sweeney 1999), were utilized. Data was collected pre-intervention, at seven weeks, and at six weeks post intervention for both intervention and control groups.

To gain a more in-depth understanding of the effect of the intervention, this explanatory sequential design also incorporated a qualitative component. An Applied Thematic Analysis (ATA) was conducted to gain insight into participant experiences.

ATA is a qualitative data analysis method that “can be applied across a range of epistemological approaches” (Braun & Clarke, 2006). Semi-structured interviews were administered to volunteer members of the intervention groups, and themes were generated from the interview data. Semi-structured interviews for treatment group participants took place as soon as possible after the completion of the wellness-based intervention to minimize any potential maturation effects or other threats to internal validity. Using ATA, identified themes were used to provide insight into participant experiences, and to augment quantitative analyses.

### ***Sample***

Approval from The Ohio State University Institutional Review Board (IRB) was gained prior to initiating research. College students who experience stress or compromised wellness were recruited via several avenues. Informational flyers were posted in conspicuous locations throughout campus. Participants were also recruited via e-mails to department heads for several colleges within the university (e.g., College of Engineering, College of Social Work, etc.), who were asked to forward the e-mail via college listserv. Finally, Campus Counseling Center Directors and pertinent personnel were contacted and assistance requested regarding counseling center referrals.

To calculate sample size, an a priori power analysis was conducted using G\*Power software. Assuming an Alpha level of .05, Power of .95, and a large effect size of .25, a total sample size of 44 students was required. In effort to maximize statistical power while considering potential attrition, a goal of between 45 and 50 participants was



set. This would allow for two seven-week intervention groups and two control groups consisting of between 10 and 12 participants per group. Given the potential of attrition, group size will likely fall within the recommended parameters for ideal group size of 8-12 (Gladding, 1994).

Attrition could potentially affect the study in several ways. Internal validity could be compromised by altering group equivalence, while external validity could be impacted by a more limited sample, which is less likely to generalize (Festinger, & DeMatteo, 2008). A smaller sample size also leads to less statistical power, while a larger sample will strengthen study design (Festinger, & DeMatteo, 2008). For example, if the goal of 45 total members was met, the power would be .98 based on post hoc achieved power computation.

Total recruitment for the study was 59 students. The students were randomly assigned to either intervention or control groups. The solution-focused wellness intervention group consisted of 29 total participants, and the interpersonal process group consisted of 30 total participants at baseline. Between the initial screening and the first group session, two members of the intervention group, and three members of the control group dropped out, leaving fifty-four total participants. Throughout the course of the seven-week group, additional students were lost to attrition. Two members of the intervention group did not meet the minimum expectation of attending five of the seven sessions; therefore, their data were excluded from the analysis. Five members of the control group did not meet the minimum expectation of attendance, and were also excluded from the analysis. This left a total of 25 members of the intervention group for

an attrition rate of 14%, and 22 members of the control group for an attrition rate of 27% between baseline and seven weeks. Total attrition for both groups during this period was 20%.

Based on the total sample size of 47 for the initial seven week analysis, a post-hoc power analysis was conducted using G\*Power. Based on sample and effect size for the initial analysis, results of the power analysis indicated an overall power of .99 for both the wellness and stress analyses. For the follow-up analysis including three assessment points, an additional seven participants were lost to attrition resulting in a sample size of 40, or 32% total attrition between baseline and six weeks follow-up. Based on the reduced sample size, and calculated eta squared effect size, the overall post-hoc power for the follow-up analysis was also .99 for wellness main effects of time and interaction, while the main effect of group had a much smaller effect size ( $\eta_p^2 = .108$ ) and a power of .29. Post-hoc power analyses for stress also revealed a power of .99 for main effect of time, while the interaction had a smaller effect ( $\eta_p^2 = .093$ ) with power of .23. These results indicate that the study had an overall strong sample size and power. Effect size is discussed in depth in Chapter 5.

### ***Screening***

Interested students were scheduled for a brief screening to assess interest and appropriateness of inclusion in the research study. The purpose of the screening was to answer questions, discuss intervention times, location, and duration, and clarify expectations for participation. The initial screening also helped to ensure that any

potential participants who were seeking participation in the study based on assumed therapeutic benefit did not demonstrate emotional or psychological needs of a severity that would warrant an alternative level of care. To ensure confidentiality of participants, screenings took place at a private office at The Ohio State University with only the co-investigator and prospective participant present. Eligible students interested in study participation completed Informed Consent and baseline measures at the time of initial screening which included the General Demographic Questionnaire, PSS, and 5F-WEL.

### ***Inclusion / Exclusion Criteria***

Students were eligible for inclusion if they were eighteen years of age, English-speaking, and maintained full-time enrollment status. Both undergraduate and graduate students were eligible for participation. Any students who reported current psychiatric illness could have potentially been excluded from participation and referred to an alternative level of care based on the clinical judgment of the screening clinician. No students were excluded from the study based on the need for a higher level of care. To ensure adequate treatment engagement levels it is important to establish required participation and completion rates (Lee, Uken, Sebold, 2007). Participant data were included for those individuals who attended at least five of the seven group sessions.

### ***Assignment and Retention***

Eligible participants were randomly assigned to a seven-week experimental or control group. The intervention group was hypothesized to be an effective means of treatment. Therefore, to address any ethical concerns, participants assigned to the control

group received treatment presented in an alternative format (Shadish, Cook, & Campbell, 2002), consisting of an interpersonal process (IPT) support group. Financial incentives were used to compensate participants for their time and effort in completing measures at pre and post-intervention. All participants received a \$30 Amazon gift card at the completion of the seven-week group as compensation for completion of measures. Although only data from those who attended at least five of the seven sessions were used, all participants were eligible for compensation regardless of attendance. In addition, participants were entered into a drawing upon completion for a chance to win one of four additional \$50 gift cards. Investigators indicate that money is an important incentive to encourage participation (Martinson, et al., 2000) and retention (Mapstone, Elbourne, & Roberts, 2002). Students who wished to participate in the group intervention, but did not want to participate in the research study were offered alternative referrals to existing resources (e.g. campus counseling services).

### ***Intervention***

Intervention sessions were 60 minutes in duration and met weekly at an established time and location (Tuesdays or Thursdays from 5:00-6:00 p.m.). Recommendations for ideal therapeutic group size range from 8 to 12 participants (Gladding, 1994). In order to meet necessary sample size requirements for an adequately powered research design, while following recommendations for group size, it was necessary to establish two intervention and two control groups for this study. Each intervention group session followed a predictable format with check-in, review,

introspection and discussion opportunities, and completion of strength-based goal-setting worksheets.

Intervention group sessions were guided by the IS-WEL with each of the second-order factors examined and discussed. The five second-order factors of the IS-WEL: essential self, coping self, physical self, creative self, and social self, served as foundational themes leading to improved overall wellness (first order factor). This model provided a basis for discussion, introspection, identification of strengths, and future-oriented goal setting. The first session in the intervention series served as an introduction in which stress and wellness are discussed, and group norms and expectations established. The five subsequent sessions followed the previously mentioned format including check-in, discussion, goal-setting, etc., while using one of the IS-WEL domains of wellness as session guide. The final session provided participants the opportunity to reflect on the group process, identify gains, and provide feedback to facilitator or other participants.

Critical to this intervention was the incorporation of a solution-focused approach. By using SFBT as the therapeutic approach for the intervention group, facilitators are able to support participants in identifying strengths, exceptions, “ideal” states related to IS-WEL factors, and employ specific SFBT techniques including scaling questions, “miracle” questions, amplifying, future-oriented questions, and goal-setting.

### ***Intervention and Control Group Facilitation***

Intervention and control group facilitators were recruited based on several criteria. First, all facilitators were licensed clinicians (for example; Psychologist, Social Worker, Counselor). Second, as both SFBT and IPT utilize specific skills and techniques that are unique to each approach, clinicians were required to have at least two years of experience with either SFBT or IPT, as required in either the intervention or control groups.

The intervention groups were both facilitated by a Licensed Independent Social Worker (LISW). This clinician was licensed by the Ohio Counselor, Social Worker and Marriage & Family Therapist Board (CSWMFT), and had been a practicing clinician for ten years at the time of the study, four of which were specific to the college population. The intervention group facilitator had been specifically practicing SFBT for approximately eight years in both individual and group contexts, had been trained through graduate coursework and professional development trainings, had published in a peer-reviewed solution-focused journal, and presented at conferences focused specifically on SFBT.

As a means of comparison, a seven-week control group was offered to assigned participants that ran concurrent to intervention groups. The control group consisted of a one-hour general support group based on an IPT approach and Irving Yalom's curative factors (Vinogradov & Yalom, 1989). Process-based groups are loosely structured by nature, but do include check-in and check-out procedures, and offer participants opportunities to express thoughts and feelings, as well as provide feedback to each other. A process-oriented group format was chosen as an alternative to the intervention group

due to the prevalence of this approach across university counseling centers (Golden, Corazzini, & Grady, 1993).

Facilitators for the process-oriented control groups were expected to have specific expertise in IPT. The facilitator for the first control group was a licensed psychologist by the state of Ohio Board of Psychology. This facilitator had been a practicing therapist for four years, with a specific emphasis on IPT. The facilitator for the second group was a Licensed Professional Clinical Counselor (LPCC) by the Ohio Counselor, Social Worker and Marriage & Family Therapist Board (CSWMFT). Similarly, this clinician had specific training in IPT, was a practicing therapist for four years, and had facilitated multiple process groups throughout their professional career. Both clinicians had provided extensive counseling to the college student population in both individual and group contexts. Based on their backgrounds, education, and training, these clinicians were assessed to be qualified for facilitating control groups for this research study.

### ***Fidelity***

To address treatment integrity, facilitators for both the seven-week wellness intervention group and the control group completed fidelity checklists at the conclusion of each session. Intervention group facilitators completed a fidelity checklist adapted from Lehman and Patton's (2010) solution-focused fidelity instrument consisting of thirteen items. Because the group intervention differs from individual therapy, certain items were modified, while others were eliminated. Additionally, wellness-related items were integrated into the fidelity measure to ensure that session guidelines were followed.

Consequently, the fidelity measure included seven items specific to SFBT and three wellness-related items. To ensure treatment differentiation, facilitators of the control group also completed a fidelity checklist after each session based on Yalom's "therapeutic factors" in therapy groups. These factors include altruism, catharsis, cohesiveness, corrective reenactment of primary family group, development of socializing techniques, existential factors, imitative behavior, imparting information, instillation of hope, interpersonal learning, and universality (Vinogradov & Yalom, 1989).

In addition to the indirect fidelity measures, facilitators were provided with digital recording devices and directed to record two sessions (week 3 and week 6), with formal consent obtained from participants. Research team members reviewed each of the recorded sessions and completed fidelity checklists to determine implementation adherence. Though there is literature that discusses fidelity strategies, there is no consensus acceptable level of fidelity identified. However, in a review of treatment fidelity related to health behavior research, Borelli et al., (2005) defined "high treatment fidelity" as at least 80% adherence. Based on this guideline, facilitators who scored a five or greater on the 7-point Likert scale in 80% of items were deemed to have acceptable fidelity levels.

## **Quantitative**

### ***Measures***

#### *General Demographic Questionnaire*



General demographic information included age, gender, race, education level, grade point average, in-state/out-of-state status, domestic/international status, and marital status. This data was primarily used to describe the study sample and ensure that intervention and control groups have no significant differences. However, demographics may be used to note any trends in the data, and/or utilized in future analyses.

In addition to the general demographic information, three questions were included on this initial questionnaire. Participants were asked general questions about their wellness using a ten-point scale ranging from 1 = least to 10 = most. The questions were:

*How would you rate your overall well-being?*

*How would you rate your overall life satisfaction?*

*How would you rate your overall happiness?*

These questions were included for possible future analysis correlating general perceptions of well-being with the more complex measurement instruments to determine the accuracy of individual assessments of their own wellness. This is discussed in depth in the Discussion section.

#### *Perceived Stress Scale (PSS)*

The Perceived Stress Scale (PSS) (Cohen, et al., 1983) is a widely used psychological instrument for measuring the perception of stress. The 10 item PSS is designed to evaluate the degree to which situations in one's life are appraised as stressful and includes items related to: how unpredictable, uncontrollable, and overloaded

respondents perceive their lives to be (Cohen, et al., 1983). The assessment of perspectives of one's stress emphasizes the importance of appraisal, and focuses less on responses to particular events. Thus, global appraisal is more sensitive to stress from chronic conditions (Pbert, Doerfler, & DeCosimo, 1992). The PSS uses a 0-4 Likert scale (ranging from 0 = never to 4 = very often) with scores on positive items obtained by reversing responses and summing across all items.

The PSS demonstrates substantial validity and internal and test-retest reliability across both clinical and non-clinical populations (Cohen, et al., 1983; Hewitt, Flett, & Mosher, 1992), and has demonstrated internal consistency across populations and languages (Gonzalez & Hernandez, 2007). PSS scores have been found to correlate with depressive symptomology (Hewitt, et al., 1992), and with affective and physical symptoms (Pbert, et al., 1992). Correlations with symptomatological measures range from .52 to .76 (Cohen, et al., 1983). Validity criteria for the PSS have been found to be unaffected by gender or age (Cohen, et al., 1983).

In several samples, the PSS has demonstrated strong internal consistency. Cronbach's alpha is an accepted measure of internal consistency, with coefficients ranging from 0 to 1 and higher scores indicating greater internal consistency (Santos, 1999). Cohen et al., (1983) found coefficient reliability ranging from .84 to .86 for the PSS across two separate samples of college students. Using Cronbach's Alpha, a reliability coefficient of .70 was calculated for the PSS in the current study. While slightly lower than the studies by Cohen et al. (1983), an alpha of .70 indicates an acceptable reliability coefficient (Nunnally, 1978).

### *Five Factor Wellness Evaluation of Lifestyle (5F-WEL)*

The 5F-WEL (Myers & Sweeney 1999) is a self-report measure of wellness that includes 73 items with high scores reflecting greater wellness. The 5F-WEL uses a 4-point Likert Scale (e.g., 1= strongly agree, 4 = strongly disagree). The 5F-WEL typically takes approximately fifteen minutes to complete (Myers et al., 2011). This measure was developed to assess factors included in the IS-WEL, and is a result of factor analyses and structural equation modeling of the original Wellness Evaluation of Lifestyle (WEL) (Witmer & Sweeney, 1991) and has substantially improved psychometric properties (Myers et al., 2004).

The 5F-WEL supports the interactive nature of wellness through assessment of five second order (Creative Self, Coping Self, Social Self, Essential Self, and Physical Self), and seventeen third order factors (Thinking, Emotions, Control, Work, Positive Humor, Leisure, Stress Management, Self-Worth, Realistic Beliefs, Friendship, Love, Spirituality, Gender Identity, Self-Care, Exercise, and Nutrition), that produce a single, higher order wellness factor. Scale scores are computed by averaging item-level scores with each of the scales and multiplying by a constant of 25, which result in a range of 25-100 (Myers et al., 2004).

Exploratory and confirmatory factor analyses resulted in uniformly high alpha coefficients for first and second order factors: total Wellness, .94, Creative Self, .92, Coping Self, .85, Essential Self, .88, Social Self, .85, and Physical Self, .88. Third order factors ranged from .66 to .87. Adequate reliability of all sub-scales has been established

(Myers et al., 2011). For the current study, internal consistency was assessed using Cronbach's alpha reliability coefficient. A coefficient of .92 was calculated, indicating that scale items have very strong internal consistency (Santos, 1999). Multiple studies have been conducted that have utilized the 5F-WEL (Hattie et al., 2004; Rachele et al., 2013), and several studies related to wellness of ethnic minorities have established the 5F-WEL in cross-cultural studies (Garrett, 1999; Spurgeon & Myers, 2010).

### ***Quantitative Data Collection and Management***

After participants completed Informed Consent forms, data collection began at pre-intervention screenings. Eligible research study participants completed the General Demographic Questionnaire, PSS, and the 5F-WEL. The PSS and 5F-WEL were completed again post-intervention (seven weeks), and again at six weeks follow-up. All completed measures were de-identified and coded, with the encoding key located in an alternate location (Coulehan, & Wells, n.d.). Measures are currently stored in locked file cabinets in the Principle Investigator's (PI) on-site office that is only accessible by key, and located in a building that also requires key access.

### ***Quantitative Data Analysis***

A pre-intervention analysis was conducted to establish a baseline and examine potential differences between groups. Based on the intervention design, the primary analysis included repeated measures analysis of variance (RM-ANOVA) to compare within and between group differences in outcome variables. Statistical analyses were performed using SPSS 21 software (IBM).

Using RM-ANOVA allowed for the testing of significant effects of independent variables on dependent variables. For this study, independent variables included group membership (intervention, control), while dependent variables included stress and wellness as measured by the PSS and the 5F-WEL. Because these measures were utilized at baseline, seven weeks, and for six-week follow-up, RM- ANOVA was utilized. A repeated measures multivariate analysis of variance (MANOVA) was also an option for analyzing the effects for both perceived stress and perceived wellness simultaneously. However, ANOVA was chosen for several reasons. First, the primary outcome of interest for this study was participant perceptions of wellness. Thus, it was most appropriate to conduct separate analyses for each of the two dependent variables, wellness and stress, rather than combine to assess both simultaneously. One of the benefits of conducting an analysis using MANOVA is to minimize Type I error. However, given that this study examined only two dependent variables the risk of this type of error was minimal.

The between group main effect is the intervention group (intervention and control groups), while the within group main effect is the time effect (pre-intervention, post-intervention, and six week follow-up). Interaction effects between time and group membership evaluate whether the influence of one independent variable (e.g. group) is altered by the level of another independent variable (e.g. time) (Weinfurt, 1995). This analysis provided insight into the specific effects of group membership, as well as the interaction of group membership and time on perceived stress and perceived wellness respectively. Post-hoc analyses were conducted to identify any significant difference

between the seven-week and control group for a particular response variable at a specific time point.

### **Qualitative**

In addition to the quantitative analysis, qualitative data were gathered through post-intervention, semi-structured interviews. Qualitative data were analyzed using Applied Thematic Analysis (ATA) (Braun & Clarke, 2006; (Guest, MacQueen, & Namey, 2012). Interview records were transcribed and member-checked. Member-checking is a process in which participants are provided transcripts from the narratives they contributed to, and asked to verify their accuracy (Carlson, 2010). Raw data was coded and classified into themes, and consensus validation was established using a peer reviewer. The combination of quantitative and qualitative analyses provided a more comprehensive understanding of treatment effects and validity.

#### ***Qualitative Data Collection and Management***

Interviews were recorded and transcribed with the permission of participants. Interview questions were designed as a follow-up to completion of the seven-week intervention program to provide augmentation to quantitative measures. The interviews were brief, consisting of seven open-ended questions designed to gain information about participant experiences, and perceptions of different aspects of the intervention. Similar to the quantitative self-report measures, session audio recordings, interview transcriptions, and other study-related information are also located in the locked cabinets in the secure location that is only accessible by key, and located in a building that also requires key access.

Qualitative interview questions included:

- Describe your experience in the wellness group.
- What, if any changes did you experience as a result of participation?
- Describe your current practices related to personal wellness.
- Do you feel that the group length and duration were appropriate? Why or why not?
- What could have improved your experience?
- What aspects did you find most beneficial? Least beneficial?
- Is there anything else that you feel would be important to share about your experience?

### ***Qualitative Data Analysis***

ATA is “a rigorous, yet inductive, set of procedures designed to identify and examine themes from textual data in a way that is transparent and credible” (Guest et al., 2012, p. 15). In contrast to approaches such as grounded theory or phenomenology, ATA is not linked to any specific pre-existing theoretical framework. It is a method that is independent of theory and epistemology, that can be applied across a range of epistemological approaches (Braun & Clarke, 2006). ATA can be described as comprising “a bit of everything – grounded theory, positivism, interpretivism, and phenomenology” (Guest et al., 2012, p. 15).

An ATA was conducted on the qualitative data gathered through post-intervention, semi-structured interviews. Because of the brief, semi-structured nature of the interviews, analysis focused on semantic rather than latent themes, where themes are identified based on the explicit meanings of the data. ATA was conducted from both realist and constructivist perspectives, as the primary aims are to report the experiences, meaning, and realities of participants (Guest et al., 2012), while understanding that meanings are constructed and continually evolving (Greene, Jensen, & Jones, 1996). The use of ATA provided evidence of participant experiences, challenges, and changes related to intervention participation, as well as to augment quantitative data. The combination of quantitative and qualitative analyses provided a more comprehensive understanding of treatment effects and validity (Guest et al., 2012).

There are several phases of ATA, including: familiarization with data, generating codes, searching for themes, reviewing themes, defining and naming themes, and producing the report (Braun & Clarke, 2006). Interviews were recorded and transcribed, reviewed for meanings and patterns, initial codes generated, and themes identified and reviewed. Two volunteer participants agreed to member-check the transcriptions to increase the validity of the data. Consensus validation by a peer reviewer was employed in effort to finalize the specific themes and enhance the credibility of data (Braun & Clarke, 2006).



## **Chapter 5: Results**

### ***Descriptive statistics***

Descriptive statistics were analyzed for all study participants. Baseline measures were collected for fifty-nine subjects ( $N = 59$ ). Of these subjects, thirty-three (56%), were female while twenty-five (42%) were male, and one (2%) subject identified as other. The majority (63%) of study participants identified as Caucasian, 9% as African-American, 14% as Asian, 9% as Latino, and 7% identified as other.

Other descriptive data collected included year in college, in-state versus out-of-state status, domestic versus international student status, and marital status. Fifty-five (93%) participants reported being single, and four (7%) married. Additionally, 86% of participants reported domestic student status, and 14% were international students. 66% of participants reported being an in-state student, and 34% out-of-state. At baseline, the sample consisted of twelve (20%), first-year students, nine (15%) sophomores, seven (12%) juniors, twelve (20%) seniors, and nineteen (32%) graduate students. The participation rate of graduate students is consistent with previous reports of this population having higher levels of stress and lower levels of well-being (Hyun et al., 2006).

Table 1

*Sample Characteristics (n = 59)*

	Frequency (Percent)	Cumulative Percent
Gender		
Male	25 (42.4)	42.4
Female	33 (55.9)	98.3
Other	1 (1.7)	100
Race/Ethnicity		
African-American	5 (8.5)	8.5
Asian	8 (13.6)	22.0
Caucasian	37 (62.7)	84.7
Latino	5 (8.5)	93.2
Other	4 (6.8)	100
Marital Status		
Single	55 (93.2)	93.2
Married	4 (6.8)	100
Domestic Status		
Domestic Student	51 (86.4)	86.4
International Student	8 (13.6)	100
In-State Status		
In-State	39 (66.1)	66.1
Out of State	20 (33.9)	100
Year in College		
First Year	12 (20.3)	20.3
Sophomore	9 (15.3)	35.6
Junior	7 (11.9)	47.5
Senior	12 (20.3)	67.8
Graduate Student	19 (32.2)	100

### Quantitative

#### *Chi-Square*

A pre-intervention analysis was conducted to ensure that no significant group differences exist at baseline. Chi-square tests indicated no significant relationships between gender and group,  $X^2 (2, N = 59) = 1.30, p = .52$ ; race/ethnicity and group,  $X^2 (2, N=59) = 2.23, p = .69$ ; year in college and group,  $X^2 (2, N = 59) = 5.94, p = .20$ ; in-state

status and group,  $X^2 (2, N= 59) = .414, p = .52$ ; domestic or international student status and group,  $X^2 (2, N = 59) = 2.47, p = .12$ ; or marital status and group,  $X^2 (2, N = 59) = 1.00, p = .32$ .

Table 2  
*Demographic Results*

	Pearson Chi-Square	P Value
Gender	1.30	.52
Race / Ethnicity	2.23	.69
Year in College	5.94	.20
In-State Status	.414	.52
Domestic Status	2.17	.12
Marital Status	1.00	.32

The initial study sample consisted of fifty-nine participants randomly assigned to treatment or control groups. Twenty-nine students (49%) were assigned to the solution-focused wellness group, and thirty students (51%) to the process-oriented control group. Data was included for students who participated in at least five of the seven group sessions. Attrition for the intervention group totaled four (14%) participants, and the control group eight (27%). This resulted in data for forty-seven participants analyzed at pre- and post- intervention. Total attrition for the study between baseline and seven weeks was 12 (20%).

### ***General Perceptions Analysis***

Participants were asked to answer three general questions in the initial demographic form based on a ten-point scale (10 = most, 1 = least). The questions were:

*How would you rate your overall well-being?*

*How would you rate your overall life satisfaction?*

*How would you rate your overall happiness?*

The purpose of these questions was to determine whether student perceptions of general well-being, life satisfaction, and happiness correlate with overall wellness and perceived stress as measured by the 5F-WEL and PSS respectively. An analysis was conducted to assess significant differences across groups for the three general perception measures. Using Chi-Square tests it was confirmed that no significant differences existed between groups for *Overall Wellbeing*:  $X^2(2, N = 59) = 4.75, p = .58$ ; *Life Satisfaction*:  $X^2(2, N = 59) = 5.70, p = .46$ ; or *Overall Happiness*:  $X^2(2, N=59) = 8.96, p = .26$ .

Table 3  
*Chi-Square General Perceptions*

	Pearson Chi-Square	P Value
Overall Well-Being	4.75	.58
Life Satisfaction	5.70	.46
Overall Happiness	8.96	.26

A Pearson product-moment correlation coefficient was computed to assess relationships between general perceptions regarding life satisfaction, happiness, well-being, and PSS and 5F-WEL scores at baseline. Correlation coefficients that equal or exceed .50 indicate a large correlation (Hemphill, 2003). *Overall Well-Being* had strong positive correlations with *Life Satisfaction* ( $r = .606, p < .01$ ) and *Overall Happiness* ( $r = .634, p < .01$ ), while *Life Satisfaction* and *Overall Happiness* were also strongly positively correlated ( $r = .722, p < .01$ ). *Overall Wellbeing* had a strong positive correlation with

5F-WEL scores ( $r = .550, p < .01$ ), and had a strong negative correlation with PSS scores ( $r = -.536, p < .01$ ). Similarly, *Life Satisfaction* had a strong positive correlation with 5F-WEL scores ( $r = .600, p < .01$ ) and a strong negative correlation with PSS scores ( $r = -.563, p < .01$ ). *Overall Happiness* was positively correlated with 5F-WEL scores ( $r = .568, p < .01$ ), and had a strong negative correlation with PSS scores ( $r = -.519, p < .01$ ).

Table 4  
*General Perceptions Correlations, Pearson r (significance)*

	Overall Wellbeing	Life Satisfaction	Overall Satisfaction	Perceived Stress Baseline	5FWEL Baseline
Overall Wellbeing	1	.606 (.00)	.634 (.00)	-.536 (.00)	.550 (.00)
Life Satisfaction	.606 (.00)	1	.722 (.00)	-.563 (.00)	.600 (.00)
Overall Satisfaction	.634 (.00)	.722 (.00)	1	-.519 (.00)	.568 (.00)
PSS Baseline	-.536 (.00)	-.563 (.00)	-.519 (.00)	1	.535 (.00)
5FWEL Baseline	.550 (.00)	.600 (.00)	.568 (.00)	-.535 (.00)	1

### ***Repeated Measures Analysis of Variance***

A repeated measures analysis of variance (RM-ANOVA) was conducted using IBM SPSS software to assess for significant differences between intervention and control groups. Variables assessed, perceived wellness and perceived stress, were measured at three time points (pre-intervention, post-intervention, and six-week follow-up).

Independent samples t-tests were conducted to assess for group differences at baseline for

both wellness and stress. The results demonstrated no significant between-group differences for wellness ( $p = .18$ ) or stress ( $p = .90$ ).

Table 5  
*Independent Samples T-Test*

	t	Sig.
5FWEL baseline	-1.370	.18
PSS baseline	.129	.90

### ***Wellness***

A RM-ANOVA was conducted to assess for between group differences across pre- and post-intervention assessment points for wellness. Wellness results demonstrated that the difference between the intervention group (baseline  $M = 75.66$ ,  $SD = 5.59$ ; seven weeks  $M = 80.55$ ,  $SD = 6.08$ ) and the control group (baseline  $M = 73.04$ ,  $SD = 8.72$ ; seven weeks  $M = 73.38$ ,  $SD = 8.05$ ) was significant over time. Main effects of time and group were analyzed, as well as interaction effects. The main effect of time was significant for wellness between pre- and post-treatment  $F(1,47) = 24.66$ ,  $p < .01$ , while the group main effect was also significant  $F(1,47) = 5.42$ ,  $p < .05$ .

Table 6  
*Preliminary ANOVA Means Wellness*

	Group	Mean	Std. Deviation	N
5F-WEL baseline	SF	75.66	5.59	25
	IPT	73.04	8.72	22
5F-WEL 7 weeks	SF	80.55	6.08	25
	IPT	73.38	8.05	22

Using a Wilks Lambda multivariate test, results indicate that the interaction effect of group membership across time was significant  $F(1, 47) = 25.99, p < .01$ . For perceived wellness, the difference between intervention and control groups across the two time points was also significant.

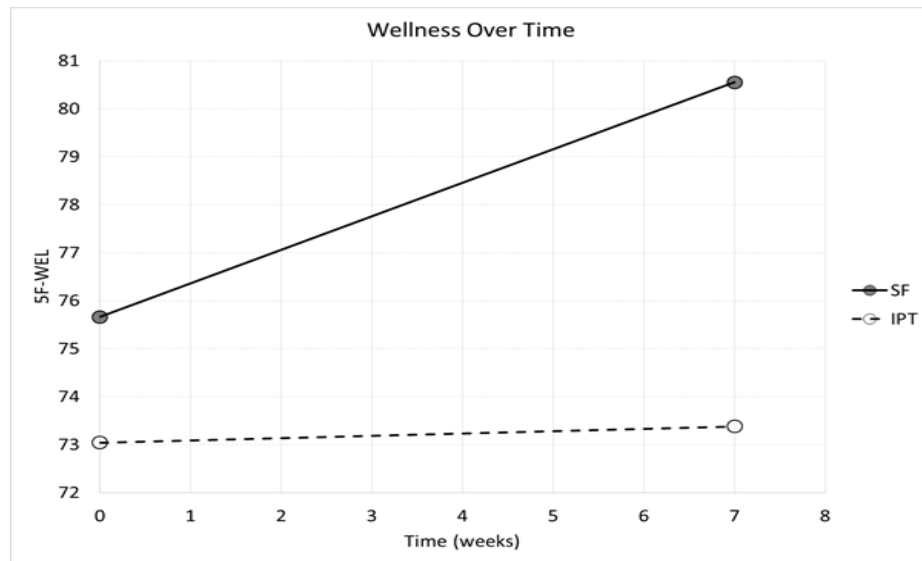


Figure 2: Wellness scores baseline to seven weeks.

Table 7  
*Time, Interaction & Group Effect Wellness*

Effect	Df	F	Sig	Partial Eta Sq
time	1	24.66	.00	.354
Time*group	1	25.99	.00	.366
group	1	5.42	.02	.108

Levene's Test of Equality of Error Variances was conducted to assess for between-group equality of variance. Results for wellness at baseline  $F(1, 45) = 1.01, p = .32$ , and at the seven-week assessment point  $F(1, 45) = .312, p = .58$  demonstrated no significant differences. The null hypothesis stated that the obtained differences in sample variances are unlikely to have occurred based on random sampling from a population with equal variances. A non-significant  $F$  statistic for both baseline and seven weeks indicates that the null hypothesis cannot be rejected.

Table 8  
*Levene's Test of Equality of Error Variances - Wellness*

	F	Df	Sig.
5FWEL baseline	1.005	1	.32
5FWEL 7 weeks	.312	1	.58

In addition to the initial analysis of the intervention and control groups for wellness at baseline and seven weeks, a RM-ANOVA was conducted to assess for between-group differences for wellness across three time points (baseline, seven-weeks, and six-week follow-up). Attrition between baseline and seven weeks totaled 20%, resulting in data for forty-seven participants analyzed at pre- and post- intervention. Seven additional students did not complete measures at six-week follow-up, resulting in data for forty students, an attrition rate of 32% from baseline to six-week follow-up.



Table 9

*Descriptive Statistics Wellness*

	Group	Mean	Std. Deviation	N
5FWEL baseline	SF	75.66	5.59	23
	IPT	73.04	8.72	17
5FWEL 7 weeks	SF	80.55	6.08	23
	IPT	73.38	8.05	17
5FWEL follow-up	SF	77.66	6.03	23
	IPT	75.68	8.67	17

Mauchly's Test of Sphericity was conducted to assess equality of variance across all time points. Similar to homogeneity of variance, sphericity refers to equality of variances of the differences between treatment levels (Field, 1998). Violation of the sphericity assumption in a repeated measures design results in loss of power and should be corrected for using revised tests such as Greenhouse-Geisser. Results of Mauchly's Test of Sphericity were not significant, therefore main effects and interaction tests were conducted with sphericity assumed.

Table 10

*Mauchly's Test of Sphericity Wellness*

	Mauchly's W	df	Sig.
time	.867	2	.07

Main effects of time and group on perceived wellness were analyzed, as well as interaction effects. Between-group main effects for time were significant across all time points for stress  $F(2,40) = 11.22, p < .01$ . The overall group main effect was not significant  $F(2,40) = 2.81, p = .10$ . However, based on a Wilks Lambda test, the

interaction effect of group membership across time was significant  $F(2, 40) = 10.66, p < .01$ , indicating differences in wellness across three assessment points depending upon group membership.

Table 11  
*Time, Interaction & Group Effect Wellness (3 Assessment Points)*

Effect	Df	F	Sig	Partial Eta Sq
time	1	11.22	.00	.378
Time*group	1	10.66	.00	.366
group	1	2.81	.10	.069

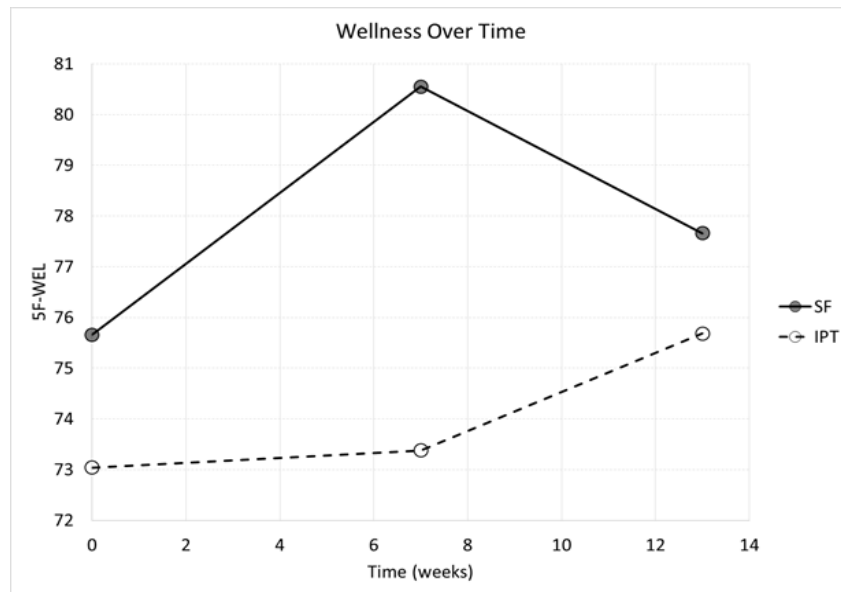


Figure 3: Wellness Follow-Up (baseline, 7 weeks, 6-week follow-up).

### ***Effect Size***

Effect size of both the initial (baseline and seven weeks), and follow-up analyses (baseline, seven weeks, and six-week follow-up), for wellness were calculated using SPSS software, producing a partial eta squared statistic. Based on the initial RM-

ANOVA for wellness between baseline and seven weeks for intervention and control groups, effect size was calculated for main effects and interaction of time and group. Effect size was also calculated for the follow-up analysis, including between and within-subjects main effects and interactions. Effect size guidelines for partial eta squared include: .01 = small, .06 = moderate, and .14 = large (Bakeman, 2005; Cohen, 1988).

For the initial analysis (baseline and seven weeks) the partial eta statistic for the main effect of group was moderate to large ( $n_p^2 = .108$ ), while the effect of time ( $n_p^2 = .354$ ) had a large effect size. Similarly, the effect size for interaction of time and group was large ( $n_p^2 = .366$ ). For the follow-up analysis (baseline, seven weeks, and six-week follow-up), between-subject effect sizes were large and significant for the main effect of time ( $n_p^2 = .378$ ) and interaction of group and time ( $n_p^2 = .366$ ), while the effect for group was moderate ( $n_p^2 = .069$ ) and not significant.

### ***Stress***

An initial RM-ANOVA was conducted to identify between-group differences in perceived stress between baseline and seven weeks. Main effects of time and group were analyzed, as well as the interaction between group and time. The time main effect for stress between pre and post-treatment was significant  $F(1,47) = 43.03, p < .01$ , while the main effect for group was not significant  $F(1,47) = 2.05, p = .16$ .

Table 12  
*Preliminary ANOVA Means PSS*

	Group	Mean	SD	N
PSS Baseline	SF	21.03	5.63	25
	IPT	21.23	6.16	22
PSS 7 Weeks	SF	15.12	5.17	25
	IPT	20.00	6.16	22

Based on a Wilks Lambda multivariate test, the interaction effect for group membership across time was significant  $F(1, 47) = 20.19, p < .01$ . For perceived stress, results demonstrated significant differences between the intervention group (baseline  $M = 21.03, SD = 5.63$ ; seven weeks  $M = 15.12, SD = 5.17$ ) and the control group (baseline  $M = 21.23, SD = 6.16$ ; seven weeks  $M = 20.00, SD = 6.16$ ) across the two time points.

Table 13  
*Time, Interaction & Group Effect Stress*

Effect	Df	F	Sig	Partial Eta Sq
time	1	43.03	.00	.489
Time*group	1	20.19	.00	.310
Group	1	2.05	.16	.044

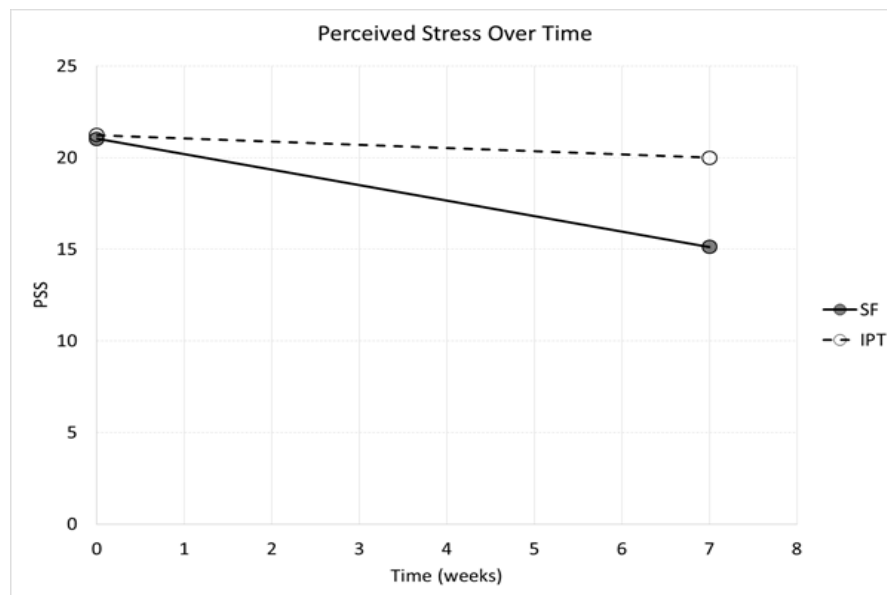


Figure 4: Perceived Stress Scale baseline to seven weeks.

Levene's Test of Equality of Error Variances was conducted to assess for between group equality of variances. Results for perceived stress at baseline,  $F(1, 45) = .086, p = .77$ , and at seven weeks,  $F(1, 45) = .284, p = .60$  were not significant. A non-significant  $F$  statistic for both baseline and seven weeks indicates that differences in sample variances were unlikely to have occurred based on random sampling from a population with equal variances. Therefore, the null hypothesis cannot be rejected.

Table 14  
*Levene's Test of Equality of Error Variances Stress*

	F	Sig.
PSS baseline	.086	.77
PSS 7 weeks	.284	.60

A RM-ANOVA was also conducted to assess for significant differences between intervention and control groups across three time points (baseline, seven-weeks, and six-week follow-up).

Table 15  
*Descriptive Statistics Stress*

	Group	Mean	Std. Deviation	N
PSS baseline	SF	21.03	5.63	23
	IPT	21.23	6.16	17
PSS 7 weeks	SF	15.12	5.17	23
	IPT	20.00	6.16	17
PSS follow-up	SF	15.13	6.09	23
	IPT	15.29	4.92	17

Using RM-ANOVA, time and group main effects were analyzed for stress, as well as the interaction of group and time across all assessment points. Because the assumption of sphericity was violated (Table 16), multivariate tests were not conclusive and corrections were necessary. Using the Greenhouse-Geisser revised test, the main effect of time was significant  $F(2,40) = 19.25, p < .01$ , indicating that on average there was significant change for all study participants across assessment points. Using the Greenhouse-Geisser test, the interaction of group and time was also significant  $F(2, 40) = 3.88, p < .05$ , indicating significant differences at assessment points dependent upon group membership. The overall main effect for group was not significant  $F(2,40) = .624, p = .44$ .

Table 16  
*Mauchly's Test of Sphericity Stress*

	Mauchly's W	df	Sig.
Time	.710	2	.00

Table 17  
*Time, Interaction & Group Effect Stress (3 Assessment Points)*

Effect	Df	F	Sig	Partial Eta Sq
time	2	19.25	.00	.336
Time*group	2	3.88	.04	.093
group	1	.624	.44	.016

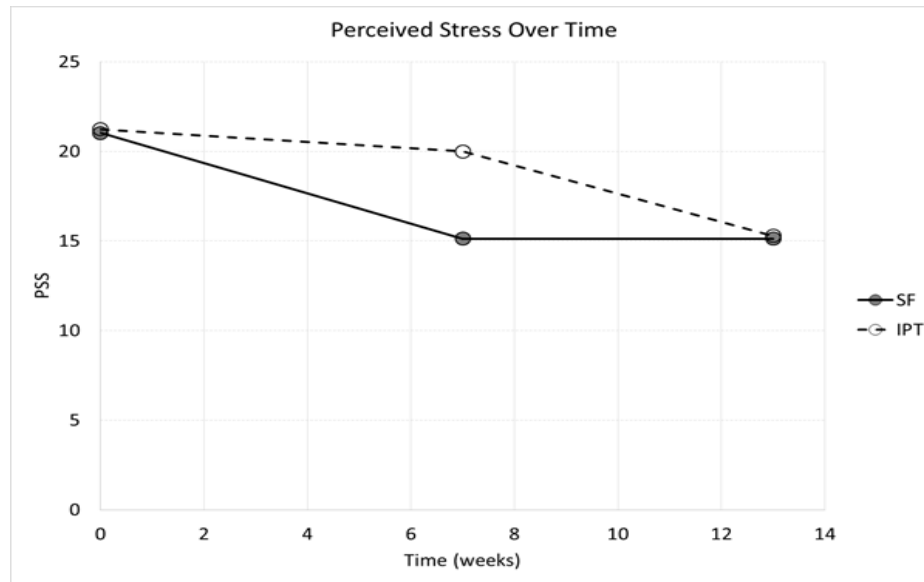


Figure 5: Perceived Stress Scale Follow-Up (baseline, 7 weeks, 6-week follow-up).

### *Effect Size*

Effect size of both the initial (baseline and seven weeks) and follow-up analyses (baseline, seven weeks, and six-week follow-up) for perceived stress were calculated using SPSS software, producing a partial eta squared statistic. Effect size represents the magnitude of the difference between groups (Sullivan & Feinn, 2012), or how much variance in the dependent variable was a result of the independent variable. Effect size was calculated for main effects of time and group, as well as the interaction effects. Effect size was subsequently calculated for follow-up analyses, including between and within-subjects main effects and interactions.

For the initial analysis (baseline and seven weeks), the partial eta statistic for the main effect of group was small to moderate ( $\eta_p^2 = .044$ ), and not significant. However,

effect sizes for main effects of time ( $n_p^2 = .489$ ), and the interaction of time and group were both large ( $n_p^2 = .310$ ). For follow-up analyses (baseline, seven weeks, and six-week follow-up), between subjects effect sizes were large for main effects of time ( $n_p^2 = .336$ ) and moderate-to-large for the group-time interaction ( $n_p^2 = .093$ ), while the effect size for group was small ( $n_p^2 = .016$ ) and not significant ( $p = .44$ ).

### ***Estimated Mean Differences***

To gain further insight into the statistically significant interaction effects, independent samples T-Tests were conducted to compare estimated mean differences between wellness scores for intervention and control groups at each assessment point. Estimated mean differences between groups were not significant for wellness at baseline ( $P = .18$ ). However, after seven weeks, between group differences in wellness were significant ( $P < .01$ ). Despite the differences in group means (intervention = 77.66, control = 75.68), significance was not achieved at six-week follow-up assessment point ( $P = .40$ ).

Table 18

*Independent Samples Tests: Wellness (Baseline, 7 weeks, 6-week follow-up)*

5F-WEL	Levene's Test		T-Test for Equality of Means		
	F	Sig.	Mean Diff.	t	Sig.
Baseline	2.78	.10	2.62	1.37	.18
7 Weeks	.312	.58	7.17	3.47	.00
6 week follow-up	1.40	.25	1.98	.852	.40

Estimated mean differences between intervention and control groups were also calculated for stress using independent T-Tests for baseline, seven-weeks, and six-week



follow-up. Similar to wellness, results indicated no significant differences at baseline ( $P = .90$ ), but did demonstrate significant differences at seven weeks ( $P < .01$ ). Mean differences for stress at six-week follow-up were not significant ( $P = .93$ ). Estimated mean differences are discussed further in Chapter 6.

Table 19

*Independent Samples Tests: Stress (Baseline, 7 weeks, 6-week follow-up)*

PSS	Levene's Test		T-Test for Equality of Means		
	F	Sig.	Mean Diff.	t	Sig.
Baseline	.038	.85	-.198	-.129	.90
7 Weeks	.284	.60	-4.88	-2.95	.00
6 week follow-up	.550	.46	-.164	-.094	.93

### Qualitative

Brief, semi-structured interviews were conducted, recorded, and transcribed by research team members. Of the 25 total students in the intervention groups, 15 responded to the request for participation. Of those 15 respondents, 12 were scheduled for the telephone interviews. Participants were nine females and three males ranging in age from 18 to 33 ( $M = 22$ ). Participants were nine undergraduate, and three graduate students. All interviewees identified as single, with six identifying as Caucasian, three Latina/o, one Asian, one African-American, and one student who identified as other.

After transcribing the interviews, the transcriptions were member-checked for accuracy. Member-checking is a process of engaging members of stake holding groups in reviewing researchers' findings and interpretations as a way of increasing credibility

(Hsieh & Shannon, 2005). Transcriptions were reviewed repeatedly by the researcher in effort to become thoroughly familiar with the data (Braun & Clarke, 2006), and text was segmented based on initial interpretations of meaning. Segmenting text is a process of identifying a meaningful component of text that may be then coded based on its meaning (Guest et al., 2012). Based on review of text, seventy-six preliminary codes were generated:

***Key to Codes:***

Gen. benefit = General participant positive experiences  
Spec change = Any specific wellness-related changes identified by participants  
Current.wellness = Specific wellness practices used by participants at time of interview  
Group length = Participant perceptions of group length and duration  
Improve exp = Participant recommendations related to improving experience in group  
Stress = Participant experiences related to changes in stress  
Goals = Participant perceptions of goal-setting  
Self-awareness = Participant perceptions of improved self-awareness  
Connection = Participant feelings of connection  
Group format = Participant perceptions of group format and process

Connection - Feel more connected  
Connection - Hear about others' feelings  
Connection- Spending time with peers  
Connection - Getting to know each other

Current.wellness - Tried meditating  
Current.wellness - Exercise more  
Current.wellness - Talk to roommates  
Current.wellness - Eating vegetables at each meal  
Current.wellness - Go to the gym  
Current.wellness - Mindful of communication  
Current.wellness - Spending time with friends  
Current.wellness - Get more involved on campus  
Current.wellness - Exercise enjoyment  
Current.wellness - Self-care reading  
Current.wellness – General self-care  
Current.wellness - Taking time for self-care  
Current.wellness - Starting to have breakfast  
Current.wellness - Increased exercise

Current.wellness - Go to bible study  
Current.wellness - Eating healthy currently

Gen. benefit - Non-judgment  
Gen. benefit - Learning experience  
Gen. benefit - Learning from others  
Gen. benefit - Learning strategies  
Gen. benefit - Stay open to opportunities  
Gen. benefit - Enjoyable  
Gen. benefit - Putting wellness first  
Gen. benefit - Taking care of physical wellness  
Gen. benefit - Ideas for improving wellness  
Gen. benefit - Ensuring life balance  
Gen. benefit - Positive experience  
Gen. benefit - Recommend it  
Gen. benefit - Sharing stories  
Gen. benefit - Relieve anxiety

Goals- Writing down goals  
Goals- Discussion of goals  
Goals- Setting goals  
Goals- Focus on goals

Group.format- Facilitator creating open environment  
Group format - Hand-outs  
Group.format- Facilitator guiding discussion  
Group format - Discussing aspects of wellness  
Group format - Starting with a theme  
Group format - Well-designed  
Group format - Open discussion  
Group format - Listening to others

Group length - Seven weeks not enough  
Group length - Longer sessions  
Group length - Good length  
Group length - Optional half hour at the end  
Group length - Length was appropriate  
Group length - Duration appropriate

Improve exp- Better if longer  
Improve exp- More wellness focused than stress  
Improve exp- Option to stay longer  
Improve exp - Worksheets least beneficial

Self-awareness – General awareness about wellness

Self-awareness - Think about decisions  
Self-awareness - Paying attention to diet  
Self-awareness - Improved awareness  
Self-awareness - Increased awareness of specific aspects of wellness

Spec change- Better at managing time  
Spec change – Prioritizing  
Spec change - More involved on campus  
Spec change - Confidence in communicating  
Spec change - Intentional with time  
Spec change - Empathic with other people  
Spec change - Diet  
Spec change - Exercise  
Spec change - Managing time more effectively

Stress - Less stressed  
Stress - Felt more relaxed  
Stress - Aware of others' stress level  
Stress - Hearing about ways that others relieve stress  
Stress - Talk about stress  
Stress - Decreased general stress

A codebook was developed including ten general codes. Codebook development is an analysis step where observed meanings in text are systematically sorted in categories of meaning. Codebook components include code labels, short descriptive mnemonics used to help distinguish codes from each other, code definitions that describe key features, as well as information relevant to code assignment (Guest et al., 2012).

Initial codes were reviewed, and in some instances consolidated or eliminated. Codes were sorted into different candidate content themes, along with supporting data, after which themes were identified and finalized. To support the validity of the themes, consensus validation was established through use of a peer reviewer. Inter-coder agreement signifies the extent to which two or more data analysts code the same

qualitative data set the same way (Guest et al., 2012). The peer reviewer accurately coded 90% of the raw data, indicating a high level of validity (Appendix C).

The finalized themes that emerged from the data included:

- Perceived benefits of goal-setting
- Reported decrease in stress
- Increased feelings of connection
- Reported increase in self-awareness
- Participant preferences for longer sessions/duration

### ***Perceived benefits of goal-setting***

When asked about their experiences, changes, and beneficial aspects of the intervention, several students identified goal-setting as a useful component. Intervention participants were provided opportunities to develop specific goals for various aspects of their personal wellness. These goals were typically formulated, written down, and students were provided the opportunity to share with the group. Additionally, participants were given the opportunity to provide updates on previous sessions' wellness goals.

*“Most useful was thinking about and talking about our goals, making those sorts of plans”*

*“So we had like hand-outs each week, and it would talk about like on a scale of 1-10 where do you think you are in this category of wellness, and where do you want to be, and the follow up would be like okay how do you see yourself, what is different about being at that higher level and how do you get there, and for me that was definitely most beneficial because it was like a concrete tangible way to improve that number, and we would set a couple of goals each week that we wanted to do for the next week”*

*“I think having a scheduled time to discuss things and focus on goals for wellness was helpful”*

### ***Decrease in stress***

Students consistently reported positive outcomes based on intervention participation, with a variety of identified benefits. From these perceived benefits, several themes emerged. Consistent with the quantitative data related to perceived stress, interviewees identified a decrease in stress as a beneficial outcome of participation.

*“It was good hearing that other people have similar situations to me and I always left less stressed than I came so that was good”*

*“I became more aware about how everybody gets stressed out. I felt like I was able to stop and think, like if I was really stressed out I’d be able to stop and think about what was causing it rather than being overwhelmed”*

*“I noticed that as time went by I was becoming, I want to say, less stressed out”*

### ***Increased feelings of connection***

Due to participation in the intervention group, students reported that they felt an increased sense of connection. The literature supports this outcome in longer group psychotherapy approaches (Budman et al., 1989). However, it was not necessarily an expected outcome for this intervention model, as it utilized a brief (seven weeks) solution-focused orientation. Despite the short duration of the intervention, this finding supports the use of SFBT as an effective way to foster a positive environment for developing supportive relationships within a relatively brief group model.

*“I guess it made me feel more connected”*

*“I think over the whole course of the sessions people really started to kind of get to know each other on a more personal level”*

*“I felt accepted into this group of people”*

### ***Increase in self-awareness***

Another theme that emerged from the qualitative data was a *Reported Increase in Self-Awareness*. Students indicated that because of participation in the solution-focused wellness intervention, they experienced increased awareness in a variety of areas

including general awareness of personal wellness, as well as specific to coping strategies and stress.

*“I think the biggest thing was awareness. Like, I’ve seen the lists of well-being, like physical wellness, all those things, like I’ve seen them and sort of aware of them, but with actually being in the group we actually had discussions about them and talked about goals we had around it. It made me sort of aware of different aspects of my well-being”*

*“I discovered about myself that one of my biggest ways to relieve stress is to compete, for example recreational sports, board games, you know stuff like that. That’s my biggest stress reliever, and I didn’t realize that before going into this”.*

*“You know, I think the whole group just kind of made me aware of what wellness is exactly”*

### ***Participant preferences for longer sessions/duration***

As part of the post-intervention follow-up interviews, students were asked about their perceptions of intervention length and duration, and ways that their experience could have been improved. Students indicated that they would have liked to extend the length and/or duration.



*“The only thing I would probably change is make it a little longer”*

*“It was well designed. I would want to extend it longer than an hour but everyone does not have that much time”*

*“I definitely think that if it was a semester long versus just seven weeks that would have been a lot more fun”*

In addition to a desire to extend the intervention, participants recognized the time challenges that many college students experience (Macan, Shahani, Dipboye, & Phillips, 1990; Abouserie, 1994). Participants suggested establishing a baseline session length (e.g. one hour), while providing the option of extending the session for continued discussion.

*“I think that more time would be beneficial, however I know the longer the time period you advertise is kind of gonna deter people from it. And what I suggested during the last session was for future sessions make them an hour long with an additional half hour or so that’s optional”*

*“There were lots of times when I would have liked it to be longer. I liked one person’s idea of having it, the people who wanted to stay and continue the conversation could”*

Although the qualitative analysis included only brief (5-10 minute) follow-up interviews, consistent emergent themes support the validity of the data. Rather than using open-ended questioning and in-depth qualitative analysis, the qualitative component of this research study was designed to gather specific information about the quantitative data and experiences of participants in the intervention group. The brief, semi-structured nature of the interviews generally resulted in focused responses, simplifying code development and theme identification. This approach to the interview process was chosen to ensure that specific questions were addressed, clarifying participant experiences and accessing feedback about the intervention.

Qualitative findings indicated that participants experienced several perceived benefits based on participation in the solution-focused wellness intervention. Qualitative data was consistent with quantitative findings, as many participants referenced lower levels of stress and identified current wellness practices. Additionally, emergent themes such as increased self-awareness and sense of connection indicate benefits that have implications for well-being.

Feedback about the intervention was overwhelmingly positive. Participants in the solution-focused wellness intervention identified multiple benefits. In addition, when asked “*what could have improved your experience?*”, most respondents were unable to identify any recommended changes. Similarly, when asked about the “most and least beneficial” aspects of the intervention, nearly all participants were able to identify components that they felt were most

beneficial, while only two respondents were able to identify an aspect that was “least” beneficial.

Although a relatively small number of students were interviewed, qualitative data support intervention effectiveness and participant investment. The majority of participants indicated that intervention duration and length were appropriate, while others indicated that they would prefer extended time. No participants indicated that the intervention was too long in either session length or duration. Based on the positive quantitative outcomes related to wellness and stress, participant preferences related to session length and duration support investment and perceived benefit of the intervention.

## **Chapter 6: Discussion**

The purpose of this study was to examine the effectiveness of a brief, solution-focused wellness group in improving wellness and decreasing stress among college students. The study utilized a mixed methods approach and a randomized controlled design to examine within-group outcomes and between-group differences, as well as gain insight into participant experiences. Outcomes demonstrate that the solution-focused wellness intervention had positive effects on perceptions of wellness and stress. Additionally, results support that the intervention is preferable to treatment as usual, and trends indicate some lasting effects of intervention participation. Examination of research hypotheses, discussion of intervention, study implications, limitations, and future research are addressed in this section.

### **Discussion of Findings**

#### ***Research Hypotheses***

The first research hypothesis, *a seven-week solution-focused wellness intervention will result in a reduction in perceptions of stress and improved perceptions of wellness among college students*, was supported by the results of this research study. The primary outcomes of interest, perceptions of wellness and stress, demonstrated significant change from baseline to week seven. These results illustrate the effectiveness of a brief,

solution-focused wellness intervention in changing perceptions of stress and wellness among the college student population. Given the challenges associated with college student wellness (Kausar, 2010), and the impact of lifestyle habits and unhealthy behaviors (Douglas et al., 1997), improving wellness is critical to current and future health, as well as academic success of this population (Trockel et al., 2000).

Because wellness is associated with a variety of lifestyle-related factors including alcohol consumption, tobacco use, diet, sexual behaviors, physical activity, sleep habits, and academic performance (Douglas et al., 1997; Trockel et al., 2000), it is reasonable to infer that the change in perceived wellness may be linked to changes in lifestyle prompted by intervention participation. This conclusion is supported by qualitative data from post-intervention follow-up interviews.

The initial analysis (baseline to week seven) for perceived stress yielded significant positive results for the intervention group. Given the evidence indicating heightened levels of stress among the college student population (Calicchia & Graham, 2006; D’Zurilla & Sheedy, 1991; Kausar, 2010), and its potential negative implications (Daugherty & Lane, 1999; Stallman, 2010), establishing evidence-based interventions that focus on stress reduction is critical. This study provides evidence supporting the effectiveness of a short-term intervention model that demonstrates significant improvement in perceptions of stress.

The second research hypothesis, *the seven-week solution-focused wellness intervention will be more effective than treatment as usual (general process group) in facilitating improvement in perceived wellness and in decreasing perceived stress among college students*, was also supported by the results. Significant differences were found

between intervention and control groups across time for wellness and stress. Results indicate that using a brief solution-focused wellness approach is more effective in facilitating change in stress and wellness than an interpersonal process approach. Although the control group demonstrated some positive benefit, the intervention group exhibited greater positive change, despite the fact that both groups met for the same duration and frequency.

Results demonstrated significant differences in intervention and control groups across time. Follow-up analyses were conducted to identify differences at specific assessment points. Post-hoc results indicated non-significant differences between groups at baseline or at six-week follow-up for wellness or stress. However, significant between-group differences were found at seven weeks for both wellness and stress. Discussion of potential reasons for the non-significant differences at six-week follow-up, such as time and context differences between assessment points, are included in the *Limitations and Implications for Future Research* sections of this chapter.

The third research hypothesis, *changes in perceptions of stress and wellness are expected to have some lasting effect for intervention group participants*, was also supported by the results. The effects for time and group-time interaction on wellness and stress demonstrated significant differences across time points. Participants in the intervention group were able to maintain similar levels of stress at seven weeks and at the six-week follow-up assessment (7-week  $M = 15.12$ ,  $SD = 5.17$ ; 6-week follow-up  $M = 15.13$ ,  $SD = 6.09$ ). Though perceptions of overall wellness decreased from seven weeks to six-week follow-up (7-week  $M = 80.55$ ,  $SD = 6.08$ ; 6-week follow-up  $M = 77.66$ ,  $SD = 6.03$ ), the overall change from baseline indicates some lasting impact of the intervention

(baseline  $M = 75.66$ ,  $SD = 5.59$ ; 6-week follow-up  $M = 77.66$ ,  $SD = 6.03$ ). There are several factors that may have had a potential influence on lasting intervention effects. Further discussion of lasting effects and implications are discussed in depth in the *Limitations* and *Future Research* sections of this chapter.

### ***Group Differences***

There were significant group differences in perceptions of stress and wellness between baseline and seven weeks. Additionally, group differences in rates of attrition provide further support for intervention group effectiveness. Total attrition for the study was 20%. However, the attrition rate for the intervention group was 14%, while the attrition rate for the control group was 27%. After initial attrition (after screening, but prior to initial sessions), only two participants dropped out of the intervention group, whereas five students withdrew from the control group. While there are many potential causes of attrition in a group-based intervention study, this difference may indicate increased investment by the intervention group participants.

Follow-up qualitative interview data provide additional support for intervention effectiveness, indicating that participants experienced benefits beyond the primary outcomes of interest. Students identified several areas in which they noticed positive change due to participation in the solution-focused wellness group. These included: increased feelings of connection, increase in self-awareness, and perceived benefits of goal-setting.

Goal-setting is a component of SFBT (Gingerich, & Eisengart, 2000), and therefore was predictably reported to be a perceived intervention benefit. However, self-awareness may also be a result of SFBT techniques such as discussing personal strengths,

identifying exceptions, and conceptualizing “ideal states”. A “sense of connection” is typically consistent with an interpersonal process approach. Cohesiveness, development of socializing techniques, interpersonal learning, and universality are core tenets of Yalom’s “therapeutic factors” for group therapy. However, the sense of connection experienced by participants in the intervention group may be a result of different mechanisms of change. For example, similar to the interpersonal process approach, it is possible that feelings of connection are a result of the group process despite the relatively short intervention duration. Considering that “Social Self”, is a core domain of the IS-WEL, it is plausible that discussion and goal-setting in this area of wellness led to increased awareness and conscious change related to connection with others. Future analyses may provide clarification of mechanisms of change for the perceived benefits identified by intervention participants.

### ***General Perceptions***

Although not a primary research question, analyses were conducted related to brief, general perceptions of wellness. As part of the initial demographic questionnaire, participants were asked three questions:

*How would you rate your overall well-being?*

*How would you rate your overall life satisfaction?*

*How would you rate your overall happiness?*

These questions were used to examine the relationship between general participant perceptions, and empirically-supported instruments such as the 5F-WEL and the PSS.



Participant perceptions of well-being, life satisfaction, and happiness had strong positive correlations with initial 5F-WEL scores, and strong negative correlations with baseline PSS scores. These findings indicate that college students may have accurate general assessments of their overall wellness and stress. Additional research is needed to explore the validity and reliability of these perceptions related to overall well-being. However, given the high correlation, the development of a very brief perceived wellness survey may be beneficial.

## **Discussion of Intervention**

### ***SFBT-Wellness Integration***

Critical to the development of the short-term wellness-based intervention was the utilization of a brief, evidence-based therapeutic approach. Additionally, the understanding of wellness as a multi-dimensional construct has significant ramifications for treatment. Effective counseling and lifestyle change strategies are needed to inform, engage, and empower clients. Approaches should ensure that clients can effectively communicate their needs, and are invested in change-related decision-making (Caldwell et al., 2013). The acceptance of wellness as a multi-dimensional construct, and the proven effectiveness of SFBT as a strengths-based, brief modality, provides an ideal combination for addressing lifestyle behavioral change.

The solution-focused wellness intervention integrated a specific model of wellness as an intervention guide. The Indivisible Self Model of Wellness (IS-WEL) provided a general model in which there are five domains of wellness that inform one's overall wellness including Physical Self, Creative Self, Emotional Self, Coping Self, and Essential Self. The IS-WEL was chosen as a guiding framework for the intervention

based on the significant empirical support for the model. Exploratory and confirmatory factor analyses were conducted using data collected from the Wellness Evaluation of Lifestyle (WEL) (Myers et al., 1998) resulting in the IS-WEL and its corresponding measure, the Five Factor Wellness Evaluation of Lifestyle (5F-WEL).

This intervention model utilized the IS-WEL domains as a guide for session themes and discussion topics, while utilization of SFBT techniques encouraged participants to conceptualize wellness individually in ways that were meaningful for them. By integrating the IS-WEL and SFBT, students were able to discuss their own ideas related to wellness, identify times when they felt particularly “well” in the specific domains, assess their current state, and conceptualize ideal states of wellness. Additionally, the use of specific SFBT techniques within a group setting encouraged discussion and sharing of experiences and ideas. Based on study outcomes, integrating a solution-focused approach with a multi-dimensional conceptualization of wellness in a short-term intervention model is an effective approach for facilitating wellness-based change and decreasing stress among college students. For a detailed description of the intervention model, see the Intervention Treatment Manual (Appendix D).

### ***Fidelity***

To ensure treatment integrity and differentiation, facilitators for both the intervention and control groups completed fidelity checklists at the conclusion of each session. Group facilitators were provided direction regarding checklist completion prior to the initial group sessions. Based on the 7-point Likert scale, self-reported mean fidelity scores for each intervention group were 6.04 and 5.86 respectively across the seven sessions. Using the guidelines for fidelity developed by Borelli et al. (2005), both

of these self-reported fidelity scores are within the acceptable range for treatment integrity. Mean scores for the control group fidelity checklists were slightly lower, with mean scores of 5.02 and 5.75 respectively. However, both fall within the range for acceptable fidelity.

In addition, facilitators recorded two sessions (week 3 and week 6), with formal consent obtained from participants. Audio recordings were subsequently reviewed by research team members who completed fidelity checklists to determine implementation adherence. The reviewer was a licensed therapist with training and experience in both Solution-Focused Brief Therapy and Interpersonal Process groups. There was moderate variation between the self-reported fidelity measures completed by group facilitators and those completed by the research team member. Facilitator-reported mean fidelity for intervention group one (sessions three and six) was 5.75 while the research team member rated fidelity slightly higher at 5.9. The second intervention group mean fidelity was 5.8 as reported by the facilitator, and 5.75 as reported by the reviewer. Similarly, for control group one; mean fidelity was 5.85 as reported by the facilitator, and 5.6 as reported by the research team member. Control group two fidelity measures yielded mean scores of 5.05 as reported by the group facilitator, and a slightly higher 5.25 reported by the reviewer.

The solution-focused wellness intervention integrated a specific model of wellness (IS-WEL), and utilized skills and techniques specific to SFBT. Given the complexity of the intervention, the use of treatment fidelity measures was essential. All mean fidelity scores were within the acceptable range for treatment fidelity. This

indicates a high level of integrity with regard to utilization of SFBT techniques in intervention groups. Additionally, the inclusion of wellness-focused items on the intervention fidelity checklist helped to ensure consistency in session theme adherence. Mean fidelity scores for the control group facilitators were also acceptable, ensuring differentiation in treatment modalities between the intervention and control groups.

### **Implications**

There are several potential implications of study findings that should be noted. Results indicate that a short-term solution-focused wellness intervention model can have positive effects on wellness and stress among college students. The intervention duration and intensity allows for implementation in multiple contexts, and may be an effective strategy for addressing current challenges on college campuses (Watkins et al., 2011). Generalizability of the intervention model across a variety of populations is discussed.

#### ***Short-term Intervention***

Lack of time for study, family, friends, interests, and time management abilities, can have a major effect on stress and wellness levels among college students (Macan et al., 1990; Abouserie, 1994). Traditional wellness-promotion approaches for the college population typically consist of semester-long wellness-based courses (Higgins et al., 2009). These courses can be time-consuming and inadvertently contribute to time-related stress. Alternatives must be identified that can improve well-being while not contributing to additional stress. The results of this research study provide evidence of the effectiveness of a brief intervention model in improving wellness that requires a limited time commitment from students.

Based on the overall perceptions of wellness and stress, minimal attrition for the intervention group, and qualitative feedback, it is clear that the duration and intensity of the intervention were manageable without creating additional stress. In fact, as noted in the previous chapter, one of the themes that emerged from the qualitative data was that an increase in session length and intervention duration would be desirable. Given the positive changes in both wellness and stress, the desire for extended sessions and duration appears to be based on perceived benefit rather than lack of intervention effectiveness.

Establishing an effective short-term intervention model to improve student well-being has positive implications for the greater university community. Current trends on college campuses include an increased number of students experiencing mental health challenges and seeking support (Watkins, Hunt, & Eisenberg, 2012). Based on these trends, recommendations have included implementing alternative strategies such as group therapy and self-help programs designed to reduce stress and improve wellness (Kitzrow, 2003; Ratanasiripong et al., 2010). Implementation of an evidence-based solution-focused wellness model provides an option for improving wellness and decreasing stress that can be employed multiple times per semester. This model differs from traditional college student wellness-based interventions that incorporate an educational approach across semesters. Through replication of the intervention model, a greater number of students can potentially be supported, which may alleviate some of the demand currently experienced by campus health resources.

### ***Intervention Generalization***

The acceptance of a salutogenic orientation to health and well-being has increased research and application of holistic approaches to multi-dimensional wellness. This

proactive approach has implications at both a micro and macro level. Potential benefits include improved individual health, reduced healthcare costs, decreased chronic lifestyle challenges, and reduced healthcare system strain. Taking this into account, an easily replicable, evidence-based brief intervention may be an effective way to help establish healthy behaviors and facilitate wellness-related change for a variety of populations.

Replication of the intervention requires addressing few barriers. The short duration of the intervention necessitates an effective brief therapeutic approach. The growth and acceptance of SFBT as an evidence-based modality, has led to an increased number of clinicians with relevant training and experience. Because the intervention is designed for application within a group context, clinicians should have experience in group facilitation, as well as an understanding of wellness concepts - and specifically the IS-WEL model. However, the intervention progression, supplemental worksheets, and resources are easily replicable.

The sample for this research study was recruited from a general college student population, without specifically targeted student groups. While the solution-focused wellness intervention was offered at a location unassociated with a particular academic group or specific college, the replicability of the model allows for dissemination in a variety of locations. For example, the identification of specific at-risk groups, such as high-stress academic tracks, may provide opportunities for implementation on site. Additionally, university counseling centers could easily incorporate the model, facilitating multiple solution-focused wellness groups during a typical 15-week academic semester. The current trends related to demand for services, heightened stress and compromised well-being among the college student population, and acceptance of

wellness as an important area of need on college campuses, provide justification for integration of solution-focused wellness interventions with this population.

Though this research study focused on a college student population, the intervention could be easily adapted to a variety of other populations including children, adolescents, and older adults. Given that many lifestyle trends are established early in life (Telama et al., 2005; Gordon-Larsen, Nelson, & Popkin, 2004), intervention implementation with a younger population may be particularly important. Additionally, the significant growth of the older adult population (Ortman, Velkoff, & Hogan, 2014) in the United States creates a need for programs focused on personal wellness, longevity, and quality of life.

The brief duration of the intervention, as well as the minimal logistical needs, also make the intervention applicable to contexts such as workplace wellness programming. Stress and wellness-related problems have created significant challenges in American workplaces resulting in physiological and psychological disorders, increased absenteeism, organizational dysfunction, and decreased work productivity (Colligan, & Higgins, 2006). These challenges have inspired increased attention to workplace wellness, and the institution of programs designed to facilitate wellness-related change. Workplace wellness programs can be defined as the combined efforts of employers, employees, and organizations to improve the health and wellness of people at work through improving the work environment, promoting participation in healthy activities, and encouraging personal development (Hodgins, Battel-Kirk, & Asgeirsdottir, 2010). Given the challenges related to the workplace, an evidence-based short-term intervention

may be an effective means of improving employee wellness, decreasing stress, and establishing a wellness-focused workplace culture.

### **Limitations**

Several study limitations should be noted. The diversity of contexts among the assessment points for quantitative measures is a research design limitation. Time of the school year and semester that the intervention was offered may have impacted recruitment, student perceptions of stress and wellness, attrition, and lasting impact of the intervention. Intervention and control groups were initiated in February, and concluded in mid-April, with six-week follow-up data collected during the first week of June. Research supports a seasonal impact on mood and behavior among college students (Rohan, & Sigmon, 2000; Han, et al., 2014). Therefore, external factors such as weather should be considered given the significant changes in seasonal climate of the research study location. Additionally, possible fluctuations in school-related stressors such as exams, upcoming graduations, or academic workload can influence perceptions of stress and wellness. For example, final exams are typically administered during the last week of April, which can be a high-stress period for college students.

Six-week follow-up data were gathered during the summer, a context potentially very different from preceding assessment points. This likely affected longitudinal outcomes, as well as attrition. While the intervention group maintained a similar level of perceived stress at seven weeks and six-week follow-up (7-week  $M = 15.12$ ,  $SD = 5.17$ ; 6-week follow-up  $M = 15.13$ ,  $SD = 6.09$ ), the control group experienced a large change in



perceived stress between seven weeks and six-week follow-up (7-week  $M = 20.00$ ,  $SD = 6.16$ ; 6-week follow-up  $M = 15.29$ ,  $SD = 4.92$ ).

Using the PSS, scores ranging between 12 and 15 represent normal levels of stress (Cohen et al., 1983). Based on this range, the solution-focused wellness group participants were able to reduce stress levels to a “normal range” after seven weeks, and maintain this level for at least the six weeks following. Though the control group did not experience the same changes in perceived stress from baseline to seven weeks, their perceptions of stress decreased to normal levels at six-week follow-up assessment. This change indicates that external factors likely influenced control group perceptions of stress at follow-up.

Similarly, the experimental group experienced significant improvement in wellness between baseline and seven weeks. Interestingly, intervention group perceptions of wellness decreased slightly between seven weeks and six-week follow-up (seven weeks  $M = 80.55$ ,  $SD = 6.08$ ; and six-week follow-up  $M = 77.66$ ,  $SD = 6.03$ ). However, overall change from baseline indicates some lasting impact of the intervention (baseline  $M = 75.66$ ,  $SD = 5.59$ ; 6-week follow-up  $M = 77.66$ ,  $SD = 6.03$ ). The control group did not experience significant changes in wellness from baseline to seven weeks (baseline  $M = 73.04$ ,  $SD = 8.72$ ; seven weeks  $M = 73.38$ ,  $SD = 8.05$ ), but did experience some improvement in perceptions of wellness at six-week follow-up ( $M = 75.68$ ,  $SD = 8.67$ ). Due to the lack of intervention between seven weeks and follow-up, external factors should be considered with regard to changes in wellness.

The seven-week intervention concluded late in spring semester, therefore the six-week follow-up survey was completed in mid-summer. Because many students are not

enrolled in summer classes, lifestyle and stress may have been considerably different given the change in context in which follow-up data were collected. The possibility of contextual differences from the typical academic semester for participants may have influenced wellness and stress perceptions. While the attrition rate for follow-up measures was relatively low (15%), several students did not complete the final assessment measures. This decrease in completion rate may be attributable to a number of factors including a lack of financial incentive for the six-week follow up, being on summer break, employment, or other priorities.

Another limitation of this study was the use of self-report measures to assess outcome variables. Since all quantitative instruments are self-reported, there are threats related to hypothesis guessing and inaccuracy of reporting. Individuals have a tendency to report what they believe researchers expect and what reflects positively on their own abilities (Cook & Campbell, 1979). However, since the variables of interest (perceived wellness and perceived stress) are subjective by nature, individual perceptions of these constructs are desirable. Self-report measures are particularly useful when subjects' evaluations, attributions, or other subjective information are relevant for outcome research (Fernandez-Ballesteros & Botella, 2008). To address potential response bias, future studies may include a measure of social desirability such as the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960), which assesses an individual's tendency to alter self-presentation toward socially desirable bias.

This research design incorporated a qualitative component to augment quantitative data. The primary focus of the brief, semi-structured interviews was to gain insight into the experiences of intervention group participants. However, interviews were

very brief, consisting of seven questions, and focused on specific reactions to the intervention experience. Qualitative limitations included a relatively small sample ( $n=12$ ), therefore it cannot be assumed that these participants' experiences are representative of all intervention group members. Additionally, the researcher's inability to conduct member checks with all participants interviewed was a methodological limitation, as member checks were limited to those individuals who were willing to assist in the process.

### **Implications for Future Research**

Several identified limitations relate to the time and context of assessment administration. Future research should ensure that all assessment points are consistent in context, therefore minimizing the variability in external influences that may compromise internal and external validity. Additionally, while the overall study attrition between baseline and 6-week follow-up was a reasonable 32%; minimizing attrition could strengthen future studies. For the current study, incentives were offered to participants at the seven-week assessment point. Future research should consider offering incentives for follow-up measures in an effort to positively impact attrition.

Although quantitative outcomes indicate positive trends in perceived wellness at six-week follow-up, results were not statistically significant. To improve lasting intervention effects, several modifications should be considered for future research. Though the data supports some lasting effects of the intervention, it may be possible to maintain improvements acquired from pre to post intervention by providing "maintenance" sessions on a less frequent basis. Refresher sessions have been shown to have a significant impact on long-term outcomes related to behavioral change and stress

(Rowe, 2006). This approach to maintaining improvements could be provided through various formats including monthly refresher sessions, peer-support groups, or online resources.

Because of the trend in higher education toward more courses being offered in online or hybrid formats, this approach may be an effective means of maintaining wellness-related improvements. Discussion boards and online forums, and review of previously introduced resources and techniques such as goal setting, use of scaling and exception questioning, and other solution-focused strategies may increase lasting effects. Research demonstrates that students with higher perceived wellness are more likely to be enrolled in online and hybrid courses, as opposed to those with face-to-face delivery (Milroy et al., 2013). Given the significant improvement in wellness of intervention participants at seven weeks, utilization of online supports in maintaining wellness-related gains may be beneficial.

While the intervention group demonstrated a minor decrease in wellness from post-intervention to 6-week follow-up, and maintained similar levels of perceived stress, the control group demonstrated slight improvement in both outcome variables between post-intervention to 6-week follow-up. In addition to the potential impact of changing contexts on perceptions of wellness and stress, future research should examine additional mechanisms of change. For instance, a component analysis may be beneficial to examine the effect of social connectivity, a foundational component of interpersonal process-oriented groups, as a mediator of wellness-based change and lasting effects. Additionally, a component analysis may illuminate possible psychoeducational gains of the solution-

focused approach, and the impact of weekly goal-setting on immediate and lasting perceptions of wellness and stress.

By integrating additional comparison groups such as psychoeducational or interpersonal process, future studies may identify mediating factors of perceived wellness and stress. As the 5F-WEL assesses multiple domains of wellness, analysing group differences across second and third order factors may also provide insight into the specific benefits of utilizing a particular approach to facilitation (e.g. solution-focused, interpersonal process), as well as inform potential lasting effects. For example, high levels of social wellness among the interpersonal process group, traditionally a long-term therapeutic model that builds on connectivity among group members, may help to explain control group improvement trends post-intervention.

In addition to the focus on gaining insight into change mechanisms, and maintaining stress and wellness-based improvements, a number of variables could be examined in future studies. When establishing a research timeline, future research designs should consider external influences. Replicating the study at various points throughout the academic year will minimize threats to internal validity, and identify confounding effects that influence outcomes and attrition. This research study took place at a large, public, Midwestern university. To improve generalizability of outcomes, future studies should be conducted at multiple locations. For instance, variability in location, region, school size, and public/private institutions would help to improve external validity.

Research demonstrates heightened levels of stress among graduate students (Hyun et al., 2006). While this research design did not target graduate students specifically,

thirty-two percent of the baseline sample identified as having graduate student status. Controlling for student status in future analyses may provide insight into intervention effectiveness specific to the graduate student population.

The initial analysis included correlation of three general questions, *How would you rate your overall well-being?*, *How would you rate your overall life satisfaction?*, and *How would you rate your overall happiness?*, with formal measures of wellness and stress (PSS, 5F-WEL). Correlations were conducted at baseline, which provided valuable information relating general perceptions to the validated instrument outcomes. However, the analysis was limited by the fact that data were cross-sectional. Future studies should examine whether general perceptions of well-being, happiness, and life satisfaction change in conjunction with changes in formal measures across multiple time points.

The qualitative inquiry yielded important data supporting intervention effectiveness and illustrating participant experiences. However, due to the identified qualitative limitations, as well as the subjective nature of wellness, future studies should incorporate a more in-depth qualitative component to gain insight into the experiences of participants. Efforts should be made to increase sample size of qualitative interview participants, which will increase the accuracy and generalizability of conclusions. Additionally, incorporating interviews of group facilitators may provide additional information about group processes, challenges, and outcomes.

### **Conclusion**

College students face numerous stressors (Hudd et al., 2000) that can have a variety of negative implications, including compromised mental and physical wellness, poor performance, and high attrition rates (Calicchia & Graham, 2006; Kausar, 2010).

Contributing to stress and wellness-related challenges within this population are unhealthy behaviors and lifestyle habits, and ineffective coping strategies (Bland et al., 2012; Douglas et al., 1997; Everhart & Dimon, 2013). Compounding these challenges are the current trends on college campuses related to increased demands for services, and lack of available resources (Kitzrow, 2003; Watkins, Hunt, & Eisenberg, 2011). These challenges illustrate a clear need for effective, brief interventions that can positively affect college student wellness.

This study utilized a short-term (7-week) solution-focused wellness intervention to examine effectiveness in improving wellness and decreasing stress among college students. Intervention development was guided by a salutogenic approach and social constructivist epistemology, which informed intervention components. The IS-WEL, an empirically supported and multi-dimensional model of wellness, was integrated with SFBT, a strength-based, collaborative, and future-oriented therapeutic approach, to support students in moving toward “a way of life oriented toward optimal health” (Myers et al., 2000, p. 252).

A mixed methods approach and randomized controlled design were utilized to examine longitudinal group outcomes and between group differences at three assessment points (baseline, 7 weeks, and 6-week follow-up), as well as gain insight into participant experiences. Results indicated that solution-focused wellness group participants experienced significant change from baseline to week seven for both wellness and stress. Additionally, significant differences were found between intervention and control groups across time for wellness and stress. While lasting changes were not significant, overall change from baseline to six-week follow-up indicates some lasting impact of the

intervention. Several themes emerged from the qualitative analysis including: perceived benefits of goal-setting, decrease in stress, increased feelings of connection and self-awareness, and participant preferences for longer sessions/duration. These findings augment the quantitative data, and provide insight into the experiences of intervention-group participants.

Study findings have several implications. The effectiveness of a solution-focused wellness intervention administered in a brief format allows for the implementation in multiple contexts. Within a university setting, this intervention model differs from traditional wellness-based interventions that incorporate an educational approach across semesters (Higgins et al., 2009). A brief, solution-focused wellness model provides an option for improving wellness and decreasing stress that can be employed multiple times per semester, and the replicability of the model allows for implementation in a variety of contexts. The generalizability of the model should be explored in future research, examining effectiveness across a range of populations and contexts including at-risk groups, children, adolescents, older adults, and as a workplace intervention. Consistent with a salutogenic paradigm, the solution-focused wellness intervention can be an effective means of supporting individuals from multiple populations and contexts in proactively improving wellness and decreasing stress.



## **APPENDIX A: Quantitative Measures**

## Demographic Information Form

**Instructions:** Please provide a response for each of the following questions:

1. *What is your age?* \_\_\_\_\_

2. *How do you identify your gender?*

Female ☐ Male ☐ other ☐

3. *What is your marital status?*

Single ☐ Married ☐ Separated ☐ Divorced ☐ Widowed ☐

4. *With which racial or ethnic category do you identify?*

African American ☐ Asian/Pacific Islander ☐ Caucasian ☐ Latino/a ☐ Native American ☐

Other: \_\_\_\_\_

**5. Year in college:**

First year ☐ sophomore ☐ junior ☐ senior ☐ graduate student ☐

**6. In-state status** ☐ **Out-of-state status** ☐

7. Domestic student ☐ International student ☐

8. How would you rate your overall well-being?

1	2	3	4	5	6	7	8	9	10
<i>Least well</i>									<i>Most well</i>

9. How would you rate your overall life satisfaction?

1 2 3 4 5 6 7 8 9 10  
*Least satisfied* *Most satisfied*

10. How would you rate your overall happiness?

1 2 3 4 5 6 7 8 9 10  
*Least satisfied* *Most satisfied*

### Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never      1 = Almost Never      2 = Sometimes      3 = Fairly Often      4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?..... 0 1 2 3 4
2. In the last month, how often have you felt that you were unable to control the important things in your life? ..... 0 1 2 3 4
3. In the last month, how often have you felt nervous and “stressed”? ..... 0 1 2 3 4
4. In the last month, how often have you felt confident about your ability to handle your personal problems? ..... 0 1 2 3 4
5. In the last month, how often have you felt that things were going your way?..... 0 1 2 3 4
6. In the last month, how often have you found that you could not cope with all the things that you had to do? ..... 0 1 2 3 4
7. In the last month, how often have you been able to control irritations in your life?..... 0 1 2 3 4
8. In the last month, how often have you felt that you were on top of things?.. 0 1 2 3 4
9. In the last month, how often have you been angered because of things that were outside of your control?..... 0 1 2 3 4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? ..... 0 1 2 3 4

## Five Factor Wellness Evaluation of Lifestyle (5F-WEL)

The purpose of this inventory is to help you make healthy lifestyle choices. The items are statements that describe you. Answer each item in a way that is true for you most of the time. Think about how you most often see yourself, feel or behave. Do not spend too much time on any one item. Your honest answers will make your scores more useful.

Mark only one answer for each item using this scale:

- 4 **Strongly Agree:** If it is true for you most or all of the time
- 3 **Agree:** If it is true for you some of the time
- 2 **Disagree:** If it is usually not true for you
- 1 **Strongly Disagree:** If it is almost or never true for you

1. I engage in a leisure activity in which I lose myself and feel like time stands still.

$\begin{matrix} l & 2 & 3 & 4 \end{matrix}$

2. I am satisfied with how I cope with stress.

*l*
*2*
*3*
*4*

3. I eat a healthy amount of vitamins, minerals, and fiber each day.

$\begin{matrix} l & 2 & 3 & 4 \end{matrix}$

4. I often see humor even when doing a serious task.

$\begin{matrix} l & 2 & 3 & 4 \end{matrix}$

5. I am satisfied with the quality and quantity of foods in my diet.

1
2
3
4

6. Being a male/female is a source of satisfaction and pride to me.

$l$	$2$	$3$	$4$
-----	-----	-----	-----

7. When I have a problem, I study my choices and possible outcomes before acting.

$\begin{matrix} 1 & 2 & 3 & 4 \end{matrix}$

8. I do not drink alcohol or drink less than two drinks per day.

*1*                      *2*                      *3*                      *4*

9. I get some form of exercise for 20 minutes at least three times a week.

*1*                      *2*                      *3*                      *4*

10. I value myself as a unique person.

*1*                      *2*                      *3*                      *4*

11. I have friends who would do most anything for me if I were in need.

*1*                      *2*                      *3*                      *4*

12. I feel like I need to keep other people happy.

*1*                      *2*                      *3*                      *4*

13. I can express both my good and bad feelings appropriately.

*1*                      *2*                      *3*                      *4*

14. I eat a healthy diet.

*1*                      *2*                      *3*                      *4*

15. I do not use tobacco.

*1*                      *2*                      *3*                      *4*

16. My cultural background enhances the quality of my life.

*1*                      *2*                      *3*                      *4*

17. I have a lot of control over conditions affecting the work or schoolwork I do.

*1*                      *2*                      *3*                      *4*

18. I am able to manage my stress.

*1*                      *2*                      *3*                      *4*

19. I use a seat belt when riding in a car.

*1*                      *2*                      *3*                      *4*

20. I can take charge and manage a situation when it is appropriate.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
21. I can laugh at myself.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
22. Being male/female has a positive effect on my life.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
23. My free time activities are an important part of my life.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
24. My work or schoolwork allows me to use my abilities and skills.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
25. I have friends and / or relatives who would provide help for me if I were in need.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
26. I have at least one close relationship that is secure and lasting.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
27. I seek ways to stimulate my thinking and increase my learning.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
28. I am often unhappy because my expectations are not met.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
29. I look forward to the work or schoolwork I do each day.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
30. I usually achieve the goals I set for myself.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
31. I have sources of support with respect to my race, color, or culture.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|

32. I can find creative solutions to hard problems.

*1*                                      *2*                                      *3*                                      *4*

33. I think I am an active person.

*1*                                      *2*                                      *3*                                      *4*

34. I take part in leisure activities that satisfy me.

*1*                                      *2*                                      *3*                                      *4*

35. Prayer or spiritual study is a regular part of my life.

*1*                                      *2*                                      *3*                                      *4*

36. I accept how I look even though I am not perfect.

*1*                                      *2*                                      *3*                                      *4*

37. I take part in organized religious or spiritual practices.

*1*                                      *2*                                      *3*                                      *4*

38. I am usually aware of how I feel about things.

*1*                                      *2*                                      *3*                                      *4*

39. I jump to conclusions that affect me negatively, and that turn out to be untrue.

*1*                                      *2*                                      *3*                                      *4*

40. I can show my feelings anytime.

*1*                                      *2*                                      *3*                                      *4*

41. I make time for leisure activities that I enjoy.

*1*                                      *2*                                      *3*                                      *4*

42. Others say I have a good sense of humor.

*1*                                      *2*                                      *3*                                      *4*

43. I make it a point to seek the views of others in a variety of ways.

*1*                                      *2*                                      *3*                                      *4*

44. I believe that I am a worthwhile person.

*1*                                      *2*                                      *3*                                      *4*

45. I feel support from others for being a male / female.

*1*                                      *2*                                      *3*                                      *4*

46. It is important for me to be liked or loved by everyone I meet.

*1*                                      *2*                                      *3*                                      *4*

47. I have at least one person who is interested in my growth and well-being.

*1*                                      *2*                                      *3*                                      *4*

48. I am good at using my imagination, knowledge, and skills to solve problems.

*1*                                      *2*                                      *3*                                      *4*

49. I can start and keep relationships that are satisfying to me.

*1*                                      *2*                                      *3*                                      *4*

50. I can cope with the thoughts that cause me stress.

*1*                                      *2*                                      *3*                                      *4*

51. I have spiritual beliefs that guide me in my daily life.

*1*                                      *2*                                      *3*                                      *4*

52. I have at least one person with whom I am close emotionally.

*1*                                      *2*                                      *3*                                      *4*

53. I am physically active most of the time.

*1*                                      *2*                                      *3*                                      *4*

54. I use humor to gain new insights on the problems in my life.

*1*                                      *2*                                      *3*                                      *4*

55. I can put my work or schoolwork aside for leisure without feeling guilty.

*1*                                      *2*                                      *3*                                      *4*



56. I have to do all things well in order to feel worthwhile.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
57. I feel a positive identity with others of my gender.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
58. I am appreciated by those around me at work or school.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
59. I plan ahead to achieve the goals in my life.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
60. I like myself even though I am not perfect.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
61. I am satisfied with my free time activities.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
62. I do some form of stretching activity at least three times a week.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
63. I eat at least three meals a day including breakfast.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
64. I do not use illegal drugs.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
65. I believe in God or a spiritual being greater than myself.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
66. I can experience a full range of emotions, both positive and negative.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|
67. I view change as an opportunity for growth.
- |          |          |          |          |
|----------|----------|----------|----------|
| <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> |
|----------|----------|----------|----------|

68. I eat fruits, vegetables, and whole grains daily.

*1*                                      *2*                                      *3*                                      *4*

69. My spiritual growth is essential to me.

*1*                                      *2*                                      *3*                                      *4*

70. When I need information, I have friends whom I can ask for help.

*1*                                      *2*                                      *3*                                      *4*

71. I am proud of my cultural heritage.

*1*                                      *2*                                      *3*                                      *4*

72. I like to be physically fit.

*1*                                      *2*                                      *3*                                      *4*

73. I have at least one person in whom I can confide my thoughts and feelings.

*1*                                      *2*                                      *3*                                      *4*

## **APPENDIX B**

### **Fidelity**

## Intervention Group Fidelity Checklist

**1. I asked “what’s better” in today’s session**

1                      2                      3                      4                      5                      6                      7

**2. I summarized participants’ comments during today’s session**

1                      2                      3                      4                      5                      6                      7

**3. I complimented participants’ strengths/resources during today’s session**

1                      2                      3                      4                      5                      6                      7

**4. I asked exception/difference questions during today’s session**

1                      2                      3                      4                      5                      6                      7

**5. I asked amplifying questions during today’s session**

1                      2                      3                      4                      5                      6                      7

**6. I used scaling questions in today’s session**

1                      2                      3                      4                      5                      6                      7

**7. I asked questions to help participants think about how changes will affect important others in their lives**

1                      2                      3                      4                      5                      6                      7

**8. I provided opportunities for discussion and sharing specific to domains of wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

**9. I encouraged participants to explore ways that goals may affect their wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

**10. I asked about current strengths or positive practices related to wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

## Process Support Group Fidelity Checklist

<b>1</b> <i>Not at all specifically</i>	<b>2</b>	<b>3</b> <i>Yes, but not clear enough</i>	<b>4</b>	<b>5</b> <i>Yes, clearly</i>	<b>6</b> <i>Yes, clearly &amp;</i>	<b>7</b>
<b>1. I supported participants in establishing hope by identifying specific instances of change (Instillation of Hope)</b>						
1	2	3	4	5	6	7
<b>2. I helped participants understand that they are not alone or unique in their challenges by identifying similarities or themes (Universality)</b>						
1	2	3	4	5	6	7
<b>3. I encouraged participants to share experiences (Interpersonal Learning)</b>						
1	2	3	4	5	6	7
<b>4. I provided supportive advice or suggestions to participants (Imparting Information)</b>						
1	2	3	4	5	6	7
<b>5. I encouraged participants to actively listen to other's share experiences (Cohesiveness)</b>						
1	2	3	4	5	6	7
<b>6. I encouraged group members to discuss how it feels to support, and be supported by others (Altruism)</b>						
1	2	3	4	5	6	7
<b>7. I supported participants in making connections between roles in group and their role in other contexts such as family (Corrective Reenactment of Primary Family Group)</b>						
1	2	3	4	5	6	7
<b>8. I encouraged participants to explore their roles within group and notice/imitate the behaviors of others in the group (Imitative Behavior)</b>						
1	2	3	4	5	6	7
<b>9. I encouraged participants to provide feedback to other group members (Development of Socializing Techniques)</b>						

1	2	3	4	5	6	7
<b>10. I supported participants in taking complete responsibility for how they live their lives (Existential Factors)</b>						
1	2	3	4	5	6	7

## **APPENDIX C**

### **Qualitative**

### **Semi-Structured Interview Schedule**

- Describe your experience in the wellness group.
- What, if any changes did you experience as a result of participation?
- Describe your current practices related to personal wellness.
- Do you feel that the group length and duration were appropriate? Why or why not?
- What could have improved your experience?
- What aspects did you find most beneficial? Least beneficial?
- Is there anything else that you feel would be important to share about your experience?



## Codebook

Interview Topic	Question #	Code Name	Code definition
Group experience	1,2,6	Gen. benefit	<p><u>Brief Definition:</u> General participant experiences in the solution-focused wellness group.</p> <p><u>Full definition:</u> Participant responses when asked to describe their experiences as a part of the SF Wellness group.</p> <p><u>When to use:</u> Use this code to capture the positive or negative general perceptions of participation in the Solution-focused wellness intervention. May also include overlap with questions #2 and #6</p>
Specific changes	2	Spec. Change	<p><u>Brief definition:</u> Any specific changes identified by participants</p> <p><u>Full definition:</u> Participant responses to question “What if any changes did you experience as a result of participation?”</p> <p><u>When to use:</u> This code is used to capture any specific changes identified by participants that they attribute specifically to the intervention group.</p>
Current wellness practices	3	Current.wellness	<p><u>Brief definition:</u> Specific wellness practices identified by participants</p> <p><u>Full Definition:</u> Any current practices that participants identify as focused on improving their perceived wellness.</p> <p><u>When to use:</u> Use this code to capture what participants were currently doing at the time of interview related to</p>

			their personal wellness, and as a direct response to question: “Describe your current practices related to personal wellness”
Group length & duration	4,5	Group length	<u>Brief Definition:</u> Participant perceptions of group length and duration <u>Full Definition:</u> Participant responses to question “Do you feel that the group length and duration were appropriate? Why or why not?”, including participant recommendations for future intervention groups <u>When to use:</u> Use this code to capture participant opinions about the group length and duration, impact of group length, and in direct response to question 4
Improved experience	5,4	Improve. Exp	<u>Brief Definition:</u> Participant recommendations related to improving experience <u>Full definition:</u> Participant ideas, perceptions, and recommendations regarding what could have made their experience in the SF Wellness intervention group better <u>When to use:</u> Use this code to capture any specific ideas or recommendations that participants have regarding improving their experiences, and in direct response to question 5
Change in stress level	1, 2	Stress	<u>Brief definition:</u> Participant experiences related to changes in stress <u>Full definition:</u> Participant experiences related to their overall stress levels, practices in stress management, and experiences with stress as result of

			<p>participation</p> <p><u>When to use:</u></p> <p>Use this code when participants identify changes in stress as related to lifestyle, participation in intervention</p>
Feelings of connection	1,2,3,5	Connection	<p><u>Brief definition:</u></p> <p>Participant feelings of connection</p> <p><u>Full definition:</u></p> <p>Participant experiences of feeling connected as a result of participation in SF Wellness group</p> <p><u>When to use:</u></p> <p>Use this code when participants make explicit reference to feelings of connection either during or as a result of participation in SF Wellness group.</p>
Group format / process	6	Group.format	<p><u>Brief definition:</u></p> <p>Participant perceptions of group format and process</p> <p><u>Full definition:</u></p> <p>Participant perceptions about the format of the group intervention, whether format was beneficial, as well as personal preferences.</p> <p><u>When to use:</u></p> <p>Use this code when participants share opinions specific to the format and/or process of the group intervention</p>
Goal-setting	6,7	Goals	<p><u>Brief definition:</u></p> <p>Participant perceptions of goal-setting</p> <p><u>Full definition:</u></p> <p>Participant perceptions of the use of goal-setting as a SF component of the intervention group</p> <p><u>When to use:</u></p> <p>Use this code when participants explicitly identify or discuss the incorporation of goal-setting</p>

Increased self-awareness	1,2,3	Self-awareness	<u>Brief definition:</u> Participant perceptions of improved self-awareness <u>Full definition:</u> Participant perceptions of increases in self-awareness as a result of participation in SF Wellness group intervention <u>When to use:</u> Use this code to capture participant experiences related to changes in self-awareness as a result of group participation
--------------------------	-------	----------------	---

## Consensus Validity

- A. Benefits of goal-setting**
- B. Reported decrease in stress**
- C. Increased feelings of connection**
- D. Participant preferences for longer sessions/duration**
- E. Reported increase in self-awareness**

- 1. "I make a plan each week to do certain things, like workout, like doing workouts certain days"
- 2. "I think over the whole course of the sessions people really started to kind of get to know each other on a personal level"
- 3. "When we wrote down what we wanted to do, like a small goal for the week in terms of that aspect of wellness. That was really helpful".
- 4. "I became more aware about how everybody gets stressed out. I felt like I was able to stop and think, like if I was really stressed out I'd be able to stop and think about what was causing it rather than being overwhelmed"
- 5. "I think the biggest thing was awareness. Like I've seen the lists of well-being, like physical wellness, all those things, like I've seen them and sort of aware of them, but with actually being in the group we actually had discussions about them and talked about goals we had around it. It made me sort of aware of different aspects of my well-being"
- 6. "It was well designed. I would want to extend it longer than an hour but everyone does not have that much time"
- 7. "I guess it made me feel more connected"
- 8. "There were lots of times when I would have liked it be longer. I liked one person's idea of having it, the people who wanted to stay and continue the conversation could"
- 9. "It was good hearing that other people have similar situations to me and I always left less stressed than I came so that was good"
- 10. "I definitely got to connect with a bunch of new and interesting people"
- 11. "So we had like hand-outs each week, and it would talk about like on a scale of 1-10 where do you think you are in this category of wellness, and where do you want to be, and the follow up would be like okay how do you see yourself, what is different about being at that higher level and how do you get there, and for me that was definitely most beneficial because it was like a concrete tangible way to improve that

number, and we would set a couple of goals each week that we wanted to do for the next week”

----- 12. “I definitely think that if it was a semester long versus just seven weeks that would have been a lot more fun”

----- 13. “You know, I think the whole group just kind of made me aware of what wellness is exactly”

----- 14. “The only thing I would probably change is make it a little longer”

----- 15. “I think having a scheduled time to discuss things and focus on goals for wellness was helpful”.

----- 16. “One of my biggest ways to relieve stress is to compete, for example recreational sports, board games, you know stuff like that. That’s my biggest stress reliever, and I didn’t realize that before going into this”.

----- 17. “I noticed that as time went by I was becoming, I want to say less stressed out”

----- 18. “I felt accepted into this group of people”

----- 19. “Most useful was thinking about and talking about our goals, making those sort of plans”

----- 20. “I think that more time would be beneficial, however I know the longer the time period you advertise is kind of gonna deter people from it. And what I suggested during the last session was for future sessions make them an hour long with an additional half hour or so that’s optional”

## **Appendix D: Treatment Manual**

## Table of Contents

- I. Intervention Overview
- II. Solution-Focused Wellness Conceptual Model
- III. Session Descriptions:
  - Session 1: Introduction to wellness
  - Session 2: Creative Self
  - Session 3: Physical Self
  - Session 4: Essential Self
  - Session 5: Social Self
  - Session 6: Coping Self
  - Session 7: Wrap-up / Termination session
- IV. Resources
  - Wellness Domain Worksheet
  - Weekly Wellness Log
- V. Facilitator Fidelity Checklist



## **Intervention Overview**

The Solution-Focused Wellness Intervention is designed to support individuals in moving toward optimal wellness and reducing stress. The intervention is designed to be utilized in a group format, creating a dynamic in which participants can learn from one another, share experiences, and provide feedback. This brief model follows a specific progression (discussed in Session Summaries), consisting of seven one-hour sessions. The Solution-Focused wellness intervention integrates a multi-dimensional model of wellness (the Indivisible Self) with an evidence-based therapeutic approach (Solution-Focused Brief Therapy).

### ***IS-WEL***

The Indivisible Self Model of Wellness (IS-WEL) is an evidence-based model of wellness that emphasizes holism, and the idea that individuals are more than the sum of their parts. The IS-WEL is a multi-dimensional model, with a highest order factor of wellness followed by second and third order factors. The model's second-order factors include creative self, coping self, social self, essential self, and physical self. These factors will serve as guiding themes for intervention sessions. Corresponding third-order factors include thinking, emotions, control, work, humor, leisure, stress management, worth, realistic beliefs, friendship, love, spirituality, gender identity, cultural identity, self-care, nutrition, and exercise.

### ***Solution-Focused Skills and Techniques***

As Solution-Focused Brief Therapy (SFBT) is a unique therapeutic modality that employs specific skills and techniques, the expectation is that facilitators have experience with SFBT or Solution-Focused Coaching (SFC). Thus, this training is designed as an overview, and not a comprehensive training for the solution-focused skills required for facilitation of the Solution-Focused Wellness Intervention.

Among the specific techniques that will be integral to the successful implementation of this intervention are:

#### ***Solution Questioning***

- *Miracle Questions* – Facilitators support participants in conceptualizing what their “ideal” states of well-being through utilization of “miracle questioning”. By focusing on optimal states rather than on problem behaviors, participants can identify future-oriented, positive strategies to reach these “ideal” states.
- *Exception Questions* - No problem happens all the time. There are exceptions, that is, times when the problem could have happened but didn't, that can be used by the client and therapist to co-construct solutions.
- *Scaling Questions* – Scaling questions can be used by facilitators to support participant in identifying where they are currently in relation to their “ideal” states

of wellness, as well as times in which they were closer to this level of wellness (e.g. If your ideal state is a 10, are there times when you felt closer to a 10 than you do currently?)

- *Amplifying Questions* – Facilitators support participants in exploring progress that they have made through questions designed to gather more description and context, which illuminate and “amplify” the differences

*Collaborative* – A core tenet of SFBT is that facilitators collaboratively help clients find alternatives to current undesired patterns of behavior, cognition, and interaction that are within the clients’ repertoire or can be co-constructed by therapists and clients as such.

*Goal-setting* – Facilitators support participants in developing specific future-oriented goals based on their own conceptualization of wellness. These goals will include domain-specific goals (e.g. Social Self goals, Physical Self goals, etc.), as well as general goals related to overall wellness.

*Strength-Based* – A core tenet of SFBT is the assumption that clients have the resources and capacity to change (Gingerich & Eisengart, 2000). With this understanding, facilitators can support participants in building upon already existing strengths as they progress toward self-defined goals.

*Future-Oriented* - As SFBT believes that problems exist in the past; the approach focuses on the present and future rather than on past experiences. Facilitators will support participants in developing strategies and goals focused on moving toward ideal states of wellness through asking future-oriented questions.

### Solution-Focused Wellness Intervention Conceptual Model

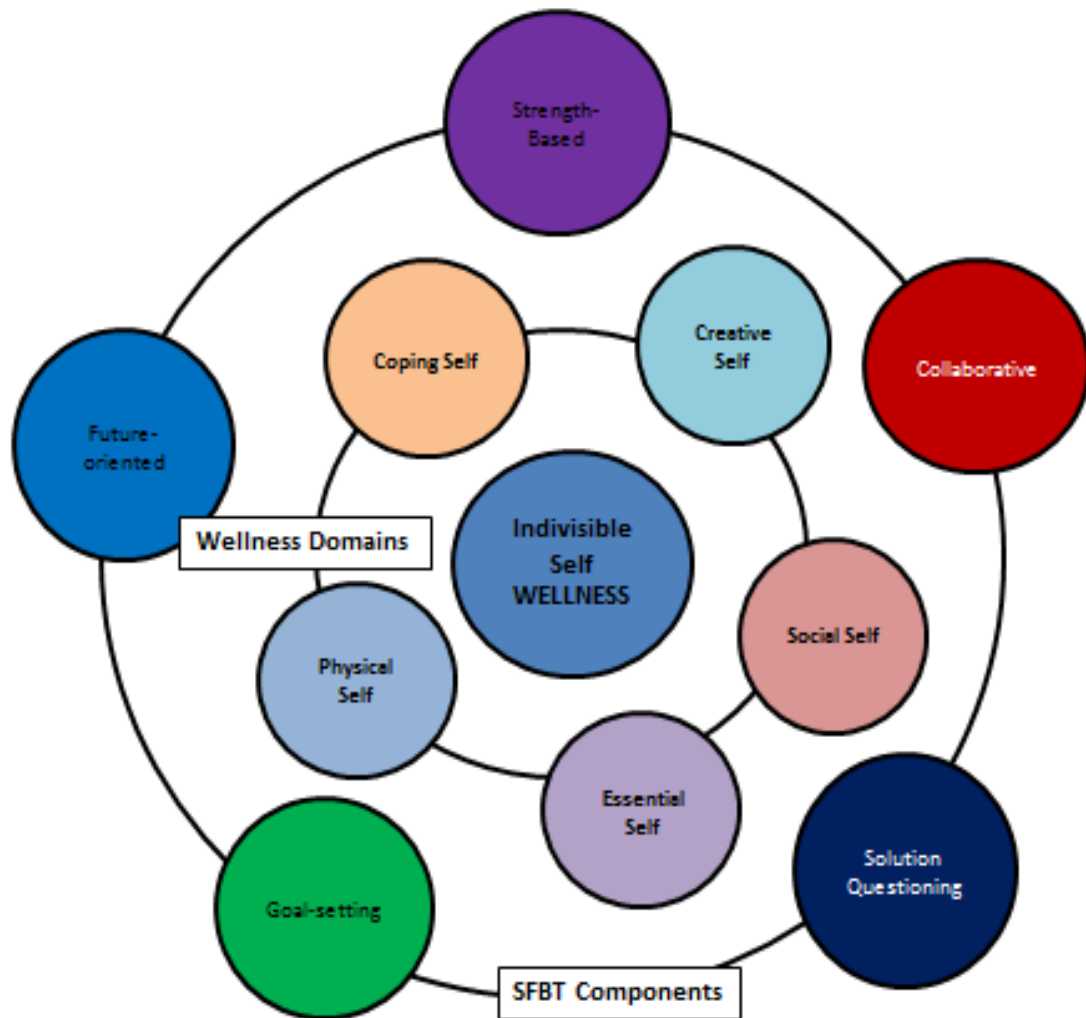


Figure 1. SF Wellness Conceptual Model

## Session Descriptions

### Session 1

#### Theme: Introduction to Wellness

#### Session Objectives:

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

Time	Activity	Objective
10 minutes	Introductions: encourage group members to pair up and talk, introduce each other to the group.	1
5 minutes	Discussion of group norms, hopes, and aims of the group.	1
15 minutes	Discussion of Wellness: explore individual perceptions of wellness, factors that may influence personal wellness, ways that participants feel well.	2,5
15 minutes	Provide overview of Indivisible Self Model of wellness. Examine wellness factors, how they interact, and may affect overall wellness.	2,5
10 minutes	Discuss value-based goal setting. Examine prior goals / successes that participants have achieved.	3,4,5
5 minutes	Closing / check-out. Discuss reactions to session, and general goals for next meeting.	1

## Session 2

### Theme: Creative Self

#### Session Objectives:

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct, specific focus on Creative Self domain*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

Time	Activity	Objective
10 minutes	Check-in. Review: group norms. Discussion: previous session.	1
20 minutes	Introduce Creative Self component of wellness. Examine factors including thinking, humor, control, work, and emotions. Explore how these factors influence wellness. Identification of strengths related to creative self, exceptions / times when this component was particularly healthy. Introduce Weekly Wellness Activity Logs.	2,3,5
15 minutes	Review: goal setting. Exercise: brainstorming, setting goals for creative self, complete goal-setting worksheet.	2,4,5
10 minutes	Group discussion: optional sharing of goals, use of “miracle question”, strategies to implement goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1

### **Session 3**

#### **Theme: Physical Self**

#### **Session Objectives:**

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct with specific focus on Physical Self domain*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

<b>Time</b>	<b>Activity</b>	<b>Objective</b>
5 minutes	Check-in. Discussion: previous session, progress on Creative Self goals, identify positive changes related to overall wellness.	1
20 minutes	Introduce Physical Self component of wellness, including factors: exercise, nutrition. Discussion: current strategies employed related to physical wellness. Role that exercise, nutrition play in their lives. Participants identify times when they were particularly physically healthy.	2,3,5
15 minutes	Review: goal-setting, weekly logs Exercise: brainstorming, setting goals for physical self, complete goal-setting worksheet	2,4,5
10 minutes	Group discussion: optional sharing of goals, use of “miracle question”, strategies to implement goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1

**Session 4****Theme: Essential Self****Session Objectives:**

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct with specific focus on Essential Self domain*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

<b>Time</b>	<b>Activity</b>	<b>Objective</b>
10 minutes	Check-in. Discussion: previous session, progress on Creative Self goals, identify positive changes related to overall wellness.	1
20 minutes	Introduce Essential Self component of wellness, including factors: identity, self-care, purpose / meaning. Discussion: current strategies employed related to Essential Self component of wellness. Explore strategies for self-care, encourage sharing of personal identity, ways that participants feel meaning or purpose in lives. Identify times when these factors were most well, explore context, barriers that were overcome.	2,3,5
15 minutes	Discuss goal-setting related to Essential Self. Exercise: brainstorming, setting goals for Essential Self, complete goal-setting worksheet, review weekly logs.	2,4,5
10 minutes	Group discussion: optional sharing of goals, use of "miracle question", strategies to implement goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1

**Session 5****Theme: Social Self****Session Objectives:**

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct with specific focus on Social Self domain*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

<b>Time</b>	<b>Activity</b>	<b>Objective</b>
10 minutes	Check-in. Discussion: previous session, progress on Essential Self goals, identify positive changes related to overall wellness.	1
20 minutes	Introduce Social Self component of wellness, including factors: love, friendship. Discussion: current strategies employed related to social wellness, identify important relationships and role that they play in participants' lives. Identify times when participants were particularly socially healthy, ways that met needs related to Social Self.	2,3,5
15 minutes	Review: goal setting. Exercise: brainstorming, setting goals for Social Self, complete goal-setting worksheet, review weekly logs.	2,4,5
10 minutes	Group discussion: optional sharing of goals, use of "miracle question", strategies to implement goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1



## Session 6

### Theme: Coping Self

#### Session Objectives:

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct with specific focus on Coping Self domain*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

Time	Activity	Objective
10 minutes	Check-in. Discussion: previous session, progress on Social Self goals, identify positive changes related to overall wellness.	1
20 minutes	Introduce Coping Self component of wellness, including factors: leisure, stress management, and self-worth. Discussion: current strategies employed related to Coping Self component of wellness. Explore strategies for stress management, satisfying leisure activities, identifying aspects of self that feel most well. Identify times when participants are best able to manage stress, explore context, barriers that were overcome.	2,3,5
15 minutes	Discuss goal-setting related to Coping Self Exercise: brainstorming, setting goals for Coping Self, complete goal-setting worksheet, review weekly logs.	2,4,5
10 minutes	Group discussion: optional sharing of goals, use of “miracle question”, strategies to implement goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1

**Session 7:****Theme: Termination Session/Wrap-Up****Session Objectives:**

- 1. Establish a safe and healthy environment in which to explore thoughts and feelings related to wellness within group context*
- 2. Examine wellness as a multi-dimensional construct*
- 3. Identify and build on participants' current strengths*
- 4. Encourage participants to build and explore congruence between values, goals, and lifestyles*
- 5. Provide opportunities for discussion and feedback regarding personal conceptualizations of wellness*

<b>Time</b>	<b>Activity</b>	<b>Objective</b>
5 minutes	Check-in. Discussion: previous session, progress on Coping Self goals, identify positive changes related to overall wellness.	1
20 minutes	Reflect on wellness group. Discussion of progress related to each component of wellness, impact on overall wellness. Identify changes from initial session. Celebrate successes.	2,3,5
15 minutes	Opportunities for participants to provide feedback related to intervention.	2,4,5
15 minutes	Group discussion: ongoing goals, strategies to ensure continued implementation of wellness strategies and goals.	1,3,4,5
5 Minutes	Closing / check-out, reactions to session.	1

## *Example Wellness Domain Worksheet*

### **Physical Self**

**Current rating (1-10) \_\_\_\_ Desired rating (4 weeks) \_\_\_\_ Desired rating (8 weeks)**  
\_\_\_\_\_

#### **Questions to consider:**

*How will you know when you are at a 6? Or 8?*

*What will be different about your life?*

*What would your optimal physical self look like?*

---

#### **Activities you are currently doing or could do in the future to improve Physical Self:**

- 1)
- 2)
- 3)
- 4)
- 5)

---

#### **Short-term goals:**

- 1)
- 2)
- 3)

The purpose of developing wellness goals is self-care, not to set goals that are unattainable or too challenging. Emphasis should be on accentuating positive effort and progress, in order to develop positive self-efficacy, confidence, and overall wellness.

***Sample Weekly Wellness Log***  
**Weekly Wellness Activity Log**

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Creative Self							
Physical Self							
Essential Self							
Social Self							
Coping Self							

**Domain Descriptions:**

*Creative Self*—The combination of attributes that each of us forms to make a unique place among others in our social interactions and to interpret our world. Includes factors: thinking, humor, control, work, and emotions.

*Physical Self*—The biological and physiological processes that comprise the physical aspects of our development and functioning. Includes factors exercise and nutrition.

*Essential Self*—Essential Self incorporates our existential sense of meaning, purpose, and hopefulness toward life. Includes factors self-care, spirituality, gender identity, and cultural identity.

*Social Self*—Social support through connections with others in our friendships and intimate relationships, including family. Includes factors friendship and love.

*Coping Self*—The combination of elements that regulate our responses to life events and provide a means for transcending their negative effects. Includes factors stress management, realistic beliefs, self-worth, and leisure.

## Facilitator Fidelity Checklist

**1. I asked “what’s better” in today’s session**

1                      2                      3                      4                      5                      6                      7

**2. I summarized participants’ comments during today’s session**

1                      2                      3                      4                      5                      6                      7

**3. I complimented participants’ strengths/resources during today’s session**

1                      2                      3                      4                      5                      6                      7

**4. I asked exception/difference questions during today’s session**

1                      2                      3                      4                      5                      6                      7

**5. I asked amplifying questions during today’s session**

1                      2                      3                      4                      5                      6                      7

**6. I used scaling questions in today’s session**

1                      2                      3                      4                      5                      6                      7

**7. I asked questions to help participants think about how changes will affect important others in their lives**

1                      2                      3                      4                      5                      6                      7

**8. I provided opportunities for discussion and sharing specific to domains of wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

**9. I encouraged participants to explore ways that goals may affect their wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

**10. I asked about current strengths or positive practices related to wellness in today’s session**

1                      2                      3                      4                      5                      6                      7

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