THE IMPACT OF AN ONLINE EVIDENCE-BASED COACHING PROGRAM
ON GOAL STRIVING, SUBJECTIVE WELL-BEING, AND LEVEL OF HOPE

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Abstract

The purpose of this study was to measure the effectiveness of an online evidence-based coaching program in terms of goal attainment, subjective well-being and level of hope. Both the coaching industry and use of the Internet have grown dramatically, and some coaches have added online communication to traditional face-to-face and telephone-based interactions with their clients. This research sought to contribute empirical findings to the nascent field of online coaching. The study’s research design was a posttest, random assignment, two-group comparison study. The researcher recruited a sample of adult Internet users in the United States by asking various website owners to mention the study to their audiences. Participants were randomly assigned to either a waitlist control group or to an experimental treatment group that participated in an 8-week online coaching program. The coaching program was an evidence-based coaching program that drew from a variety of validated psychological studies. The program was delivered exclusively online through a series of structured exercises and open discussions. A certified coach with more than 5 years professional coaching experience led the program, and participants interacted with the coach and other participants over the program’s duration. Measures in the present study included a goal attainment questionnaire, the Satisfaction with Life Scale, and the State Hope Scale. Responses were collected from all participants following the completion of the program or waitlist assignment. After a review of prior research, a hypothesis was developed stating that results from the experimental coaching group would be significantly different from those of the waitlist control group. To test the hypothesis, results from the two groups were compared using a One-Way MANOVA with associated post-hoc tests. Omnibus MANOVA results were
significant, and a post-hoc ANOVA test was subsequently conducted for each of the study’s dependent variables. Post-hoc univariate tests of goal attainment and subjective well-being were significant. A post-hoc univariate test of hope was nonsignificant. Online coaching was observed to be effective in terms of the identified coaching outcomes. Implications of these findings and recommendations for future research are presented.
Dedication

For the discontented dreamer.

You couldn’t leave well enough alone,

so you went ahead and set a goal.

You made a plan to achieve it,

and you took the first step.

One step closer to the divine.
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CHAPTER 1. INTRODUCTION

Over the last 20 years, the coaching profession has grown substantially (International Coach Federation, n.d.; Stober & Grant, 2006). Today, individuals can enlist the help of a wide array of professional coaches ranging from executive coaches, wellness coaches, life coaches, and many more. Over the same time period, Internet communication technologies have emerged and proliferated (Cerf, 1991). These two trends – coaching and the Internet – appear to be on a collision course. Many professional coaches now use the Internet to describe their services (Liljenstrand & Nebeker, 2008), communicate with prospective and existing coachees, and even deliver coaching services online (e.g., Hummingbird Coaching, n.d.; LifeCoach.com, n.d.).

To some, coaches’ use of the Internet may be seen as a natural extension of face-to-face and telephone-based coaching. In light of this new delivery method, however, important practical and ethical questions emerge. Chief among these is the question, Is online coaching effective? Unfortunately, there are few outcome studies related to the efficacy of coaching in general and no known empirical studies examining online coaching specifically. The present study aims to make the first contribution to this much-needed body of research related to online coaching.

An individual seeking to make some meaningful improvement in his or her life may choose to enlist the help of a professional coach for guidance and assistance. Recently, the coaching industry has grown significantly, and the leading coaching association – the International Coach Federation – now reports having more than 19,000
members in over 100 countries (International Coach Federation, n.d.). Growth in coaching has been driven by increasing demand for coaching services (Pace, 2008) and by interest from professionals entering the coaching field as a means to help others increase their personal success and life satisfaction (Criddle, 2007).

In a coaching relationship, the coach has the intention of helping an individual enhance or improve his or her competence in some area of behavior or activity (Flaherty, 2005). Coaches commonly utilize a variety of frameworks, communication techniques, and behavioral cues in their work with clients. Throughout the coaching relationship, coaches focus on helping clients remain accountable and make continuous progress toward stated outcomes (Whitworth, Kimsey-House, Kimsey-House, & Sandahl, 2007).

As described, coaching appears to be similar to traditional forms of psychotherapy, but there are important differences. As compared to clients who are engaged in therapy, “coaching clients are traditionally high-functioning individuals and relatively free of psychopathology” (Biswa-Diener, 2009, p. 546). Also, the fact that the client population is self-motivated and focused on positive personal growth explains in part why many clinicians have become coaches or have become consultants to various businesses (Criddle, 2007).

Recent technological advancements such as communication through the Internet have led to an increase in the awareness of coaching. For example, the Internet has helped coaches increase their access to current and prospective clients (Liljenstrand & Nebeker, 2008). These clients (commonly referred to as “coachees” in both the industry and in the professional coaching literature) may use the Internet to research coaching services generally or to learn more about the background of specific coaches. Today,
coaches frequently interact with coachees through an increasing variety of electronic means ranging from the telephone to electronic mail, instant messaging, and other online formats (Rosett & Marino, 2005).

**Statement of the Problem**

Unfortunately, little is known about the effectiveness of coaching interventions delivered over the Internet. At present, the coaching industry is dominated by claims and contributions from its practitioners rather than professional researchers; it suffers from a significant lack of empirical study and results (Latham, 2007). Outcome studies (Feggetter, 2007; Grant, 2007; Gyllenstein & Palmer, 2005; Libri & Kemp, 2006; Rolo & Gould, 2007; Spence & Grant, 2007) have focused primarily on face-to-face coaching interventions. There are no known empirical studies that have measured the effectiveness of an evidence-based, goal-oriented online coaching program.

Empirical psychological research that validates the effectiveness of an online coaching program would serve the interests of coaches and their coachees as well as the overall coaching industry itself.

**Purpose of the Study**

The purpose of this study was to measure the effectiveness of an online evidenced-based coaching program in improving participants’ goal attainment outcomes and in levels of their subjective well-being and hope. This study has contributed to the
growing body of evidence-based coaching literature, thus expanding the scientific foundation of the fledgling coaching industry. The study has also highlighted future research directions in the practice of online coaching.

Specifically, this study aimed to:

1. Recruit online coaching program participants
2. Randomly assign participants to either an experimental coaching group or a waitlist control group
3. Deliver an evidence-based coaching program treatment to the experimental coaching group exclusively through online communication technologies
4. Collect posttest measures of goal attainment, subjective well-being, and level of hope for both groups
5. Examine statistical differences between groups following the treatment

Significance of the Study

Despite the increasing popularity of coaching, the industry itself has historically offered little in the way of credible, validated research that might guide coaches’ practice and support its broad claims (Stober & Grant, 2006). Unlike traditional forms of psychotherapy, for example, the majority of the coaching literature does not present many empirical outcome studies from coaching interventions (Grant & Cavanagh, 2007). This lack of a scientific foundation can lead to skepticism on the part of coaching consumers and from professionals in the neighboring fields of education, psychology, and sociology.

Fortunately, there has been a move toward evidence-based coaching that stems from demands from the academic research field, the coaching industry, and from
coaching consumers (Griffiths & Campbell, 2008). This evidence-based coaching movement seeks to develop, utilize, and improve upon validated measurement instruments, intervention techniques, and outcomes. Outcome studies play a particularly important role in the current evolution of the coaching field. Coaching outcome studies often examine goal attainment, well-being, stress, and satisfaction on the part of coachees (Grant & Cavanagh, 2007). Today, coaches can reference and utilize an increasing base of empirically supported literature (Stober & Grant, 2006).

In contrast to the hundreds of goal-related outcome studies that have been conducted over the past several decades, there have been relatively few empirical coaching studies and almost no online coaching studies. Despite a lack of empirical online coaching research, coaches have begun to engage online – in part or in whole – with coachees when delivering coaching services (Rossett & Marino, 2005). In a survey taken at a recent Society for Industrial and Organizational Psychology lecture, more than 64% of participants claimed to have engaged in some form of “e-coaching” using e-mail, instant messaging, social media, or other online tools (Society for Industrial and Organizational Psychology, 2008). The practice of online coaching appears to be outpacing evidence-based research into its effectiveness.

Before online coaching can become an accepted and ethical means of professional practice, validated online coaching outcome studies will need to provide an appropriate empirical foundation in the same manner as the literature that is beginning to emerge in areas of traditional coaching. There is a particularly strong need for coaching studies that are conducted using randomized controlled designs. Grant and Cavanagh (2007, p. 245) noted that “the dearth of randomized controlled studies is a serious shortcoming in the
coaching outcome literature” as this type of study is common in other branches of psychological science.

Theoretical Framework

Goals and Goal Setting

Goal theory provides a particularly relevant theoretical foundation for coaching, as coaching is often utilized by individuals who want to achieve specific goals (Spence & Grant, 2007). Goal-focused coaching seeks to deliver valuable outcomes for coachees and focuses on the development of solutions, proper goal-setting techniques, and accountability of coachees to complete agreed assignments (Grant, 2006). Individuals may approach coaches for assistance with a wide variety of personal and professional objectives such as finding a new job, losing weight, or developing more fulfilling personal relationships.

Goal theory traces its roots to the cognitive revolution in psychology that took place following the dominant influence of behaviorism in the 1950s and 1960s (Locke, 1996). Theories such as Bandura’s Social Cognitive Theory and Maslow’s Theory of Human Motivation began to incorporate goal studies into psychological research (Latham & Pinder, 2005). Over the past several decades, goal research has been conducted in the cognitive, personality, and motivation domains of psychology (Austin & Vancouver, 1996).
The structure and content of goals have been explored through studies concerning personality, self-regulation, agency, intrinsic and extrinsic motivation and other psychological phenomena (Austin & Vancouver, 1996). Psychology researchers have studied the positive relationship between personal goals and personal growth and well-being (Sheldon, Kasser, Smith, & Share, 2002). Researchers have also studied goals in relationship to Self-Determination Theory and the human experience of psychological needs (Deci & Ryan, 2000). Self-Determination Theory holds that individuals have fundamental needs for competence, relatedness, and autonomy and that an individual’s behavior and resulting well-being are influenced by his or her ability to satisfy these needs through goal pursuits (Deci & Ryan, 2000).

One goal theory in particular has emerged as simultaneously comprehensive, thoroughly validated, cohesive, and highly relevant to coaching. Industrial/Organizational psychologists Locke and Latham developed and refined goal setting theory through more than 35 years of lab and field research (Locke & Latham, 2002). The theory is comprised of core findings related to goal difficulty, commitment, specificity, feedback, and other factors that influence performance (Locke & Latham, 1990). Several critics have cited goal setting theory as being both valid and practical in a variety of goal-performance situations (Locke & Latham, 2002).

Locke and Latham’s goal setting theory provides the primary theoretical framework for the present study. This theory is comprehensively detailed in their 1990 book *A Theory of Goal Setting and Task Performance*. In their discussion of goal setting theory, Locke and Latham (2002) maintain that task performance increases as goal difficulty increases, that there is a positive relationship between an individual’s
expectancy that he or she will achieve a goal and subsequent goal attainment, and that goals are both directive and energizing. The development of the study’s experimental intervention – an online evidence-based coaching program – drew from Locke and Latham’s goal setting theory and related field research findings.

**Coaching**

Extant psychological research and theoretical frameworks provide ample background for the establishment and validation of coaching interventions. Coaching itself draws extensively from positive psychology and may even be considered an applied form of this psychological subdiscipline (Grant & Cavanagh, 2007). Seligman (2007) observed that while positive psychology concepts are often cited in coaching frameworks and discussions, positive psychology itself has been built on a foundation of validated psychological measurements, research, and outcome studies; coaching might therefore benefit from its association with positive psychology. Likewise, coaching draws from adult learning and behavioral change (MacKie, 2007). These fields also feature many examples of empirical outcome studies and other professional research that have guided the development of professional understanding and practice.

**Additional Theories**

There are two additional psychological theories that are related to the study’s goal-setting and coaching foundation. The first of these relates to subjective well-being. Diener, Suh, Lucas, and Smith (1999, p. 277) defined *subjective well-being* as “a broad category of phenomena that includes people’s emotional responses, domain satisfactions,
and global judgments of life satisfaction.” The second of these is Hope Theory, which describes the cognitive roles of agency and pathways in goal-directed behavior (Snyder, 1995). The strong relationships between goal attainment, subjective well-being, and hope are detailed in Chapter 2.

**Research Design**

The research design for the present study is a posttest randomly assigned two-group comparison study of measured outcomes following participation in an 8-week online, evidence-based coaching program.

The use of posttest measures was required, as the foundational research question revolved around within-subject changes in a combination of respective goal attainment, subjective well-being, and level of hope. The inclusion of a control group was required to examine whether any observed changes were attributed to participation in the program and were not likely due to outside factors. The use of random assignment of subjects was included in the present study’s research design as this technique mitigates a selection bias threat to the internal validity of a multiple group study (Trochim, 2006). Without randomly assigning participants to either the control or experimental groups, any observed differences may have actually stemmed from differences between the individuals rather than the coaching itself. Random assignment can reduce such a bias in an experimental design (Breakwell, Hammond, Fife-Schaw, & Smith, 2006) making it appropriate for use in the present study.
Approach

The present study employed an experimental research approach that included a waitlist control group and an experimental treatment group made up of individuals who participated in an 8-week online coaching program. After the experimental group completed the 8-week online coaching program, the waitlist group was administered the program. Results from the second program administration were not included in the present study.

A simple diagram of the design notation for the study captures the key characteristics of this experimental design including random assignment, posttest measures, and the experimental group treatment condition:

\[ \text{Time}>>> \]
\[ R \times O \]
\[ R \quad O \]

Unit of analysis

The present study examined individual goal attainment and changes in subjective well-being and level of hope. A purposeful sample was drawn from the population of adult Internet users in the United States. Study participants were randomly assigned to a waitlist control group or an experimental treatment group that participated in an 8-week online, evidence-based coaching program. All participants were asked to complete a goal attainment measure, the Satisfaction with Life Scale (SWLS), and the State Hope Scale at the posttest interval. Participants who were originally assigned to the waitlist control group were invited to participate in the administration of a second 8-week online
coaching program, although the results from this second program were not included in the present study.

**Research Question and Hypothesis**

The primary research question for the present study was “Does participation in an online coaching program result in increased goal-striving, subjective well-being, and level of hope outcomes?” The hypothesis suggested by review of the available literature was that there will be a significant difference between the mean outcome scores of the treatment and control group as measured by a linear combination of goal attainment, subjective well-being, and level of hope scores as measured by a goal attainment scale, the Satisfaction with Life Scale (SWLS) and State Hope Scale, respectively.

**Assumptions and Limitations**

The present study adopted several theoretical assumptions. First, it was assumed that perceived goal difficulty, commitment, specificity, and feedback influence goal-performance outcomes (Locke & Latham, 1990). Second, it was assumed that goal setting theory is a practical and valid theory toward understanding and improving goal-performance outcomes (Locke & Latham, 2002). Third, it was assumed that subjective well-being is comprised of an individual’s emotional responses and judgments of satisfaction with life (Diener et al., 1999). Fourth, it was assumed that there is a positive relationship between personal goals and well-being (Grant, 2003; Green, Oades, & Grant,
2006; Sheldon et al., 2002). It was also assumed that individuals who pursue daily life goals that are congruent with larger life goals experience higher levels of subjective well-being (King, Richards, & Stemmerich, 1998). It was assumed that the construct of hope is comprised of both agency and pathways cognition (Snyder, 1995). Finally, it was assumed that increased attention to goals may enhance agency and pathways thinking (Snyder, 1995).

The present study also adopted several topical assumptions. First, it was assumed that coaching is frequently sought by individuals who want to achieve specific goals (Stober & Grant, 2006). Second, it was assumed that an evidence-based coaching program is effective in increasing goal attainment, subjective well-being, and level of hope (Green et al., 2006). Third, it was assumed that a face-to-face evidence-based coaching program can be adapted for online delivery.

The present study also adopted methodological assumptions including the assumption that a purposeful sample of users recruited through study awareness generated by various website owners is representative of adult Internet users in the United States. Second, it was assumed that the independent and dependent variables used in the study are relevant to the stated research questions and hypotheses. Finally, it was assumed that goal attainment, subjective well-being, and level of hope are all normally distributed in the population of adult Internet users in the United States.

The present study had several limitations. First, while the sample population of website visitors is largely representative of the general population of adult Internet users in the United States, this sample may present cultural or psychological differences that limit generalizability of the study’s findings to the larger population. Second,
participation in the program was voluntary, and the participants who self-selected for the study may differ from the general population in ways that influenced the study’s outcome. In coaching research, this recruitment approach is common, and this limitation was not addressed for reasons of feasibility. Third, there was no means to ensure that the study’s participants would complete the coaching exercises or the posttest measures. Minimum participation levels and methods of encouraging participation were presented, but a failure to meet the minimum participation criteria reduced the sample size of the study. Fourth, each of the measures in the present study was based on participants’ self-report ratings. Some critics have expressed concerns over the use of introspection and self-reports in psychological research (Locke, 1996), but the phenomena in the present study have been commonly measured through self-reports by participants. Fifth, the present study used web-based survey questionnaires to collect posttest results from study participants rather than more traditional research collection methods. This was largely a result of the study design itself, as all coaching interactions during the study took place using available online communication technologies. This limitation was not addressed due to the nature of the study and the feasibility of alternatives (i.e., sending written questionnaires when no mailing addresses was collected during the study). Sixth, the study was limited by a lack of research quantitatively comparing online coaching techniques and outcomes with traditional face-to-face or telephone-based alternatives. The present study was intended to contribute to the general dearth of research in the growing field of online coaching, so this limitation reflected the pioneering nature of the research itself. Also, the present study included an adaptation of a coaching program that was used in an earlier face-to-face coaching study. A subset of the original coaching
exercises was selected for inclusion, and the format of the exercises was adapted for online discussion among the group of participants. Although the effectiveness and validation of the coaching program itself was not the focus of the present study, the effectiveness of the adapted coaching study may have differed in some way from that of the original program. Finally, the present study included only two groups – an experimental coaching group and a waitlist control group with the treatment group having completed an online, evidence-based coaching program using a variety of online tools and discussion topics. Based on the study’s design, it was not possible to determine if observable differences for the experimental group were the result of the online coaching program or other common factors related to either goal-related discussion by participants or their participation in online discussions, generally. This limitation was not addressed in the present study due to the overall feasibility of including a third experimental group given the time and financial resources available to complete the study.

**Definition of Major Variables and Terms**

This study included an examination of three primary constructs: goal attainment, hope, and subjective well-being.

**Constructs**

**Goal attainment.** This construct describes the general process by which an individual achieves a defined goal or some desired future state. The process of goal attainment can be influenced by an individual’s perception of a goal’s difficulty, his or
her expectancy that the goal will be achieved, and its perceived importance (Locke & Latham, 2002). In a recent experimental coaching study, Grant (2003) demonstrated how the regulatory process of goal-setting, performance, feedback, and adaptation can also influence goal attainment.

**Hope.** This construct relates to the affect and expectations an individual holds as to whether some desired future state will be achieved. As such, hope is an intrinsically goal-oriented construct. Early constructs of hope, such as that offered by Stotland (1969) in *The Psychology of Hope*, focused solely on the expectancy aspect of hope. A later model of hope, the Hope Theory offered primarily by Snyder, described *hope* as a cognitive process involving the key dimensions of agency and pathways. Snyder (1995, p. 355) described agency as “the cognitive willpower or energy to get moving toward one’s goal.” *Pathways* relates to an ability to generate optional means by which one may achieve a stated goal (Snyder et al., 2000). Snyder, Sympson, Michael, and Cheavens (2001) have described an interrelationship between agency and pathways thinking, as well as how an individual’s valuation of a given goal outcome and his or her goal pursuit behavior comprise a comprehensive and multidirectional feedback mechanism.

**Subjective well-being.** This construct relates to both happiness and optimal human functioning. Research and theory in the area of well-being has primarily been split into hedonic and eudaimonic traditions (Ryan & Deci, 2001). Hedonic approaches consider subjective well-being as relating to the experience of pleasure or happiness, while eudaimonic approaches focus on human growth and the experience of living in concordance with one’s true self (Ryan & Deci, 2001). There is a strong relation between
the two traditions, and the present study considered the construct of subjective well-being as the experience of well-being that is derived from eudaimonic harmony.

Variables

Goal attainment. In the present study, goal attainment was measured as a relative report of recent progress made toward three stated personal goals. Results for stated goal pursuits were assigned on a scale from 1 to 5. A rating of 1 indicated that the individual felt no progress had been made toward the goals, and a rating of 5 indicated that the individual felt complete progress had been made toward the goals. This method of measuring goal attainment has been used previously in studies examining the efficacy of coaching programs (Green et al., 2006; Spence & Grant, 2007) and studies examining the relationship between goal attainment and subjective well-being (Sheldon & Houser-Marko, 2001). Goal attainment was defined as the relative progress an individual has made in the pursuit of previously stated goal outcomes.

Level of hope. In the present study, level of hope was measured as an individual’s relative ratings of agency and pathways thinking. This variable was measured using the State Hope Scale. This instrument presents three statements related to agency thinking and three statements related to pathways thinking. Each of the six statements is rated on a scale from 1 to 8, yielding a total possible score ranging between 6 and 48. The State Hope Scale and the related Trait Hope Scale have been used previously in studies examining the efficacy of coaching programs (Green et al., 2006), and academic and athletic performance (Curry, Snyder, Cook, Ruby, & Rehm, 1997). Hope was defined as “a positive motivational state that is based on an interactively derived sense of successful
(a) agency (goal-directed energy), and (b) pathways (planning to meet goals)” (Snyder, Irving, & Anderson, 1991, p. 287).

Subjective well-being. In the present study, subjective well-being was measured as an individual’s self report of his or her personal experience of life satisfaction. This variable was measured with the Satisfaction with Life Scale (SWLS), a 5-item instrument that measures relative agreement on a 7-point scale with statements such as ‘the conditions of my life are excellent’ (Pavot & Diener, 1993, p. 172). This method of measuring subjective well-being has been used previously in studies examining the efficacy of coaching programs (Green et al., 2006), cognitive-behavioral therapy (Coleman, 2005), and the relationship between goals and personal meaning (Westerhof, Thissen, Dittman-Kohli, & Stevens, 2006). Subjective well-being was defined as an individual’s “emotional responses, domain satisfactions, and global judgments of life satisfaction” (Diener et al., 1999, p. 277).

Operational Definitions

Goal attainment. In the present study, goal attainment was operationally defined as the relative progress an individual has made in the pursuit of previously stated goal outcomes as measured by the goal attainment questionnaire.

Level of hope. In the present study, level of hope was operationally defined as the total score on the State Hope Scale.

Subjective well-being. In the present study, subjective well-being was operationally defined as the total score on the Satisfaction with Life Scale (SWLS).
Relationships Among Variables

**Goal attainment and subjective well-being.** Numerous studies have investigated the relationships between goal-setting, goal-progress, and subjective well-being. In one such study, Pekrun, Elliot, and Maier (2009) found that an individual’s goal orientation (mastery, performance-approach, or performance-avoidance) served as a significant predictor of subsequent emotions including enjoyment, hopefulness, boredom, or anger prior to an academic goal pursuit. Additionally, studies have shown that individuals who pursue daily goals that are congruent with their larger life goals experienced higher levels of subjective well-being than those who did not make such daily progress (King et al., 1998). Brunstein (1993) found that an individuals’ commitment to a goal moderated his or her perception of relative goal attainment progress and also subjective well-being.

**Goal attainment and hope.** There is an intrinsic relationship between goal pursuit and hope. Snyder et al. (2001) describe a theoretical model in which an individual’s relative value of a goal and his or her goal pursuit behaviors interact with the two key cognitive processes related to hope – agency and pathways thinking. In this model, a series of emotional responses provides feedback within and among these elements.

Snyder (1995, p. 358) also described goal-related means of nurturing hope in counseling clients including clarifying goal statements, “learning self-talk about succeeding”, and “cultivating friends with whom you can talk about your goals” as each of these may have a positive influence on agency and pathways thinking. In a study examining the role hope plays in various cognitive-behavioral therapies, Snyder et al.
(2000, p. 759) noted that these approaches “appear well suited to generating hope for clients in psychotherapy because of strong emphasis placed on goal setting, strategy generation and modification of negativistic beliefs regarding goal attainment.”
CHAPTER 2. LITERATURE REVIEW

Goals and Goal Setting Theory

“Purposeful activity is the essence of living action.” (Locke & Latham, 1990, p. 22)

Personal Goals

In psychology, goal research has appeared in the domains of cognition, personality, and motivation (Austin & Vancouver, 1996). As a result, goal theory and research have received voluminous treatment in the psychology literature. Various terms have been used to encapsulate the construct of personal goals including “current concerns” (Klinger, 1975), “personal projects” (Little, 1983), and “personal strivings” (Emmons, 1986). In these and other goal constructs, personal goals are considered internal representations of desired future states (Austin & Vancouver, 1996). While personal goals are an immediately familiar and accessible construct, they are also highly complex.

Researchers have conducted hundreds of studies that collectively demonstrate that there are different behavioral and affective considerations that accompany different types of goals (Deci & Ryan, 2000). Goals are a multidimensional construct – one that has been examined from many perspectives. In their extensive review of the goal literature, Austin
and Vancouver (1996) classified the structure of various goals as pertaining to time, person, and goal characteristics.

First, goals can be categorized based on the time frame during which they are expected to be achieved or even pursued. Proximal goals are imminent, as in “set the table before dinner” or “go grocery shopping this week”. Distal goals are further out, such as “complete my dissertation” or “visit the Grand Canyon before I die”. Another temporal characteristic of goals is that of goal priority. A student may place a relative prioritization on two or more goals such as “complete my homework before watching television”. This type of cognitive prioritization does not occur in isolation. Research has demonstrated that there is a relationship between personality factors, behavioral intention, and goal priority (Geers, Wellman, & Lassiter, 2009). Goal prioritization also isn’t static. Individuals make decisions regarding how much time and effort to dedicate to a chosen goal based on competing priorities and other goal opportunities (Schmidt, Dolis, & Tolli, 2009).

Second, personality factors and other aspects pertaining to the source of an individual’s motivation can characterize goals. For example, goals may be derived from a motivational perspective that is either external or internal to the individual. Extrinsic goals are “those that depend on the contingent reaction of others” while intrinsic goals are “congruent with actualizing and growth tendencies natural to humans” (Kasser & Ryan, 1996, p. 913). Research has demonstrated that people find friendship and relationship goals as intrinsically motivated and enjoyable, as compared to extrinsic goals such as career and financial goals (Sheldon & Elliot, 2000).
Goals can also be characterized as learning goals or performance goals. Learning goals describe goals that center on the acquisition of knowledge or skills while performance goals typically involve demonstrating ability (Grant & Dweck, 2003). This type of goal orientation can lead to different individual responses to challenges and goal frustration, particularly when the individual’s perceived ability is low (Grant & Dweck, 2003). The motivation to choose and pursue a given goal may also be classified as individually- or socially-oriented. Van Horen, Pöhlmann, Koeppen, and Hannover (2008) found that interdependent individuals tended to consider social goals (those focused on relationships and connection) most relevant while independent individuals considered both social and individual goals as highly relevant. These researchers suggest that “social goals are highly relevant to everyone, since positive relations with others are a prerequisite condition for the attainment of all kinds of personal goals” while independents also place value on individual achievement (Van Horen et al., 2008, p. 219).

Third, goals can be characterized based on other structural factors including the nature of the goal intention and the respective locus of a goal within an individual’s contextual hierarchy. As an intention, goals may be framed as either approach goals or avoidance goals. Approach goals pertain to the achievement of some desirable future state or outcome while avoidance goals relate to the avoidance of some negatively perceived future state or outcome. Research has indicated that approach goals can enhance motivation and performance while avoidance goals can have the opposite effect over time (Grant & Dweck, 2003). Lastly, goals tend to exist within a complex, multi-level hierarchy (Austin & Vancouver, 1996). Higher-order goals tend to be abstract or
principle-based (“be a person of integrity”) while lower-order goals are more specific and operant (“mow the lawn”). In goal-related research, cognitive researchers have tended to focus on lower-level goals while personality researchers have tended to focus on middle- and higher-level goals (Austin & Vancouver, 1996).

**Pursuing Personal Goals**

Goal pursuits generally evolve along a standard process of goal setting, planning, action, feedback, evaluation, adaptation, and completion.

While lower-order goals are often ritualized (“tie my shoes”) and don’t require sophisticated cogitation, middle- and higher-order goals typically require deliberate thought and framing. Some people struggle with this first phase of goal setting. They may set too many goals or choose goals that are too difficult (Koestner, Lekes, Powers, & Chicoine, 2002). By contrast, other people fail to spend adequate time or effort in the planning phase. Highlighting the importance of planning, Gollwitzer (1999, p. 494) suggested that with proper planning, “goal-directed behaviors can be initiated immediately once a relevant situation is encountered.” Successful goal attainment thus requires careful planning and linking these plans to specific opportunities that may arise (Koestner et al., 2002). The planning process and the development of “implementation intentions” can “promote goal attainment by helping people get started” (Gollwitzer, 1999, p. 495).

All goal pursuits require action, and following the action phase, feedback becomes available for evaluation. Carver and Scheier (2001, p. 63) highlighted the importance of this process, stating that “life … is a continual process of establishing
goals and adjusting patterns of behavior to match those goals more closely using informational feedback as a guide.” In some cases, the relative goal progress itself serves as part of the feedback loop. Research has indicated that individuals may allocate time to whichever of two competing tasks is the furthest from being achieved (Schmidt et al., 2009). In other cases, feedback may come from the external environment or from within the individual (Carver & Scheier, 2001). Distractions and perceived obstacles can frustrate goal pursuits, particularly when multiple goals are pursued simultaneously (Koestner et al., 2002). For this reason, evaluation of goal progress and persistence until the goal is achieved are critical factors.

During the course of pursuing a complex goal such as starting a new business, an individual may make hundreds or thousands of decisions regarding next actions. For example, relative goal progress can influence subsequent resource allocation (Schmidt et al., 2009). Individuals make decisions as to which behaviors are most appropriate and whether the environment is suitable for specific behaviors (Gollwitzer, 1999). Relative success and achievement also serves as an important input in the feedback loop. An individual’s focus when pursuing a performance goal may be a constant examination of the question “Is my ability adequate?” (Elliot & Dweck, 1988, p. 5).

An individual’s personality traits and motivation can have a strong influence on his or her ability to overcome inevitable challenges encountered during goal pursuits. Research has indicated, for example, that persons who are dispositionally optimistic are more likely to actively face challenges and persist (Geers et al., 2009). As described earlier, performance can be enhanced by framing approach goals rather than avoidance goals. Whatever the situation, successfully achieving a goal “requires that problems
associated with getting started and persisting until the goal is reached are effectively solved” (Gollwitzer, 1999, p. 493).

**Goal Setting Theory Overview**

Scores of psychology researchers have studied personal goals and motivation, and several useful goal theories have been developed and validated. One of the most comprehensive and validated theories was developed by Locke and Latham (Pinder, 1998). Locke and Latham are industrial/organizational psychology researchers who have studied workplace performance and motivation for more than 35 years. When the pair began to conduct research in the late 1960s, the dominant philosophical approach of the time was behaviorism; over time, the scientific study of internal drives was validated and ultimately gained widespread acceptance (Locke, 1996). Locke and Latham (1990, p. 2) highlighted the accessibility of the construct of personal goals, writing “goal setting theory had its ultimate roots in the simplest type of introspection, the kind that can be performed by anyone.” Eventually, goal setting theory would be validated through studies involving hundreds of tasks and more than 40,000 participants around the world (Locke & Latham, 2002).

Goal setting theory was influenced by the experimental psychology work of Mace, Lewin, and Ryan and from the management theories of Taylor, Sloan, and Drucker (Locke & Latham, 1990). The theory set about to explore the relationship between goals and workplace performance. For the authors, goals were seen as “immediate, though not sole, regulators of human action” (Locke & Latham, 1990, p. 27).
While goal setting theory was developed through studies in the workplace, its applications have extended well beyond its industrial/organizational origins. Goal setting theory has been applied in studies involving sports, education, psychotherapy, and personal health management (Locke & Latham, 1990). Its framework and utility are particularly relevant to the pursuit of performance goals; goals that are common in almost all areas of peoples’ professional and personal lives. Locke and Latham (1990, p. 292) captured the generalizability of the theory, writing that “goal setting theory does not just apply to work; it applies to life!”

The three essential elements of goal setting theory are characteristics that are core to the goal itself, mechanisms that influence goal pursuits and performance, and moderators that influence the relationship between other variables in the process of pursuing the goal (Locke & Latham, 1990). Each of these elements is discussed in detail in the following sections.

Goal Characteristics

The first characteristic that is core to goal setting theory is the relative specificity of the goal. Poorly defined goals are vague (“do your best”), nonquantitative (“lose weight”), or lack any definition whatsoever. Specific goals are quantifiable and have a sufficiently detailed deadline (“lose 2 pounds in the next 2 weeks”). Locke and Latham (1990) have found that specific goals lead to higher performance, as performance is more precisely regulated when goals are specific.

The second characteristic of the goal core is its perceived difficulty. While the assertion may seem counterintuitive, goal setting theory states that “the more difficult the
goal, the greater the achievement” (Locke & Latham, 1996, p. 118). The rationale for this is that more difficult goals lead to higher levels of both commitment and persistence on the part of the individual (Locke & Latham, 1990). Locke and Latham (1996, p. 119) captured the crux of goal core succinctly, observing that “goals that are specific and difficult lead to the highest level of performance.”

**Goal Mechanisms**

The first goal mechanism in goal setting theory is the nature of goal choice by the individual. In the workplace, goals may be assigned by managers or chosen by the worker. For personal goals, goal choice relates to the selection of extrinsically motivated versus intrinsically motivated personal goals. Locke and Latham (1990) found that factors that influence an individual’s choice of goals are his or her level of aspiration and perceived ability. Individuals who have high aspirations may choose more difficult goals. Similarly, individuals who perceive themselves to have low ability may choose easier or less complex goals.

A mechanism closely related to goal choice is that of direction. Goals provide context and direction for individual action (Locke, 1996). In this manner, goals “direct attention and effort toward goal-relevant activities and away from goal-irrelevant activities” (Locke & Latham, 2002, p. 706). Thus, a personal goal to “lose 2 pounds in 2 weeks” may clarify a behavioral choice between exercising in the morning and sleeping late.

The second goal mechanism identified by Locke and Latham’s goal setting theory is that of effort. In addition to direction, goals provide an energizing function (Locke &
Latham, 2002). The level of effort expended increases as the difficulty and other important characteristics of the goal increase. A related third mechanism is that of persistence. Persistence relates to the individual’s ability to sustain effort over a prolonged period of time (Locke & Latham, 2002). With a proper goal-setting foundation in place, individuals will achieve higher levels of performance partially as a result of increased persistence.

A fourth goal mechanism is that of task strategies. Even the mere formation of a clear and specific goal can lead an individual to develop plans to achieve it and to resurface previously learned plans that are pertinent to the goal (Locke, 1996). Notably, this is the case whether the individual chooses the goal or whether the goal was assigned to him or her by a perceived authority (Locke & Latham, 1990).

Goal Moderators

In addition to the core goal characteristics and the stated goal mechanisms, goal setting theory also defines a number of moderators. Goal moderators indirectly affect performance by operating on other variables relevant to the goal pursuit (Locke & Latham, 1990). Goal moderators include commitment, importance, self-efficacy, feedback, and task complexity.

Goal commitment affects performance through its operation on effort, persistence, and other goal mechanisms. Commitment to achieving the goal is particularly important for goals that are both specific and difficult (Locke, 1996). This is an area where many people struggle. They may feel a sense of longing for some desired future outcome, but they may not be making any efforts to achieve that outcome. This is an example of a lack
of commitment to the goal. According to Locke and Latham (1990, p. 124) “only an individual who is genuinely trying for a goal can be described as being committed to that goal.”

Goal importance also influences performance and goal attainment. An individual’s recognition of a goal’s importance may increase his or her commitment to achieving the goal (Locke, 1996). If the goal is deemed unimportant, the individual may not demonstrate the requisite level of effort or persistence – the necessary personal investment – required to achieve the goal.

Self-efficacy is another important goal moderator. The concept of self-efficacy is drawn from Bandura’s Self-Determination Theory and relates to an individual’s perceived ability to successfully achieve a given goal. This moderator is also related to the expectancy theory developed by Vroom, which describes the relationship between effort and performance (Locke & Latham, 1990). In their research, Locke and Latham (1990, p. 85) found that “expectancy is positively related to performance within any given goal group.” Additionally, people who are higher in self-efficacy were found to set higher goals and demonstrate higher commitment to goals (Locke & Latham, 2002).

The fourth identified goal moderator is feedback. The process of pursuing a goal is a dynamic one, and feedback relative to performance may be positive (progressing toward the goal) or negative (moving away from the goal) at any given time. Performance on most tasks – particularly complex or difficult tasks – requires feedback that shows relative progress (Locke, 1996). According to Locke and Latham (1990, p. 197), “goals and feedback work most effectively together to improve performance.”
The fifth goal moderator is that of task complexity. When required tasks are simple, a combination of effort, persistence, and learned strategies may be sufficient to attain the goal; when tasks are complex, these simple elements are not enough and the novel development of task-specific plans becomes paramount (Locke & Latham, 1990). Higher-order goals are more complex than lower-order goals, suggesting that problem solving and the development of task-specific plans becomes critical for successfully achieving higher-order goals.

**Criticisms of Goal Theories**

While goals have enjoyed a robust and lively treatment in the literature, there are some critics who caution against an unbalanced preference for goal setting and goal attainment in certain settings. Ordóñez, Schweitzer, Galinsky, & Bazerman (2009, p. 6) stated that “the beneficial effects of goal setting have been overstated and that systematic harm caused by goal setting has been largely ignored.” The authors argue that goals can provide too narrow a focus or can be too challenging, both of which may lead to sub-optimal individual and organizational performance (Ordóñez et al., 2009). McIntosh and Martin (1992) observed that people who are overly fixated on goal objectives may experience decreases in their well-being. Finally, Larrick, Heath, and Wu (2009), noted that people may take greater risks when pursuing specific and challenging goals.

Locke and Latham (2009) responded to these criticisms, reinforcing the soundness of goal setting theory and the rigor in which it was developed. Additionally, the authors pointed out the practical matter of goals, writing that “organizations cannot thrive without being focused on their desired end results any more than an individual can
thrive without goals to provide a sense of purpose” (Locke & Latham, 2009, p. 22). The authors did concede that goal setting – like other techniques – can be misapplied or abused (Locke & Latham, 2009).

Coaching Practice and Research

“A coach is someone who cares that people create what they say they want, that they follow through when they choose. The coach is there to hold people accountable and keep them moving forward toward their dreams and goals.” (Whitworth et al., 2007, p. xxi)

Coaching Overview

Individuals who would like assistance in setting appropriate goals, who would like support in achieving those goals, or who would like guidance while making some important life change may choose to enter a professional relationship with a qualified coach. Coaching has recently emerged as a sizeable industry, and the International Coach Federation – the largest professional organization for coaches – has registered more than 19,000 members from more than 100 countries in the fifteen years since it was founded (International Coach Federation, n.d.).

Definitions of coaching are varied, however, reflecting both the newness of coaching and its broad philosophical base. Coaching traces its roots to organizational behavior, psychology, and psychotherapy (Orem, Binkert, & Clancy, 2007). Kemp (2008, p. 32) described coaching as “a directionally influential helping dynamic that is established between two unique psychological entities; the coach and the client.” This definition places the emphasis on coaching as a relationship while clearly suggesting the
presence of a directional goal. Biswas-Diener (2009, p. 544) also highlighted the goal-performance nature of coaching, noting that coaches commonly work with coachees to “facilitate experiential learning and improve functioning and performance, often in the context of working toward specific goals.”

Besides its typical focus on goals and goal attainment, there are other fundamental tenets of coaching such as personal growth (Whitworth et al., 2007) and change (Grant & Greene, 2001). Flaherty (2005, p. 3) adds to coaching’s foundation of goal achievement and change by considering the client’s ideal coaching outcomes including “long-term excellent performance, self-correction, and self-generation.” At its philosophical core, coaching holds that people have a natural ability to pursue personal growth (Biswas-Diener, 2009).

As it is described as a helping relationship, coaching shares some characteristics with traditional forms of psychotherapy, but there are also important differences. As compared to clients who are engaged in therapy, “coaching clients are traditionally high-functioning individuals and relatively free of psychopathology” (Biswas-Diener, 2009, p. 546). Also, the fact that the client population is self-motivated and focused on positive personal growth in part explains why many clinicians have become coaches or have become consultants to various businesses (Criddle, 2007).

Coaching is used in a wide variety of contexts ranging from executive coaching, management coaching, wellness coaching, life coaching, and beyond. In the workplace, for example, coaching has been used to provide support for employees who may otherwise be preoccupied with their professional futures (Pace, 2009). Despite the challenges of the current economic climate, coaching has continued to grow within
organizations (Oberstein, 2010). Many employees seek the benefits of coaching relationships including collaboration and encouragement (Pace, 2008). Life coaching is the domain that centers on clients who are seeking help with their personal goals. Life coaching helps clients clarify goals, monitor progress, stay committed and follow through in their goal pursuits (Grant & Greene, 2001).

Despite its potential to offer valuable service to its clients, the field of coaching is under mounting pressure. Unlike psychotherapy, coaching has no licensing body to certify that its practitioners meet defined standards. According to Stober and Grant (2006, p. 1) “coaching is still in the process of establishing its credibility as an effective means for change and growth.”

While the coaching industry has exploded, the nature and amount of professional research on coaching practices and coaching effectiveness have largely failed to keep up. Kilburg (1996, p. 134) noted that coaching “has suffered significantly from a lack of specific attention to it in the professional literature.” A decade later, the situation had hardly changed as Green et al. (2006, p. 142) noted that “it is extravagant claims rather than substance that highlight this emerging field.”

Fortunately, coaches and coaching psychologists have called for the emergence of evidence-based coaching. Anthony Grant coined this term in 2003 to describe “professional coaching that is explicitly grounded in the broader empirical and theoretical knowledge base” (Stober & Grant, 2006, p. 4). Evidence-based coaching techniques and practices are therefore founded on well-validated and professionally produced research. As coaching and psychology have continued to become melded together, a number of
coaching studies have been conducted around the world, and the movement now has its own journal, *The International Journal of Evidence-Based Coaching and Mentoring*.

**Coaching Outcome Studies**

Of particular importance in the nascent coaching psychology literature are coaching outcome studies. Such studies include those that have been conducted in executive coaching (Grant, Curtayne, & Burton, 2009), life coaching (Grant, 2003; Green et al., 2006; Green, Grant, & Rynsaardt, 2007; Spence & Grant, 2007) and with coaching conducted in the workplace (Evers, Brouwers, & Tomic, 2006; Grant, 2007; Gyllenstein & Palmer, 2005; Sue-Chan & Latham, 2004), and in medicine (Gattellari et al., 2005; Miller, Yahne, Moyers, Martinez, & Pirritano, 2004).

In a randomized control study, Grant et al. (2009) delivered a half-day workshop and four individual coaching sessions over a 10-week period to 41 executives. All participants attended the workshop but were then randomly assigned to either a waitlist control group or the coaching treatment group. Measures were taken pretest and at two posttest intervals (at 10 weeks and 20 weeks). The original control group participated in the coaching treatment beginning in the tenth week. Quantitative measures in the study included a goal attainment scale, the Cognitive Hardiness Scale for measuring resilience, the Workplace Well-Being Index, and the Depression, Anxiety, and Stress Scale (DASS-21). The data was analyzed using a 2 X 2 repeated measures ANOVA. As compared to the control group, the coaching group showed improved goal attainment, increased resilience and workplace well-being, and reduced depression and stress (Grant et al., 2009).
In the life coaching field, Grant (2003) conducted a within-subjects study involving twenty college students in an Australian university. Participants selected three goals that could be pursued within a 13-week time frame. Participants completed pretest and posttest questionnaires including a goal attainment scale, the Depression, Anxiety, and Stress Scale (DASS-21), the Quality of Life Inventory (QOLI), and the Self-Reflection and Insight Scale (SRIS). Between measures, participants received ten, 50-minute group coaching sessions. Results demonstrated a significant increase in goal attainment, a decrease in depression, anxiety, and stress, and an increase in quality of life.

Green et al. (2006) conducted a face-to-face life coaching research that served as the model for the present online coaching study. Green et al. (2006) conducted a randomized controlled study where participants responded to a local advertisement inviting them to participate in a 10-week face-to-face life coaching program. The study used a pretest posttest between-subjects design to gauge the effectiveness of coaching for the experimental group as compared to the waitlist control group over time. Measures included a personal goals questionnaire to measure goal attainment, the Satisfaction with Life Scale (SWLS), the Positive and Negative Affect Scale (PANAS), and the Hope Trait Scale. The researchers conducted a repeated measures ANOVA and found a significant treatment by time interaction effect for goal attainment. Further analyses found significant changes for the experimental group in terms of subjective well-being, psychological well-being, and level of hope.

Also in the area of life coaching, Spence and Grant (2007) conducted a randomized controlled study involving 63 participants who had responded to a media advertisement describing the coaching program. Participants were randomly assigned to a...
professional coaching, peer coaching, or waitlist control group. Measures included a goal attainment scale for three personal strivings, the Satisfaction with Life Scale (SWLS), and the Scales of Psychological Well-Being (SPWB). The study found that professionally-coached participants attended more sessions with higher levels of engagement than peer-coached participants. Professionally-coached participants demonstrated a significant change in goal attainment, while peer-coached participants did not differ significantly from the control group in this area.

Green et al. (2007) conducted a randomized controlled study involving the delivery of a life coaching program to high school students. Following a pretest measure, fifty-six students were randomly assigned to either an experimental coaching group or a waitlist control group. Measures included the Trait Hope Scale, Cognitive Hardiness Scale, and the Depression, Anxiety, and Stress Scale (DASS-21). Participants in the experimental group received 10 individual, face-to-face coaching sessions with teacher-coaches who had been trained in a 2-day coaching skills workshop. Changes were significant for the coaching group in terms of hope and cognitive hardiness while changes for the control group were not significant. Changes in depression, anxiety, and stress were not significant for either the coaching group or the control group.

In other coaching outcome studies, Sue-Chan and Latham (2004) demonstrated results similar to those of Spence and Grant (2007) when they determined that coaching by a professional, external coach was more effective than that of peers in terms of the development of team-playing behavior. In a quasi-experimental study, Gyllenstein and Palmer (2005) examined whether workplace coaching could reduce stress. The researchers divided 32 participants into either an experimental coaching group or a
control group and gathered measurements pretest and posttest. The study did not find significant interactions between time and coaching for depression, anxiety, or stress. In another workplace coaching outcome study, Evers et al. (2006) conducted pretest and posttest measures of managers in a quasi-experimental design. Four months after beginning coaching services, the experimental group demonstrated significantly higher posttest scores in expectancy to behave in a balanced manner (between life and work) and higher scores in self-efficacy regarding goal-setting.

Gattellari et al. (2005) conducted a cluster randomized controlled study involving peer coaching sessions delivered to General Practitioners (GPs). During peer coaching sessions, GPs reviewed materials related to informed decision-making regarding PSA screening for prostate cancer as well as their intention to use the materials. Results indicated that the experimental peer coaching group had more knowledge, perceived less legal risk, and lower levels of personal decisional conflict regarding the screening. In another study of coaching in medicine, Miller et al. (2004) found that coaching enhanced clinicians’ learning of motivational interviewing techniques.

**Online Communication and Online Communities**

“A web of glass spans the globe. Through it, sparks of light incessantly fly, linking machines chip to chip, and people face to face.” (Cerf, 1991, p. 72)

**Background**

Since 1950, computer mediated communication has increased significantly (Hiltz & Turoff, 1993). The advent of the Internet has forever changed the way millions of
people connect, communicate, and collaborate in their personal and professional lives. Electronic mail, online discussion groups, Internet chat, text messaging, web conferencing, and other means of online communication offer new possibilities for developing and maintaining social connections. As a result, participation in face-to-face (FtF) membership groups has fallen, while membership in “virtual” groups has continued to rise (Putnam, 2000; Ridings & Gefen, 2004). Computer mediated communication (CMC) such as the use of e-mail offers its users enhanced convenience (Ensher, Heun, & Blanchard, 2003) while other forms such as virtual communities offer users valued anonymity (Miller & Gergen, 1998).

Web-based communication also offers other unique benefits. Online communication lets individuals locate and interact with other people around the world who are experiencing similar life circumstances (Taylor et al., 2008). Examples include discussion forums for science career seekers, pregnant teens, and Alzheimer’s patients and their caregivers. As opposed to face-to-face group settings, users in virtual communities can plan and manipulate their self-presentation (Howard, 2008) giving them more perceived control. When people connect with others in an online group, they may “perceive their CMC partners more favorably than their FtF communication partners” (Ensher et al., 2003, p. 270).

While some forms of online communication such as chat and web conferencing feature real-time, synchronous communication, other forms of online communication are asynchronous. Examples include e-mail, text messaging, and online discussion forums. The nature of communication and its consequences differ between these online modalities. With the asynchronous communication found in discussion forums, for
example, users have an equal opportunity to participate in the conversation (Hiltz & Wellman, 1997). Additionally, hundreds of people can interact in an online discussion forum using different threads (Ridings, Gefen, & Arinze, 2002). Finally, the messages in an online discussion forum are generally preserved for long periods of time, so prospective users can observe group norms before participating (Erickson, 1997).

The nature of online communication and virtual communities has evolved since the web’s inception. Two of the earliest examples of virtual communities are Usenet newsgroups, which debuted in 1979, and The WELL, which started in 1985 (Ridings & Gefen, 2004). A virtual community has been described as a group of people having shared interests or goals that interacts primarily using electronic means of communication (Dennis, Pootheri, & Natarajan, 1998). For example, Kwok & Gao (2004, p. 95) noted that “people with the same work interest will organize together and form networks.” Virtual communities are made up of individuals who interact regularly and who have developed a sense of community (Blanchard, 2004). While some virtual communities are developed explicitly, others come about “as a natural consequence of people coming together to discuss a common hobby, medical affliction, personal experience, or even develop relationships” (Ridings et al., 2002, p. 271). Online communities often feature message boards, but these are not one in the same. Buss and Strauss (2009, p. 9) observe that in a message board, “the focus is on the thread’s topic, not on facilitating relationships among the conversation’s participants.”

As virtual communities became more prevalent on the web, online support groups began to appear. An online support group is a type of virtual community specific to members seeking some type of therapeutic benefit from membership and social
connection. While there are many examples of online support groups, there is also “widespread skepticism about how well the traditional face-to-face support model can translate to the Internet” (Darcy & Dooley, 2007, p. 185). Research has begun to investigate the efficacy of online support groups in a variety of situations. In one such study, Beaudoin and Tao (2007) found that participation in an online cancer support group was associated with beneficial outcomes in the areas of stress, depression, and coping. Similar benefits of participation have been found in studies of online support groups in the areas of depression (Houston, Cooper, & Ford, 2002) and body image concerns (Zabinski, Celio, Wilfley, & Taylor, 2003).

The latest major development in web-based community and communication is that of social networking and social media. Social networking sites such as Facebook, MySpace, and Twitter allow users to form virtual social connections through electronic means by sharing profile information, status updates, and direct messages. Valkenburg, Peter, and Schouten (2006, p. 584) noted that “social networking sites have rapidly gained prominence as venues to relationship formation.” These sites allow users not only to make new connections but also to maintain existing relationships (Ellison, Steinfield, & Lampe, 2007). Using social networking sites, many users will “use their online visibility to augment professional opportunities” and to draw a benefit from other types of social association (Cachia, 2008, p. vii).

Social networking sites provide users with an opportunity to draw from the resources of other members (Ellison et al., 2007). The benefits are not exclusively external to the individual, however. Cachia (2008, p. viii) noted that participation in online social networking provides new possibilities for an individual, allowing “a process
of self exploration, identity redefinition and negotiation of social structures.” Not all online social networking outcomes are positive, however. Research has explored the consequences from receiving either positive or negative feedback on a user’s social networking profile; self-esteem and well-being were increased when feedback was positive and decreased when feedback was negative (Valkenburg et al., 2006).

Despite the relative newness of Internet communication, psychology, sociology, business, and technology researchers have determined some of the reasons computer mediated communication and online community participation can be beneficial for individuals. In an online support group, for example, participants may shift attention from dwelling on their problems to learning solutions as well as ways in which other participants are coping with problems (Taylor et al., 2008). For some people, the lack of face-to-face contact can facilitate disclosure and participation (Darcy & Dooley, 2007). Research has shown that participation by members can increase when they are given specific and challenging goals (Ling et al., 2005). Finally, membership in the online community can take on the benefits common with traditional groups when they develop and enforce norms of behavior (Sproull & Kiesler, 1991).

Considering the explosion of online communication and community formation, the development of online coaching seems inevitable. Today, some coaches are using electronic communication to augment their primary delivery of coaching services through telephone or in face-to-face sessions. By contrast, a coach may use electronic mail as a primary means of communication, augmenting the communication with periodic phone calls (Ensher et al., 2003). In online coaching – sometimes referred to as “e-coaching” or
“distance coaching” – the online communication is “the fundamental way of supporting the coaching relationship, not an afterthought” (Rossett & Marino, 2005, p. 47).

In one of the few research studies in the field of online coaching, Taylor et al. (2008) delivered a psychoeducational program to at-risk parents that included a combination of web-based computer mediated communication and professional coaching. Over the course of the program, a coach helped participants to set goals, encouraged participants to use an online discussion forum to describe their behavior and emotions relative to the program and its lessons, and monitored participants’ progress via the web. The program was delivered using a combination of an online discussion forum, electronic mail messages, and phone calls. Taylor et al. (2008, p. 243) found that the program “was successful in achieving high participation rates and self-reports of goal attainment.”

Organizations also have begun to adopt various forms of online coaching. In a recent study of e-coaching in the workplace, Frazee (2008) found that organizations reported using electronic mail, electronic file sharing, and videoconferencing in a coaching context. E-coaching seemed to be perceived as particularly valuable for geographically dispersed groups or when scheduling conflicts otherwise presented logistical challenges (Frazee, 2008).

There are also several examples of online coaching services that are being delivered today. Professional coaches have begun to make enhanced use of online tools and online communication. In the field of healthcare, Hummingbird Coaching “provides real-time and asynchronous coaching, education and assistance to clients via the Internet” (Hummingbird Coaching, n.d.). Popular career coach and blogger Pamela Slim delivers coaching services in part through monthly “Virtual Coaching Gym” sessions and by
encouraging coachees to access “a Successful Transition to Self-Employment forum to interact with other people … so you can share questions, concerns, and ideas” (Slim, n.d., para 14; Slim, n.d., para 16).

Other online coaching is being conducted by non-professional experts who offer guidance around specific areas of interest. One example is that of the 12-week challenge developed by Jonathan Woodward, a professional graphic designer. The challenge is a part of his “Zero 2 Illo” community and provides participants with “an opportunity to make amazing progress toward your goal of becoming a full time professional illustrator” (Woodward, 2010, para 5). Each week, Woodward assigned tasks to participants and asked that they “help & encourage other participants by commenting, following, tweeting and promoting fellow participants’ sites and projects” (Woodward, 2010, para 10).

Other online coaching communities are peer-based and organized around common goals. Examples include the discussion forums at Weight Watchers and Cool Running. A Weight Watchers chatroom overview suggests that “sharing motivation and inspiration with other Weight Watchers keeps the willpower going up and the scale going down” (Weight Watchers, n.d., para 1) while other parts of the site include blogs, challenges, groups, and message boards. Cool Running provides member-based discussion forums that offer “advice, support, and engaging conversation with thousands of other runners” (Cool Running, n.d., para 2).
Goal Attainment, Subjective Well-Being, and Hope as Coaching Outcomes

“If we can learn to take control of one area of our life and make changes necessary to keep us heading in the direction we want to be going, it seems we automatically become more effective in other areas.” (Grant & Greene, 2001, p. 19)

Goal Attainment

As coaching can be seen as a directive helping dynamic (Kemp, 2008), goal attainment is a natural focus of coaching interventions. Stober and Grant (2006) described the goal attainment progression as follows:

The core constructs of goal-directed self-regulation are a series of processes in which the individual sets a goal, develops a plan of action, begins action, monitors their performance, evaluates their performance by comparison to a standard, and based on this evaluation changes their actions to further enhance their performance and better reach their goals. (p. 153)

In the coaching studies summarized earlier in the chapter, goal attainment was most typically measured by asking research participants to self-select a finite number of goals or “personal strivings” and to provide self-reported ratings of historic progress at pretest and posttest intervals. A simple Likert-style scale was presented for each goal and the aggregate results were scored and compared. Such a method is not without its challenges. Spence (2007, p. 155) observed that while simple and easy, such subjective ratings “are highly susceptible to various forms of distortion and bias.” Spence suggested that goal researchers ensure better quality control by providing more individualized support during the formation of goal statements to ensure that they are appropriate and realistic. Spence (2007) also suggested tying achievement scales to objective and
observable behaviors. An example may include developing a range of potential outcomes corresponding to a higher-order goal such as “get in shape”; these outcomes may range from a worst expected outcome of zero workout sessions per week to a best expected outcome of five 20-minute workout sessions per week.

Researchers have discovered several dynamics that can influence the goal pursuit process and the likelihood of goal attainment. Sheldon and Houser-Marko (2001) found that people who considered their personal goals to be self-concordant – personally chosen – enjoyed the goal attainment process more than those who did not. Koestner et al. (2002) also found that people pursuing intrinsic goals were more likely to make progress as compared to others whose goals stemmed from perceived internal or external pressure. Furthermore, Deci and Ryan’s (2000) Self-Determination Theory suggests that achieving intrinsic goals supports the basic psychological needs for autonomy, competence, and relatedness. Finally, learning and performance outcomes can be improved if efforts are seen as supporting intrinsic rather than extrinsic goals (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).

Other research has highlighted the complex variables that accompany goal pursuits. Pomaki, Karoly, and Maes (2009, p. 213) found that “goal progress, goal-based self-efficacy, and attainability tend to covary and that these three constructs jointly predict well-being.” Powers, Koestner, and Zuroff (2007) highlighted the importance of personality and motivational factors in the goal pursuit process, observing that self-criticism and perceived autonomy acted independently on progress. Finally, Schmidt et al. (2009) noted that environmental factors related to volatility influence the task strategy and resource allocation employed by goal-seekers.
While much research has focused on factors that influence goal selection and moderation, several studies have also highlighted related outcomes for people who make progress toward their stated goals. In one study, initial successes led to increased self-concordance and well-being, thus creating an expectancy of future success and improved well-being (Sheldon & Houser-Marko, 2001). Goals have also been found to serve as an evaluation point for affective reactions. Diener et al. (1999) found that people had a positive affective reaction when progress toward stated goals was made and a negative affective reaction when they failed to make progress. However, the motivational origin of the goal appears relevant to the resulting outcome. Kasser and Ryan (1996, p. 286) noted that “success at extrinsic goals, even when fully attained, is less nutritive than success at intrinsic goals.”

**Subjective Well-Being**

Another commonly cited coaching outcome is a coachee’s desired improvement in well-being. Ryan and Deci (2001, p. 142) described well-being as “optimal psychological functioning and experience.” Similarly, Diener et al. (1999, p. 277) defined subjective well-being as “a broad category of phenomena that includes people’s emotional responses, domain satisfactions, and global judgments of life satisfaction.” The study of subjective well-being traces its origins to a reaction against psychology’s historical focus on pathology and negative mental states (Diener et al., 1999). Waterman termed this view *eudaimonism*, “conveying the belief that well-being consists of fulfilling or realizing one’s daimon or true nature” (Ryan & Deci, 2001, p. 143). An overall interest in well-being and positive mental health began in the 1960s with the human potential
movement and remains a continued theme in positive psychology (Ryan & Deci, 2001). As coaching can be considered an applied positive psychology (Grant & Cavanagh, 2007), the eudaimonic view is prevalent in many coaching philosophies.

In order to empirically study subjective well-being, psychometric instruments needed to be developed and validated. Diener, Emmons, Larsen, & Griffin (1985, p. 71) conducted a series of studies “to design and partially validate such a measure, the Satisfaction with Life Scale (SWLS).” The SWLS is a single factor, five-item measure of global life satisfaction that demonstrates good internal consistency and reliability (Pavot, Diener, Colvin, & Sandvik, 1991). The measure compares an individual’s judgment of his or her life circumstances to a perceived standard, and its simplicity and brevity make it easy to include alongside other assessments (Pavot & Diener, 1993).

Scores from each item in the SWLS are summed and compared to a scale that ranges from ‘extremely dissatisfied’ to ‘extremely satisfied’ with life circumstances (Pavot & Diener, 1993). Diener et al. (1985) found that the scale had strong internal reliability with a coefficient alpha of .87; the test-retest reliability of the SWLS was moderate with a stability coefficient of .82. As the SWLS is a self-report measure, respondents may purposefully manipulate their answers; because of this, Pavot and Diener (1993, p. 170) recommend that researchers “supplement the self-reported SWLS with assessments from external sources.”

There are a number of interrelationships between goal attainment and subjective well-being. First, goal commitment may help people develop coping strategies and problem solving skills assisting in their handling of adversity (Diener et al., 1999). Second, in their research involving goal attainment, personal resources, and well-being,
Diener and Fujita (1995) found that positive subjective well-being can result when individuals match their goals and the resources they have. Third, there appears to be a relationship between life satisfaction and personal goals. Emmons (1986, p. 1064) found that people who are highly satisfied with life view their goals as “important, valued, and not likely to produce conflict.”

Other research has indicated that positive changes in subjective well-being may not be dependent on completing the goal attainment, but may occur as a result of the goal pursuit itself and making progress toward an intended outcome (Carver, Lawrence, & Scheier, 1996). People who successfully demonstrate problem-solving capabilities may better be able to adapt to life changes and preserve well-being (Westerhof et al., 2006). These effects can be long lasting. Emmons (1986, p. 1065) noted that “through past successful experiences, people come to believe that they are competent and have the necessary abilities to succeed.”

**Hope**

Hope and goals are inextricably linked. The study of hope as a construct originated in the 1950s and 1960s when theorists began to define hope as “positive expectancies for goal attainment” (Irving et al., 2004, p. 420). Hope is therefore future-oriented and goal-related. Snyder (1995, p. 355) described how hope theory rests on a foundation of goals, noting that “we are intrinsically goal oriented when we think about our futures.”

Hope theory describes two essential cognitive elements that underpin the construct of hope: *agency*, which relates to having the requisite energy to pursue a stated
goal, and *pathways* thinking, which relates to the ability to devise potential means of achieving a goal (Snyder et al., 2001). Relating these components directly to goal pursuits, Snyder (1995) described agency as “the cognitive willpower or energy to get moving toward one’s goal” and pathways thinking as “the perceived ability to generate routes to get somewhere” (p. 355). While these two components are not the same, they are reciprocal and positively related (Snyder et al., 1991).

For an individual, hope exists both a dispositional trait and a temporal state (Snyder et al., 1996). Trait hope relates to an individual’s predisposition toward his or her cognitive analysis of goal-related behaviors, capabilities, and outcomes (Snyder, 1995). As compared to trait hope, state hope is temporal and “provides a snapshot of a person’s current goal-directed thinking” (Snyder et al., 1996, p. 321).

Hope studies have been conducted in diverse areas including sports achievement (Curry et al., 1997) and school psychology (Snyder, Lopez, Shorey, Rand, & Feldman, 2003). In the former study, Curry et al. (1997) found that both trait hope and state hope were strong predictors of performance. In the latter study, Snyder et al. (2003, p. 128) highlighted the reciprocal link between hope and goals, noting that “the foundation of imparting hope rests on helping students to set goals.” Snyder (1995, p. 358) had described the role a helping relationship can have in enhancing hope through goal-setting, observing that “when a concrete goal becomes imaginable, perhaps through the efforts of a counselor, this alone can unleash the person’s sense of energy to pursue the goal, as well as the capability to generate pathways.”

The Hope Scale was developed by Snyder et al. (1996) to measure total hope as well as its individual agency and pathways components. It is one of the most widely used
instruments in the measurement of hope (Bailey, Eng, Frisch, & Snyder, 2007). The State Hope Scale was later developed by Snyder et al. (1996); the instrument is similar to the dispositional Trait Hope Scale, but it frames questions in a way that causes respondents to think about their sense of hope in the present moment. The State Hope Scale has been well-validated, demonstrating high internal validity and test-retest reliability, and its creators recommend its use “in pre-post designs in which the focus is on changes in goal-directed thinking” (Snyder et al., 1996, p. 334).

There is a positive relationship between hope and goal attainment, as researchers have determined that hope is positively correlated with achievement outcomes (Snyder et al., 2001). As such, enhancements to goal pursuits may have reciprocal effects on hope for individuals in a helping relationship. Snyder et al. (2000, p. 759) postulated that a cognitive-behavioral psychotherapy intervention may improve levels of hope in clients “because of strong emphases placed upon goal setting, strategy generation, and modification of negativistic beliefs regarding goal attainment.” Snyder (1995) also highlighted the process that growth interventions typically follow, noting that “they attempt to increase the sense of agency and pathways that people have for the goals in their lives” (p. 359).

In numerous studies, hope has also been linked with well-being. Bailey et al. (2007, p. 173) observed that “believing one can achieve goals overall leads to increased well-being.” Snyder et al. (2001) found positive correlations between hope and self-efficacy and feelings of self-worth. Irving et al. (2004) found that “those who were higher in hope reported a greater ability to cope with stress and regulate distressing emotions” (p. 437).
Based on the reciprocal relationship between goals and hope, several of the recommendations researchers have regarding improving hope are directly related to findings from goal theory. For example, Snyder et al. (2003) recommended making goals specific so that students can better gauge goal progress and derive satisfaction from demonstrable achievement. In the same study, Snyder et al. (2003) also encouraged a focus on setting approach goals as opposed to avoidance goals, breaking goals into lower-order goals, and choosing intrinsic goals rather than extrinsic goals.

**Conclusion**

People set personal goals in a manner that is either intrinsic and internally-motivated and rewarding or extrinsic and motivated by some perceived external or internal pressure (Kasser & Ryan, 1996). Their goals exist in a complex hierarchy of abstract higher-order goals and more directly operant lower-order goals (Austin & Vancouver, 1996). During the goal pursuit process, people receive feedback regarding their relative goal progress, and they need to successfully evaluate that feedback and adapt as needed in order to achieve their goals (Carver & Scheier, 2001). Locke and Latham’s (1990) goal setting theory further states that performance increases when goals are specific and difficult. Goal setting theory also holds that goals are directive and energizing; that goal choice, effort, and persistence are key goal mechanisms; and that goal importance, commitment, and the development of task strategies are goal moderators (Locke & Latham, 1990).
Goals have a strong interrelationship with both subjective well-being and hope. Being committed to a goal can assist in coping and problem solving (Diener et al., 1999) and there is a positive relationship between pursuing intrinsic goals and well-being (Sheldon et al., 2002). Hope is also positively related to goal attainment (Snyder et al., 2001) and goal-setting growth interventions seem particularly likely to increase hope (Snyder, 1995).

Such interventions may come, in part, by way of coaching which can be considered a directive and dynamic helping relationship (Kemp, 2008). The work between a coach and a coachee is often goal-focused (Biswas-Diener, 2009), and coaching has emerged as a fast-growing industry (International Coach Federation, n.d.) as more people have sought this type of professional relationship. Unfortunately, coaching research has failed to keep up with the industry’s growth (Kilburg, 1996). There is a growing demand for evidence-based coaching principles (Stober & Grant, 2006) and a need for randomized controlled coaching studies in particular (Grant & Cavanagh, 2007).

While coaching has continued to grow, Internet technologies have also proliferated (Cerf, 1991). Coaches are using the Internet to advertise their services (Rossett & Marino, 2005) and also to deliver coaching services through a variety of electronic means (e.g., Hummingbird Coaching, n.d., Slim, 2010). This may include electronic mail, online discussion forums, and other Internet-based computer-mediated communication.

Considering the inevitable convergence of coaching and the Internet, the present study has served an important need. It has contributed to the scant and much needed body of evidence-based coaching literature, and it has examined the effectiveness of an
evidence-based coaching program that was delivered exclusively online. The present study was adapted from a Green et al. (2006) study involving a goal-oriented, cognitive-behavioral, solution-focused coaching program and its effectiveness in positively impacting coachees’ goal attainment, well-being, and hope. Further, Locke and Latham’s (1990) goal setting theory was used as a theoretical basis for the adaptation of the coaching program.
CHAPTER 3. METHODOLOGY

The purpose of this research was to measure the effectiveness of an online coaching program in improving participants’ goal attainment outcomes and in levels of their subjective well-being and hope. This study has contributed to the growing body of empirical coaching research through the online delivery of an evidence-based coaching program and subsequent analysis.

The research question that was addressed in this study was ”Does participation in an online coaching program result in increased goal attainment, subjective well-being, and level of hope outcomes?”

Research Design

The present study required a quantitative, experimental research design in order to answer the stated research question. As the study sought to gauge the effectiveness of a specified intervention, one of the chief concerns for the study was that of ensuring internal validity (Trochim, 2006). The present study featured a number of research design considerations aimed at minimizing threats to its internal validity. A design diagram for the present study is presented in Figure 1.
First, the study incorporated a random assignment of participants to either the experimental coaching group or the waitlist control group. This design principle was intended to reduce internal validity threats by establishing a covariation of cause and effect (Trochim, 2006). Second, both groups completed the study’s incorporated measures after the experimental treatment was administered. This design was intended to reduce threats to internal validity by creating temporal precedence (Trochim, 2006).

### Target Population and Participant Selection

The population for the present study was adult Internet users in the United States. More than an estimated 1.9 billion people have accessed the Internet including more than 265 million North American residents (Internet World Stats, n.d.). The sampling frame for this population was users of various websites whose owners agreed to mention an opportunity to participate in the present study. This study sought to examine relative differences in goal attainment, well-being, and hope for a representative sample of adult Internet users in the United States.
Sample

The sample was comprised of male and female adults aged 25 to 60 who had access to a computer that is connected to the Internet. Detailed demographics of the sample are presented in Chapter 4. Various website owners were asked to mention the study on their websites, in their electronic newsletters, or through social media. In their messages, site owners provided a link to a webpage that described the study. Persons who visited the information page were able to learn more about the online coaching program and the study itself. There were no incentives for participation beyond the opportunity to receive online coaching through the program. Interested participants provided their name and e-mail address in order to receive additional information about the study and Informed Consent materials.

Prospective participants were asked to provide their age and gender as a part of the recruitment process. Age information was used to exclude persons who did not fall within the target age range of 25 to 60 years of age. This was the primary means of protecting minors from potential participation in the study. Gender was collected as part of the original study design that included a four-group random assignment in a 2 X 2 matrix of Coaching and Gender. This original research design and associated Factorial MANOVA statistical procedure were later redesigned as discussed in detail in Chapter 4. Chapter 2 provides detailed demographics for the sample including frequencies by gender.
Sampling Procedures

Recruitment. Participants were recruited by a four-phase self-selection method. First, the researcher asked various website owners to mention the opportunity to participate in the study and to provide a hyperlink to a webpage where interested persons could learn more about the study. Second, interested persons visited the webpage that presented additional information about the study. Third, interested persons registered for potential inclusion in the study by completing a form that asked for their first name, last name, and e-mail address. Fourth, registered persons received an e-mail message that contained a link to the informed consent form and a prescreening survey.

Several coaching program outcome studies have used advertisements as a means of recruiting prospective participants. Green et al. (2006) described how “advertisements for the ‘Coach Yourself’ life coaching group programme (LCGP) were run via the local media” (p. 144). Spence and Grant (2007, p. 188) noted that “after responding to local media advertisements and registering their interest in the life-coaching program, 84 respondents completed a packet of pre-program questionnaires.” This recruitment approach offers an effective alternative to the samples of convenience that have characterized other coaching outcome studies.

Individuals who received the website owners’ notifications of the study and who provided their contact information on the registration form received a link to a web-based survey that provided additional information about the study, Informed Consent forms, as well as links to a number of online assessment tools. The survey also asked general demographic questions that included the individual’s year of birth and gender.
**Assignment.** The present study used a random assignment technique to assign participants to either an experimental coaching group or a waitlist control group. Random assignment was made using a coin-toss technique. Green et al. (2007) and Spence and Grant (2007) recently used waitlist control random assignment in experimental coaching outcome studies. Green et al. (2006) also used a waitlist control group and randomization when assigning participants in a similar coaching outcome study.

**Sample Size**

The sample size for the present study was determined to be 40 total participants. The minimum sample size for the study’s original four-group design was 19 as calculated using an a priori power analysis with a stated Effect size = 0.50, Type I error probability of $\alpha = 0.05$, and Power of $(1-\beta) = 0.95$ for a study with 4 groups, 3 predictors, and 3 response variables. These input parameters were entered into the G*Power 3.1 statistical program with calculations determined for the study’s MANOVA: Special effects and interactions design. The resulting calculation yielded a required sample size of 19 and an actual power of 0.9517207. The study’s target sample size of 40 was selected in order to increase the potential interactions between a larger group of participants in the experimental group and to protect against the likelihood of attrition by participants who failed to meet the minimum participation requirements of the study. The final recruitment process resulted in 42 screened participants who provided informed consent and other required demographic information. Chapter 4 provides detailed demographics for the final sample.
Rationale

The purpose of the study was to examine differences in individual goal attainment, well-being, and hope for an experimental coaching group as compared to a waitlist control group. Addressing the research question required a random assignment, posttest, two-group experimental research design. The selection procedure included a sample frame that was representative of the larger population of adult Internet users in the United States.

The MANOVA statistical procedure was appropriate, as the study’s dependent variables of goal attainment, subjective well-being, and hope have been found to be correlated in the literature. Brunstein (1993, p. 1065) found that goal commitment, attainability, and progress were each positively correlated with subjective well-being at $r = .30$, $r = .37$, and $r = .55$, respectively. In another study, Sheldon and Houser-Marko (2001, p. 162) also found a positive correlation between goal progress and personal growth ($r = .29$) for college students who participated in a goal attainment study over the course of an academic year. Bailey et al. (2007, p. 171) found a positive correlation between both the Agency and Pathways elements of hope and subjective well-being at $r = .58$, and $r = .34$, respectively. Finally, in a study of sports achievement, hope was positively correlated with performance at $r = .35$ (Curry et al., 1997, p. 1263). These correlations between dependent variables would not be accounted for if a strictly univariate ANOVA statistical procedure was conducted for each variable separately. This correlation between dependent variables indicated the need for a MANOVA procedure.
In the present study, a new dependent variable was created that was a linear combination of the dependent variables of goal attainment, well-being, and hope. The MANOVA procedure was conducted on the calculated linear combination of the posttest measures for the two groups.

The One-Way MANOVA included an initial assessment of the omnibus difference between the experimental coaching group and the waitlist control group. Where the omnibus MANOVA test was significant, a post-hoc univariate test was conducted for each of the study’s dependent variables.

**Procedures**

Informed Consent, screening data, and questionnaire results were collected using web-based survey software and web-based versions of the psychological instruments introduced in Chapter 1 and described in more detail below. First, the researcher prepared an Informed Consent document and a questionnaire containing a description of the questionnaire and its submission procedure. Second, the researcher created the Informed Consent presentation and questionnaire using web-based survey software from SurveyMonkey. Third, the researcher sent e-mail messages with a personalized survey link to each of the study’s participants. Each link was unique to the participant and contained a participant identifier in order to associate survey results during the analysis phase. Fourth, each participant clicked the link to launch the web-based questionnaire in his or her chosen web browser. Each participant then read the informed consent material and the demographic survey questions. Next, each participant electronically filled out the
responses in the questionnaire including providing informed consent. It is estimated that participants completed the entire form in less than fifteen minutes. Each participant then clicked a submit button to submit the form. Finally, each participant was redirected to a confirmation page that asked the participant to close his or her browser window. To complete the data collection process, the researcher accessed the web-based survey software to download, capture, and assess the participants’ responses.

**Measures**

Individual responses for both the experimental coaching group and the waitlist control group were measured using a goal attainment measure, the Satisfaction with Life Scale, and the State Hope Scale. Posttest responses were collected using a web-based questionnaire using SurveyMonkey software.

**Goal Strivings and Goal Progress**

**Overview.** Goal strivings and progress were measured using a self-report questionnaire related to each participant’s stated objectives and relative rating of recent progress against those objectives. In motivation and coaching studies, it is common to measure goal content and goal progress using this approach. Participants in these types of studies are generally asked to select a limited number of goal strivings – personal outcomes that they intend to pursue over some period of time – as well as an interval rating of their recent progress against these stated personal goals.
Sheldon and Houser-Marko (2001, p. 155) conducted a study related to self-concordance and goal attainment in which college students were asked to list 8 personal goals they expected to pursue “at least through the end of the semester”. The authors asked each participant to rate their relative progress at various points throughout the school year. The questionnaire specifically asked “How well are you doing in each goal?” and required participants to choose a relative rating from 1 (‘not at all well’) to 7 (‘very well’). Powers et al. (2007) also used this type of goal declaration and Likert-style rating of relative progress in their study of the relationship between autonomous and controlled motivations and goal progress.

Goal-oriented coaching outcome studies have also used this type of goal declaration and progress rating questionnaire. In one such study, Grant (2003) asked participants to declare three personal goals and their rate relative progress toward each goal as a percentage of attainment from 0% to 100%. Spence and Grant (2007, p. 189) also asked participants to declare three personal goals by utilizing Emmons’s 1986 definition of a personal striving as “an objective you are typically trying to accomplish or attain”. At the time of pretest, goal progress was framed by asking “In the last 3 months, how successful have you been in attaining this goal?” while at the time of posttest the question was reworded as “In the past 10 weeks…” to reflect the duration of the coaching intervention (Spence & Grant, 2007, p. 189).

In a study of the effectiveness of a cognitive-behavioral solution-focused coaching program, Green et al. (2006) asked participants to declare eight personal goals. At pretest and posttest, participants were asked to rate their relative goal striving progress on a scale of 1 = 0% successful to 5 = 100% successful.
Description. The present study provided participants with a Personal Goals questionnaire that defined personal strivings in accordance with Emmons’s definition of “an objective you are typically trying to accomplish or attain”, asked respondents to identify 3 personal strivings they had pursued over the 8-week period, and asked for relative progress for each striving over the prior 8 weeks using a Likert-style scale ranging from 1 = 0% success to 5 = 100% success. The goal attainment measure therefore ranged from 1 to 5.

Satisfaction with Life Scale (SWLS)

Overview. The SWLS was used to measure the subjective well-being experienced by each study participant. The SWLS was designed as “a multi-item scale to measure life satisfaction as a cognitive-judgmental process” (Diener et al., 1985, p. 71). This cognitive aspect of the SWLS distinguished it from other measures of subjective well-being that had focused on affective dimensions of the construct. A respondent’s personal judgment is also critical to the SWLS as it requires a comparison to the individual’s own standards and expectations of life circumstances (Pavot & Diener, 1993).

Description. The SWLS presents five statements related to an individual’s judgment of his or her general life circumstances. The measure includes items such as “In most ways my life is close to my ideal” and “So far I have gotten the important things I want in life” (Diener et al., 1985, p. 72). For each item, respondents are asked to provide a rating from 1 (‘strongly disagree’) to 7 (‘strongly agree’). The responses for the five items are totaled for a final SWLS score ranging from 5 to 35. The brevity of the measure
offers the benefit of ease of administration, particularly when combined with a battery of other assessments (Pavot & Diener, 1993).

The SWLS has been used in a number of goal-oriented and coaching outcome studies involving subjective well-being. King et al. (1998) included the SWLS in a study examining the relationship between daily goals and worst fears. Previously cited coaching outcome studies have also utilized the SWLS (Green et al., 2006; Spence & Grant, 2007).

**Norming.** The norming group for the SWLS consisted of 176 undergraduate students from the University of Illinois (Diener et al., 1985). In the original validation of the SWLS, the internal validity of the measure was 0.87 (Diener et al., 1985). In a subsequent validation, the coefficient alpha was 0.83 and additional tests of convergent validity were conducted (Pavot et al., 1991). In studies involving college student and geriatric samples, the authors correlated results from the SWLS with the Life Satisfaction Index and the Philadelphia Geriatric Center Morale Scale. The authors noted that “the three life satisfaction scales are highly intercorrelated and appear to be converging on the construct of life satisfaction” (Pavot et al., 1991, p. 155).

**State Hope Scale**

**Overview.** The State Hope Scale was used to measure the relative level of hope study participants experiencing at the posttest interval. The State Hope Scale was developed based on an observation that there may be differences between dispositional hope as experienced across a variety of situations and state hope as experienced in light of proximal life events (Snyder et al., 1996). As such, the State Hope Scale is better
suited to measure current goal-oriented cognition than its dispositional Hope Scale counterpart. In describing possible applications of the State Hope Scale, Snyder et al. (1996, p. 334) noted that the instrument “may be used in pre-post designs in which the focus is on changes in goal-directed thinking.”

**Description.** The State Hope Scale presents respondents with six items such as “At the present time, I am energetically pursuing my goals” and “I can think of many ways to reach my current goals” (Snyder et al., 1996, p. 335). Three of the items relate to the Hope Theory dimension of Agency and three relate to the Pathways dimension. Respondents are asked to rate their relative agreement with each item on a scale ranging from 1 (‘definitely false’) to 8 (‘definitely true’). This results in a subtotal range of 3 to 24 for each of the Agency and Pathways subscales and a Total Hope score ranging from 6 to 48.

The State Hope Scale has been used in research studies involving clinical and non-clinical populations. The scale was used in a study examining the role of hope in both academic and sports settings (Curry et al., 1997). In a study involving psychotherapy outcomes, Irving et al. (2004, p. 425) used the State Hope Scale “to tap current hopeful thinking about general life goals,” lending support for the notion that both agency and pathways thinking are positively correlated with subjective well-being over the course of therapy sessions. The State Hope Scale has also been used to investigate the validity of an instrument related to counseling training effectiveness (Frey, Beesley, & Liang, 2009).

**Norming.** The norming group for the Hope Scale consisted of 444 undergraduate Psychology students (211 men and 233 women) at the University of Kansas (Snyder et al., 1996). The internal consistency for the State Hope Scale was found to range from
0.82 to 0.95 with a median alpha of 0.93 (Snyder et al., 1996). Alphas were also calculated for both the Agency and Pathways subscales and the median alpha for each scale was 0.91.

Hypothoses and Research Questions

The following hypotheses were used to answer the research question, Does participation in an online coaching program result in increased goal-striving, subjective well-being, and level of hope outcomes?:

- $H_0$: There will be no significant difference between the linearly combined goal attainment, well-being, and hope outcome scores of the experimental coaching group and the waitlist control group.
- $H_A$: There will be a significant difference between the linearly combined goal attainment, well-being, and hope outcome scores of the experimental coaching group and the waitlist control group.

Data Collection and Data Analyses

Collected data was entered into PASW v18.0.3. Data analysis included three primary phases: Descriptive Statistics, Tests of Assumptions, and Inferential Statistics.
Descriptive Statistics

Descriptive statistics were calculated for each of the non-categorical dependent variables. Frequency calculations and percentages were calculated for the number of participants in the experimental coaching and waitlist control group, for participants by gender, as well as total participants. Mean, minimum, and maximum values were calculated by group for age. Means and standard deviations were also calculated for each of the study’s three dependent variables: goal attainment, subjective well-being, and level of hope. The One-Way MANOVA procedure operated on the linear combination of the scores of the dependent variables.

Tests of Assumptions

The MANOVA procedure has several assumptions regarding its inputs, and these assumptions were tested following data collection. MANOVA assumptions were tested in terms of multivariate and univariate normality and also in terms of outliers, linearity, homogeneity of regression, multicollinearity and singularity, and homogeneity of variance-covariance matrices. Chapter 4 outlines the MANOVA assumptions in greater detail and provides results of the present study’s specific tests of these assumptions.

Inferential Statistics

Like a univariate analysis of variance (ANOVA), a multivariate analysis of variance (MANOVA) assesses the effects of one or more categorical independent variables on one or more continuous dependent variables. If the dependent variables are
correlated, the ANOVA’s assumption of sphericity may be violated, suggesting the need for a MANOVA procedure. In the MANOVA, two or more dependent variables are linearly combined and groups are compared in terms of statistical differences in this new variable. In the present study, the MANOVA was able to indicate whether the differences between the multivariate combination of scores for the two groups were statistically significant and therefore unlikely to be the result of chance.

A One-Way MANOVA was appropriate, as the dependent variables in the study are believed to be correlated as described earlier. In a One-Way MANOVA, the omnibus result is tested, and if it is significant, each of the main effects is tested for significance (Bray & Maxwell, 1985). In the present study, the omnibus result for differences between the experimental coaching group and the waitlist control group was tested. It was found to be significant, so each of the main effects – goal attainment, subjective well-being, and hope – subsequently was tested post-hoc for significance. These post-hoc tests included univariate ANOVA tests of each of the dependent variables using a Bonferroni adjusted alpha level. This approach is appropriate in controlling the Type I error rate of the analysis (Bray & Maxwell, 1985).

**Intervention**

The intervention used for this study was an online, evidence-based coaching program. The program was adapted from the “Coach Yourself” life coaching program as described in the book *Coach Yourself: Make Real Change in Your Life* (Grant & Greene,
That program was delivered in an empirical face-to-face coaching effectiveness study (Green et al., 2006) that served as the foundation for the present study.

The intervention in the present study had several key characteristics. First, it was evidence-based. The coaching exercises in the “Coach Yourself” program are “based on scientifically validated and tested psychological techniques” (Grant & Greene, 2001, p. 7). In the present study, the adaptation of the exercises and the selected format of the program were further considered against psychological research into goal setting theory (Locke & Latham, 1990), well-being (Diener et al., 1999), and hope theory (Snyder et al., 2000).

Second, the intervention was an expert-led program delivered by a certified coach with more than five years of professional coaching experience. Prior research has indicated that professional coaching is more effective than peer coaching in areas of coachees’ engagement and goal progression (Spence & Grant, 2007).

Third, the coaching program was delivered exclusively online. Although the majority of coaching today is delivered face-to-face or by telephone, many coaches have begun to incorporate Internet-based communication mechanisms into their practices. The purpose of the present study was to gauge the effectiveness of coaching when it was delivered exclusively online. For this study, the researcher developed a website that provided coachees with online discussion forums where they were able to read content and exercise instructions, share their completed responses, read and respond to the posts of others, and engage in online dialogue with the professional coach and their peers. The website was constructed as a series of themed discussion forums and supporting content (see Appendix A for a diagram of the website structure).
The online program and its online discussion forums were situated in a password-
protected portion of the website that was available only to the program’s coach, the
coachees, and the researcher. The website was hosted by web hosting company
Squarespace.

Fourth, the program was time-based. The program was delivered over an 8-week
period. The program itself was divided into two parts. In Part 1 of the program, coachees
spent time structuring their personal goals and planning for their pursuit. Each week, two
exercises were posted into the discussion forum – one on Sunday and one on Wednesday.
The exercises remained open during the remainder of the program, but coachees were
encouraged to stay current with the exercises so as not to fall behind.

The exercises from Weeks 1 and 2 were aligned with essential elements of Locke
and Latham’s (2002, p. 714) goal setting theory. A Personal Values exercise and a
Clarifying Vision exercise were aligned with the goal mechanisms element of Locke and
Latham’s framework. A Goal Structure exercise and a Goal Attributes exercise were
related to both the goal core and moderators elements of Locke and Latham’s framework.

Weeks 2 and 3 included exercises that were aligned with the cognitive-behavioral
and solution-focused aspects of Grant and Greene’s “Coach Yourself” program. This
included the “House of Change” framework (renamed the Connectedness Exercise in the
adapted program), resource identification and action planning exercises, as well as a
personal contract for change.

In Part 2 of the program, coachees continued to work with the coach to monitor
their progress, share their experiences, and give and receive feedback as they continued
to pursue their goals. Part 2 did not feature weekly exercises, but coachees were
encouraged to share their progress in the discussion boards at least twice per week. This type of monitoring and evaluation was derived from a model of self-regulation and goal attainment presented by Grant (2003, p. 255).

The researcher monitored the progress of the participants throughout the study and sent a mid-program progress report to participants. Participants who failed to complete 50% of the program were excluded from the study. Potential participation was defined as providing a response to each of the eight coaching exercises in Part 1 and providing a weekly progress update during each of the four weeks in Part 2.

**Anticipated Findings**

In the present study, it was expected that the coaching program and coaching interactions would positively influence all three of the dependent variables. Prior empirical research has demonstrated the effectiveness of coaching in improving goal striving and related outcomes. Green et al. (2006) delivered a 10-week coaching program similar to that described in the present study. Participants in the experimental coaching group were found to have significantly higher goal attainment, subjective well-being, and level of hope scores than those in the control group (Green et al., 2006).

It was therefore expected that there would be a significant difference between the experimental coaching group and the waitlist control group for the multivariate combination of goal attainment, subjective well-being, and level of hope.
Ethical Considerations

Throughout the study, the researcher ensured the ethical treatment of research participants and the protection of their welfare and records. The researcher secured approval from Capella University’s Institutional Review Board by completing required training modules and preparing an application that described the study’s rationale, research method, sampling procedures, intervention, analysis, confidentiality and data protection, and other relevant information.

A key ethical principle that guides the research process is that of gaining Informed Consent from all research participants. The researcher prepared an Informed Consent form as part of the Institutional Review Board’s approval process. Prospective participants were presented with a detailed description of the study, protection of their welfare, expectations for their participation, institutional contact information, and other important information. Participants were asked to review the information and to provide their consent to participate in the study. Participants who provided consent were also screened on the basis of age to ensure they were between the ages of 25 and 60.

The study was developed in a way that presented minimal risk to its participants. Participants were given the option to use a pseudonym in the online group coaching discussion forums to conceal their identities. Access to the online discussions was password-protected and encrypted. Participants self-disclosed information in the online coaching discussions. After submitting an online post, participants were able to request that the researcher remove the contribution from the discussion forum. The online coaching website also provided acceptable use information that described expectations
regarding the treatment of other participants and the coach as well as actions that would be taken in situations of abuse.

Following the program administration, participants’ responses were deleted from the website. Survey results and other electronic documents used in the study were encrypted and stored in a lockbox accessible only to the researcher. The researcher will retain these materials for a period of seven years after which time they will be destroyed.

The potential for researcher bias was minimal. The design of the study was based solely on the researcher’s review of the evidence-based coaching literature and a subsequent belief that coaching has the potential to assist individuals in making sustainable positive changes in their lives. A professional coach delivered the program in order to remove any potential conflict of interest on the part of the researcher. The coach’s compensation was not material and was not tied to the study’s outcomes in any way.
CHAPTER 4. DATA COLLECTION AND ANALYSIS

Introduction

The previous chapters of this dissertation discussed online coaching and its potential impact on goal attainment, subjective well-being, and level of hope. Chapter 1 provided an overview of the present study – a posttest, random assignment, two-group comparison study of the effectiveness of a coaching program that was delivered exclusively through the Internet. Chapter 2 provided a review of literature related to the fields of coaching, goal attainment, and online communication technologies. The extant literature reveals a sizeable gap between online coaching practice and research. While coaches are increasingly turning to online communication technologies as they promote their services and work with coachees, little empirical research has investigated the effectiveness of using the Internet as a delivery platform for coaching.

This study seeks to address the primary research question, Is online coaching effective? An alternative hypothesis for this research question – one based on the literature including findings from prior coaching studies – was developed, stating that there would be a significant difference between the mean scores of a group who participated in an online, evidence-based coaching program and another group who had not received coaching. To test this prediction, a null hypothesis was developed stating that there would be no statistically significant difference between the groups. The study’s results will either support or fail to support the stated hypothesis.
The target population for the present study included adult Internet users in the United States. After receiving approval from Capella University’s Institutional Review Board, the researcher recruited the sample by asking several website owners to mention the study in their electronic newsletters and through social media such as Facebook and Twitter. This chapter provides descriptive statistics about the sample. No identifying information about the study’s participants or their coaching interactions is included in order to protect the privacy and welfare of the research participants.

Sample

The present study employed a purposeful sampling technique to recruit adult Internet Users in the United States. The researcher conducted an a priori analysis of power, and determined a target sample size of 19. The researcher increased the recruitment target to 40 with the intention of creating increased interaction and diversity within the group coaching context. This larger sample size was also intended to protect against the likelihood that some participants may not fulfill the minimum participation requirements or may not submit their responses at the end of the program. During the recruitment process, the researcher secured the participation of 42 total participants in the study.

The remainder of Chapter 4 is structured as follows. The next section provides descriptive statistics and frequencies for the sample including details for participants in the experimental coaching group and the waitlist control group. Following the descriptive statistics section, the chapter continues with a discussion of the Multivariate Analysis of
Variance (MANOVA) statistical procedure including the rationale for its use in the present study and tests of its related assumptions. The next section provides the MANOVA results and post-hoc test results. The final section of Chapter 4 provides a summary of the chapter.

**Descriptive Statistics**

**Sample Overview**

The sample for the present study included 42 total participants, 11 males and 31 females. Participants were randomly assigned to either an experimental coaching group or a waitlist control group using a coin-toss method. The experimental group included 22 participants, 5 males and 17 females. The control group included 20 participants, 6 males and 14 females.

Participation rates for the experimental group and response rates for both the experimental and control groups determined the final number of eligible participants in the study. Of the 22 total participants in the experimental group, 2 participants never attempted to login to the online coaching website. 2 additional participants logged into the website but never participated in the online coaching. 5 additional participants participated in the online coaching program, but these participants failed to meet the stated minimum participation requirements of completing 50% or more of the online coaching discussion exercises. The researcher received posttest results from 12 of the 13 qualifying experimental coaching group participants. The final experimental group therefore included 12 participants, 2 males and 10 females. The researcher received 16
posttest responses from the 20 participants who were assigned to the waitlist control group. The final control group therefore included 16 participants, 5 males and 11 females.

The original research design for the study was a 2 X 2 Factorial MANOVA (Group X Gender). One of the requirements for a Factorial MANOVA is that the sample size of the smallest cell in the factorial matrix must be larger than the number of dependent variables (Hair, Black, Babin, Anderson, & Tatham, 2006). As described above, the smallest cell size (Coaching X Males) included only two participants – less than the study’s three dependent variables. This violated the required minimum sample size for a Factorial MANOVA. As a result, the researcher dropped the independent variable of gender and proceeded with a One-Way MANOVA comparing multivariate means between the experimental coaching group and the waitlist control group.

Table 1 provides mean, minimum, and maximum ages for the experimental and control groups as well as for the combined population (N = 28). The data in this table indicates that the groups were very similar in terms of their average age and the range in the ages of each group’s participants.

Table 1. Population Characteristic: Age

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Minimum</th>
<th>Maximum</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>46.50</td>
<td>32</td>
<td>58</td>
<td>12</td>
</tr>
<tr>
<td>Control</td>
<td>43.81</td>
<td>28</td>
<td>60</td>
<td>16</td>
</tr>
<tr>
<td>Combined</td>
<td>44.96</td>
<td>28</td>
<td>60</td>
<td>28</td>
</tr>
</tbody>
</table>

Table 2 provides population averages for each of the study’s three dependent variables – goal attainment, subjective well-being, and hope. The table provides the mean
and standard deviation for each variable for the experimental coaching group, the waitlist control group, and for the combined population.

Table 2. Population Averages for Dependent Variables

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Group</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Attainment</td>
<td>Experimental</td>
<td>3.00</td>
<td>0.953</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>1.88</td>
<td>1.088</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>2.47</td>
<td>1.164</td>
<td>28</td>
</tr>
<tr>
<td>Subjective Well-Being</td>
<td>Experimental</td>
<td>25.17</td>
<td>7.918</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>17.44</td>
<td>7.492</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>21.41</td>
<td>8.370</td>
<td>28</td>
</tr>
<tr>
<td>Hope</td>
<td>Experimental</td>
<td>36.50</td>
<td>9.662</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>29.31</td>
<td>9.307</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Combined</td>
<td>33.72</td>
<td>9.975</td>
<td>28</td>
</tr>
</tbody>
</table>

**Multivariate Analysis of Variance (MANOVA)**

**Introduction**

Analysis of Variance (ANOVA) is a statistical procedure used to measure group differences for a single, metric-oriented dependent variable (Hair et al., 2006). When a study includes more than one dependent variable, a review of the literature indicated that several researchers have chosen to conduct multiple ANOVA comparisons separately for each variable while others have chosen to conduct a MANOVA (Huberty & Morris, 1989). Like the univariate ANOVA, the MANOVA measures differences between groups and determines whether observed differences are due to the consideration of one or more independent variables or whether the differences may be attributed to chance or error. An
approach involving a series of strictly univariate procedures poses several statistical challenges including an inflation in the overall Type I error rate, a lack of consideration of correlations among variables in the procedure itself, and an inability to detect a potentially significant interaction between variables when each of the underlying univariate tests are nonsignificant (Stevens, 2002).

In a MANOVA procedure, a new variate called the centroid is created in such a way “that maximally separates the groups” (Bray & Maxwell, 1985, p. 10) so as not to fail to detect a significant difference that may be masked through the use of multiple univariate analyses. MANOVA is useful for researchers who are interested in multiple dimensions of a construct as well as relationships between those dimensions. Huberty and Morris (1989, p. 304) stated that “the basic MANOVA question is, Are there any overall (interaction, main) effects present?” The MANOVA both accounts for relationships between the dependent variables and also determines whether observed differences between the groups may only be due to chance or error.

**MANOVA Assumptions**

The MANOVA procedure has several assumptions regarding its inputs. These include assumptions regarding the nature of the independent and dependent variables, sample sizes, independence, normality, assumptions regarding outliers, linearity, homogeneity of regression, multicollinearity and singularity, and homogeneity of variance-covariance matrices (Tabachnick & Fidell, 2007). This section outlines the MANOVA assumptions in detail as well as the present study’s specific tests of these assumptions.
The first assumption of the MANOVA procedure is that the independent variables are categorical. In the present study, the independent variable is Group with participants nominally being named as belonging to either the experimental coaching group or the waitlist control group.

The second assumption of the MANOVA procedure is that the dependent variables are metric-oriented and continuous in nature. The present study’s dependent variables were collected using instruments that featured Likert-type rating scales. There has been some debate in the literature regarding Likert-type ratings and whether Likert-type scales produce results that are ordinal rather than interval or continuous in nature. Jamieson (2004, p. 1212) argued, for example, that a researcher who treats an ordinal scale as an interval scale “increases the chance of coming to the wrong conclusion about the significance (or otherwise) of his research.” In a rebuttal, Carifio and Perla (2007) cited confusion in the field between an instrument’s response format and its response scoring procedure; the authors asserted that the latter can provide an interval scale of results for an instrument that is comprised of Likert-style response format items. The present study uses three instruments that produce data that are suitable for use in the MANOVA. The goal attainment scale used a Likert-style scale based on interval data ranging from 0% completion to 100% completion. The remaining instruments – the Satisfaction with Life Scale and the State Hope Scale – both utilize a response scoring procedure that produces interval results, thus making ANOVA and MANOVA procedures appropriate for use in the present study.

Another assumption of the MANOVA procedure is that the sample size of the smallest cell is greater than the number of dependent variables. As described earlier, this
assumption was violated in the original 2 X 2 Factorial MANOVA design because the sample size of the Coaching X Males cell \((n = 2)\) was smaller than the number of dependent variables in the study \((3)\). With a redesign of the statistical procedure as a One-Way MANOVA (Group), the smallest cell size \((n = 12)\) is sufficiently larger than the number of dependent variables in the study, thus meeting this assumption.

The MANOVA procedure also assumes that samples are collected independently of one another. This assumption was also met in the present study as each participant received an individual, web-based survey. The participants did not receive the contact information of any other participants, and it is believed that they communicated with each other only within the online coaching environment. Survey results were not discussed by any participant, the researcher, or the professional coach at any time during the online coaching program.

The MANOVA procedure assumes normal distribution and the relative absence of outliers in the underlying data. Normality tests and tests for the absence of outliers should both be conducted in univariate and multivariate terms (Hair et al., 2006). The normality assumption was tested and subsequently met in univariate terms for each of the study’s dependent variables and in a multivariate sense for the linear combination of the new MANOVA variable. The researcher began the univariate test of normality using the Kolmogorov-Smirnov test for significance as depicted in Table 3.
Table 3. Kolmogorov-Smirnov Tests of Normality

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Attainment</td>
<td>Experimental</td>
<td>.016</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>.001</td>
</tr>
<tr>
<td>Subjective Well-Being</td>
<td>Experimental</td>
<td>.026</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>.075</td>
</tr>
<tr>
<td>Hope</td>
<td>Experimental</td>
<td>.130</td>
</tr>
<tr>
<td></td>
<td>Control</td>
<td>.200</td>
</tr>
</tbody>
</table>

Kolmogorov-Smirnov tests of normality were nonsignificant for subjective well-being (control group), for hope (experimental group), and for hope (control group).

Kolmogorov-Smirnov tests of normality were significant for goal attainment (experimental group), for goal attainment (control group), and for subjective well-being (experimental group). Significant results suggest that there was the potential that these populations were not normally distributed. Hair et al. (2006, p. 82) stated that “tests of significance are less useful in small samples” and the authors suggested that researchers use a combination of statistical tests and graphical plots to assess normality. Pallant (2010, p. 63) recommended that researchers create and inspect normal probability plots; in such a plot, “a reasonably straight line suggests a normal distribution.”

Figure 2 presents the normal probability plot of goal attainment for the experimental group. This plot shows a straight line suggesting support for the assumption of univariate normality for this combination of group and dependent variable.
Figure 2. Normal probability plot of goal attainment (experimental group).

Figure 3 presents the normal probability plot of subjective well-being for the control group. This plot shows a straight line suggesting support for the assumption of univariate normality for this combination of group and dependent variable.
Figure 3. Normal probability plot for goal attainment (control group).

Figure 4 presents the normal probability plot of subjective well-being for the experimental group. This plot shows a straight line suggesting support for the assumption of univariate normality for this combination of group and dependent variable.
Normal probability plots for the group and dependent variable combinations that were nonsignificant for Kolmogorov-Smirnov tests of normality also featured straight lines, further supporting the assumption of univariate normality.

To test the assumption of multivariate normality and the potential presence of another MANOVA assumption – an absence of multivariate outliers – Pallant (2010) suggested conducting a comparison test of Mahalanobis distance. The calculated maximum value of Mahalanobis distance was 9.854. This value was then compared to the critical value of 16.266, a value that corresponds to 3 degrees of freedom (a number equal to the number of dependent variables in the study) and alpha value of .001 in a table listing critical values of Chi Square (Tabachnick & Fidell, 2007, p. 949). Because this
maximum value was less than the critical value, the assumptions of multivariate normality and the absence of multivariate outliers was supported.

While the Mahalanobis distance test supported an assumption regarding the lack of multivariate outliers as described earlier, additional consideration was given to the potential existence of univariate outliers. Univariate boxplots were created for each combination of group and dependent variable. Figures 5, 6, and 7 suggest no presence of univariate outliers for goal attainment, subjective well-being, and hope, respectively.

Figure 5. Boxplot of goal attainment scores by group.
Figure 6. Boxplot of subjective well-being scores by group.

Figure 7. Boxplot of hope scores by group.
The MANOVA procedure has an assumption that linear relationships do not exist between any pair of variables. Pallant (2010) suggested that researchers should create a scatterplot matrix and to visually inspect it for the presence of one or more linear relationships among pairs of variables. Figure 8 presents a scatterplot matrix for the dependent variables in the present study. No cell appeared to indicate the presence of a linear relationship, so the assumption of non-linearity was supported.

If a MANOVA procedure includes a stepdown analysis for hierarchical independent variables, the procedure includes an additional assumption of the homogeneity of regression (Pallant, 2010). The present study did not include a stepdown analysis, so this assumption was not tested.

The MANOVA procedure assumes the absence of multicollinearity or of singularity. In the present study, all combinations of variables were positively and moderately correlated, ranging between .337 and .562.

The MANOVA procedure assumes that variances between groups of the independent variable are equal for each of the dependent variables. Levene’s Test of Equality of Error Variances was used to test this assumption, and results were nonsignificant for goal attainment, subjective well-being, and hope at .837, .933, and .974, respectively. These nonsignificant results support the assumption of equal variances between groups for each of the dependent variables.
Figure 8. Matrix of scatterplots for dependent variables by group.
The final MANOVA assumption is that of the homogeneity of variance-covariance matrices. Box’s M Test was used to investigate this assumption. Box’s M Test results were nonsignificant at .979 supporting an assumption of homogeneity of variance-covariance matrices.

**MANOVA Procedure**

The PASW 18.0.3 statistics package was used to conduct the MANOVA procedure. The MANOVA procedure involves conducting tests of significance using calculations such as Wilks’ lambda, Pillai’s criterion, and Hotelling’s trace. Wilks’ lambda is commonly used in MANOVA procedures and when a study involves only two groups, all of the previously stated tests of significance are equal (Hair et al., 2006). For these reasons, the present study used Wilks’ lambda in its MANOVA procedure. The procedure involves the calculation of the critical $F$ value of Wilks’ Lambda and a test of significance. If the omnibus multivariate test is significant, post-hoc univariate tests or other follow-on procedures are warranted (Bray & Maxwell, 1985).

**MANOVA and Post-Hoc Results**

A One-Way MANOVA for Group was significant at $F(3, 24) = 3.268, p = .039$; Wilks’ lambda = .710; partial eta squared = .290; observed power = .674. The null hypothesis that there would be no statistically significant difference between the experimental and control groups on an optimally weighted linear combination of the three quantitative dependent variables was therefore rejected.
Based on the significant MANOVA result, follow up univariate analyses of each of the individual dependent variables was warranted. To reduce the likelihood of committing a familywise Type I error, the researcher applied a Bonferroni adjustment to the alpha level. Bray and Maxwell (1985) recommend that such a Bonferroni adjustment be made by dividing the MANOVA’s overall alpha level by the number of dependent variables in the study. In the present study, this involved dividing the original MANOVA alpha value of .05 by 3. The new alpha level for the subsequent univariate ANOVA tests was therefore set to \( p = .017 \).

Goal attainment was significant at \( F(1, 26) = 8.131, p = .008 \); partial eta squared = .238; observed power = .784. An inspection of the mean scores indicated that the coaching group reported higher levels of goal attainment (\( M = 3.00, SD = .953 \)) than participants who did not receive coaching (\( M = 1.88, SD = 1.088 \)).

Subjective well-being was significant at \( F(1, 26) = 6.954, p = .014 \); partial eta squared = .211; observed power = .719. An inspection of the mean scores indicated that the coaching group reported higher levels of subjective well-being (\( M = 25.17, SD = 7.918 \)) than participants who did not receive coaching (\( M = 17.44, SD = 7.492 \)).

Hope was not significant at \( F(1, 26) = 3.959, p = .057 \); partial eta squared = .132; observed power = .483. While the coaching group reported higher levels of hope (\( M = 36.50, SD = 9.662 \)) than participants who did not receive coaching (\( M = 29.31, SD = 9.307 \)), the difference between groups could not be attributed to differences in the group condition as opposed to chance or error.
Conclusion

The goal of the present study was to test the hypothesis that online, evidence-based coaching is effective in terms of increasing goal attainment, subjective well-being, and level of hope. Participants were recruited and randomly assigned to either an experimental group that received online coaching or a waitlist control group. At the end of the program, both groups were provided with surveys to measure their respective scores on the study’s dependent variables. A MANOVA procedure was used to test the hypothesis. Requisite assumptions for the MANOVA were met, making its use in the present study appropriate.

To address the primary research question, a null hypothesis was developed such that there would be no statistically significant difference between the experimental group and the control group in terms of the MANOVA’s constructed multivariate dependent measure. The MANOVA result determined that there was a significant difference between the experimental group and the control group, leading to a rejection of the null hypothesis.

Post-hoc tests included a univariate assessment of each of the dependent variables. Significant differences between the experimental group and the control group were found for dependent variables of goal attainment and subjective well-being. The difference between the two groups in terms of level of hope was not significant.

The research has provided a basis for a more detailed assessment of its findings as well as consideration as to how this study relates to the literature in the field of coaching. It has also led to recommendations for future research to improve upon and extend the
present study. These topics will be addressed in detail in Chapter 5.
CHAPTER 5. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The present study sought to measure the effectiveness of an online coaching program in order to help coaches and coaching psychologists by contributing a randomized controlled trial to the limited base of validated coaching studies in this nascent field. Over the course of the study, the researcher recruited a representative sample of adult Internet users in the United States, randomly assigned them to either an experimental coaching or a waitlist control group, provided the experimental group with an 8-week online evidence-based coaching program delivered by a professional coach, collected survey results from both groups at the posttest interval, and conducted a thorough analysis of statistical differences between the groups. Based on this prior work, it is now feasible to provide a discussion of the study’s results.

This chapter includes the researcher’s critical assessment of the present study and a discussion of how the study fits within the larger context of the extant coaching literature. First, the Summary of Results section briefly reviews the study’s design and subsequent analysis. The following Discussion of Results section includes practical and theoretical implications of the study as well as an overview of its limitations. The Discussion of Conclusions section describes how the present study relates to prior works in the field. The Limitations section then describes the study’s limitations in greater
Summary of the Results

While the field of coaching has seen dramatic growth over the past 20 years, it has produced relatively few empirical studies regarding the effectiveness of coaching practice. Over the same time frame, the use of Internet technologies including online communities and social media has also exploded. These trends have put coaching and the Internet on a collision course. For example, the day after the present study’s online coaching program treatment began, television personality Dr. Oz launched and promoted a new website as part of an 11-week health and wellness program called “Move It and Lose It”. The website offered “direct and daily access to a team (of) top trainers and nutritionists to coach and motivate people throughout the program” (“Dr. Oz”, n.d.). The website combined “the power of social networking with expert Q&A”; within weeks, more than 400,000 members registered for the program (“Sharecare.com”, 2011, p. 782).

An increase in the online delivery of coaching services seems inevitable, but no known research studies have assessed the effectiveness of this new format. Empirical research is essential to the perceived credibility and ethical standing of the coaching industry. The primary research question for the present study was therefore, Is online coaching effective? To address the question, the study employed a randomized controlled trial comprised of an experimental coaching group and a waitlist control group. The study included posttest measures of goal attainment, subjective well-being, and level of hope as
measured through commonly used psychometric instruments. Based on a review of the prior literature, the study’s hypothesis stated that results from the experimental coaching group would be different than those from the waitlist control group in terms of a multivariate combination of metrics of the study’s dependent variables. To support or refute this hypothesis, a null hypothesis was formed predicting that there would be no observed difference between groups.

To protect against a Type I error, alpha for the omnibus MANOVA was set to .05. The MANOVA procedure was significant ($p = .039$) with regard to multivariate differences between the groups, and the null hypothesis was rejected. Post-hoc ANOVA tests for each of the study’s dependent variables were conducted using an applied Bonferroni adjustment and a more stringent alpha of .017. The post-hoc ANOVA tests were significant for goal attainment ($p = .008$) and subjective well-being ($p = .014$). A post-hoc ANOVA test for hope was nonsignificant ($p = .057$).

**Discussion of the Results**

The present study adequately addressed the primary research question. The random assignment posttest two-group comparison design of the study provided an effective randomized controlled trial. The results were robust in terms of meeting the criteria for inclusion in the selected MANOVA statistical procedure. The three dependent variables were moderately correlated further supporting the decision to employ a MANOVA procedure. The significant MANOVA was readily explained by significant ANOVA results for two of the three dependent variables.
During the course of the study, the researcher encountered two challenges that required changes to the original design of the study. The first challenge came during the recruitment phase. The original recruitment plan involved placing an online advertisement on the popular social networking site, Facebook. It was immediately apparent that the Facebook advertisement was not going to be successful. Within 48 hours, the advertisement had been displayed 327,234 times but only 62 people had clicked the advertisement and none had provided contact information. It is believed that the general audience of Facebook users may not have been accustomed to participation in research studies. Also, click-throughs may have been reduced by perceived low credibility since the study was mentioned as an advertisement inside the Facebook environment. Signups may also have been reduced by the rigorous description of the study and its requirements on the advertisement’s landing page.

A revised recruitment plan involved asking select website owners to mention the study on their websites, blogs, or through social media. It was believed that this would increase the perceived credibility of the study and better target prospective participants. The revised plan was reviewed and approved by the Institutional Review Board, and the target number of participants registered for the study and provided Informed Consent. The landing page’s description of the study and its requirements was not changed between recruitment methods; the only change was to the mechanism for generating awareness of the study.

The second challenge related to the composition and size of the study’s sample. While 42 participants provided consent, were screened, and were accepted into the study, only 11 of these were males. Based on random assignment, 5 were assigned to the
experimental coaching group and 6 were assigned to the waitlist control group. The original research design included a Factorial MANOVA with an omnibus test of the Group X Gender interaction. A requirement for this procedure is that the number of cases in the smallest cell must be larger than the number of dependent variables in the study. Across 42 total participants, a roughly even distribution across the four cells in the 2-by-2 matrix would have yielded approximately 10 per cell. With only 5 males in the Coaching X Male group, meeting the MANOVA’s sample size requirements would be challenging; nearly 100% of the participants in this cell would have had to (a) meet the stated minimum participation requirements, and (b) provide posttest responses. Only 2 participants from this group met the stated minimum requirements, and despite the fact that both provided posttest responses, the requirement of the Factorial MANOVA was violated. As a result, gender was dropped as an independent variable, and the study was redesigned to use a One-Way MANOVA to compare differences between the experimental coaching group and the waitlist control group. As a result of the procedural redesign, the smallest cell size for the One-Way MANOVA was 12 in the coaching group, a total number substantially larger than the study’s three dependent variables.

Ultimately, these changes did not prevent the study from appropriately answering the primary research question. Consistent with the intent of the original study design, the sample was drawn from adult Internet users in the United States, and the One-Way MANOVA was able to test the hypothesis that the experimental coaching group and the waitlist control group would differ in terms of a linear combination of the study’s dependent variables.
Multiple studies in the coaching psychology literature have demonstrated that a coaching intervention is effective in terms of goal attainment, subjective well-being, level of hope, and other outcomes when such a program is delivered face-to-face (Green et al., 2006; Green et al., 2007; Spence & Grant, 2007). Based on a review of social sciences literature related to online communication and culture, the present study’s hypothesis predicted that an online coaching intervention would be similarly effective. The significant MANOVA result supported this hypothesis by rejecting the corresponding null hypothesis that there would be no observed statistically significant differences between the experimental coaching and the waitlist control group in terms of a multivariate combination of the aforementioned dependent variables.

In the present study, the dependent variables were moderately correlated. This suggests that the significant MANOVA was not subject to singularity whereby one of the dependent variables alone accounted for the majority of the difference between the two groups. These correlation findings were consistent with those of earlier studies cited in Chapter 2. There appears to be a statistical and intuitive interrelationship between goal achievement, happiness, and hope, and the practice of coaching – whether delivered in person or online – appears to influence these constructs.

Following the significant MANOVA, post-hoc tests included an ANOVA test of significance for each dependent variable. Goal attainment showed the greatest percentage mean difference between groups (59.6%) and the most significance ($p = .008$). The program itself centered primarily on participants’ personal goals, guided by exercises derived from Locke and Latham’s (1990) goal setting theory and Grant and Greene’s (2001) “Coach Yourself” life coaching program. Online coaching exercises and group
discussions included techniques related to goal definition, resource identification, task strategies, commitment, and feedback. Participants in the experimental coaching group had the opportunity to use the web-based environment to work with a professional coach, connect with peers, and provide and receive support from the online group. Several participants shared positive progress reports throughout the program and at its completion.

The ANOVA test was also significant for subjective well-being. The mean score for the experimental coaching group was 44.3% higher than that of the waitlist control group. Participants in the online coaching group may have experienced higher levels of well-being for two reasons. First, they may have made demonstrable progress toward long-held personal goals. Second, they may have established a positive social connection with the professional coach and with other goal seekers. Throughout the program, several participants shared personal experiences and observations that suggested that both of these factors may have been influenced by their participation in the program. Several participants shared their successes and resulting positive emotions as they found themselves taking concrete steps toward achieving their personal goals. Participants also shared their gratitude for the contributions of the coach and of other participants.

The ANOVA test for hope was nonsignificant. A detailed review of the analysis and the literature suggests three possible reasons for this outcome. First, the result may be a false negative. The observed power for the univariate test was only .483, suggesting that there was a 51.7% chance of committing a Type II error whereby a truly significant difference is erroneously discarded due to a false negative. The study’s small sample size may have led to such a loss of power. Hair et al. (2007, p. 415) observed that “with group
sizes of fewer than 30 members, obtaining desired power levels can be quite problematic.” Second, while the observed difference between the mean hope scores of the experimental group was only 24.5% higher than that of the waitlist control group, this comparison included all participants in the experimental group who met the minimum participation requirement of at least 50% of the prescribed exercises. A further breakdown of this group shows that participants who completed more than 75% of the exercises had a mean hope score that was 29.2% higher than those who completed between 50% and 75% of the exercises and 37.5% higher than the control group. There may be a relationship between participation level and hope outcomes that wasn’t considered in the design of the present study. Finally, the 8-week duration of the present study’s intervention was shorter than that found in other coaching outcome studies lasting 10 weeks (Green et al., 2006; Green et al., 2007; Spence & Grant, 2007). It is not immediately clear whether there may be some relationship between the duration of the coaching intervention and observed outcomes that would allow for direct comparison between the present study and those cited.

The present study has several practical implications. Fundamentally, coaching is both a relationship and a process that takes place between a coach and a coachee. Just as online social connections have been made possible through online communication modalities such as electronic mail, online bulletin boards, discussion forums, and more recently social media, online coaching appears to be a viable extension of more traditional forms of coaching. The online coaching interactions that took place during the study’s program delivery included several defining characteristics of coaching including the coach’s acknowledgement and appreciation of positive attitudes and behaviors, an
invitation for further self-discovery, fostering accountability and follow-through, and reframing of suboptimal experiences and attitudes.

Additionally, the researcher and the professional coach took steps to increase trust and familiarity between participants. A member list provided participants with each individual’s name (or pseudonym as desired), an optional photo or other selected image, his or her hometown, and a brief description of his or her profession or other chosen description. It is believed that this member list “personalized” the online coaching environment, and assured the participants that the group was comprised of real people and a real professional coach. This personalization was important as the only interface to the group was via computer and web browser.

The present study also supports the finding that evidence-based techniques drawn from the field of positive psychology can be extended to an online format. The program’s exercises were derived from validated techniques well defined by Grant and Greene (2001). Such evidence-based coaching is built on a foundation of validated empirical and theoretical knowledge (Stober & Grant, 2006). The exercises provided a logical progression through the major stages of a generic goal pursuit model, but they offered participants’ ample room for personal discovery and an investigation of behaviors, patterns of thinking, and emotions in the context of their goal pursuits. The coach’s follow-up questions (and even those of other participants) took the discovery process further and reinforced the position that coaching is itself an applied positive psychology (Grant & Cavanagh, 2007).

The online format may, in fact, aid the coaching process in some important ways. One important aspect of the present study’s online coaching format was that each of the
participant’s responses had to be typed into the website’s discussion forums. Such a writing process may have triggered cognitive processes related to personal reflection. Researchers have observed that “expressive writing facilitates self-regulation, which, in turn, enhances psychological and physical health” (Lepore & Smyth, 2002, p. 9). In addition, the online coaching environment was a naturally collaborative group environment where participants shared experiences with a similar peer group. Prior research has indicated that such a group interaction can provide members with a cathartic exchange of personal experiences and feelings as well as identification resonance that benefits the group as a whole (Van der Avort & Van Harberden, 1985). The collaborative nature of the present study’s online coaching environment provided opportunities for participants to share their support or suggestions with other members. This common practice may have elicited a type of “helper” therapy as was popularized by Riessman (1965) and as is frequently cited as a benefit in various forms of self-help.

Despite its overall success, there were several limitations in the present study. Design limitations included voluntary self-selection by the research participants and the inability to complete the Factorial MANOVA as described in the original study design. In practice, limitations that became apparent were inconsistencies in participation for members of the experimental coaching group as well as general attrition over the program, a smaller than expected sample size, and technical limitations imposed by the software that powered the online coaching environment. Finally, there were several potentially constructive elements that were not included in the present study including the lack of a third comparison group receiving face-to-face coaching, the lack of consideration of the relative degree of technical competence for participants, and the lack
of qualitative data collection and analysis to capture the experiential nature of online coaching for the participants. These limitations will be discussed in detail in the Limitations section that follows.

**Discussion of the Conclusions**

The present study makes important contributions to the coaching psychology field in two ways. First, the study provides a randomized controlled trial regarding the effectiveness of coaching generally. Second, the study provides empirical evidence regarding the effectiveness of online coaching relative to commonly desired coaching outcomes. Coaching researchers and practitioners who are interested in better understanding or employing online communication technologies in whole or as a supplement to traditional coaching delivery mechanisms can benefit from the insights this study has provided. Online coaching – when built on an evidence-based foundation – can lead to positive and significant changes in personal success for participating coachees.

The present study largely supports findings from the extant coaching psychology literature. In the study that inspired the present research, Green et al. (2006, p. 149) concluded that their study “provided evidence that a cognitive-behavioral, solution-focused life coaching group programme is effective in increasing goal striving, well-being, and hope.” Such a claim also could be made for the present study which delivered a similar coaching program exclusively through the Internet rather than face to face. While the Green et al. (2006) study featured a repeated measures design, posttest outcomes between that study and the present study were very similar for both goal
attainment and subjective well-being outcomes.

In terms of hope, the results from the present study cannot be directly compared to the Green et al. (2006) study due to a difference in the psychometric instruments used to measure level of hope. The present study used the State Hope Scale while the Green et al. (2006) study used the Trait Hope Scale. Total scores on the State Hope Scale range from 6 - 48 while those on the Trait Hope Scale range from 8 - 64.

Limitations

The present study included several limitations. First, the recruitment method led to the self-selection of the study’s participants. The study was mentioned on several websites and through various social media methods, and participants were directed to a website that provided detailed information about the study. Participants therefore voluntarily joined the study. This limitation may indicate that the sample in the study is somehow different from the population of adult Internet users in the United States, thus limiting the generalizability of the present study.

A second limitation was the inability to conduct the Factorial MANOVA that was part of the study’s original design. As described in Chapter 4, the factorial cell size of 2 for the Males X Coaching group was smaller than the 3 dependent variables in the study. This violation led to the procedural redesign as a One-Way MANOVA comparing omnibus and main effect differences between the experimental coaching group and the waitlist control group. While the One-Way MANOVA was still able to address the
study’s primary research question, a Factorial MANOVA may have provided additional insight. Haase and Ellis (1987) observed that a Factorial MANOVA “leads to much more explicit partitioning of the sources of variation in the model” (p. 406). This partitioning was not possible in the present study’s One-Way MANOVA.

There were other limitations of the present study due to the small sample size. Hair et al. (2006) recommended that each cell in the MANOVA contain a minimum of 30 cases. One effect of the present study’s small sample size was to reduce the observed power of the MANOVA and the post-hoc ANOVA tests. The ANOVA test for the main effect of the coaching intervention on hope, for example, had an observed power of only .438. A larger sample would have pushed power to a higher level and may have led to a significant result for this test.

Additional limitations that were related to the small sample size were participation levels and attrition. Participation levels for the experimental coaching group varied widely. As described in Chapter 4, some members of the experimental coaching group failed to participate at all. There may be several reasons for this. First, the commitment of these individuals may have been low because the coaching was offered for free as a part of a research study; these individuals may have been more likely to follow through if they had sought out and paid for coaching services. Second, the online nature of the program may have been perceived as informal and noncommittal. Third, nonparticipants may have seen the interpersonal nature of the online group environment and subsequently declined to proceed. Finally, one participant informed the researcher that a change in personal circumstances prevented that person’s participation once the program had actually started.
Participation levels for the remaining participants also varied widely. Four participants failed to meet the minimum participation requirements. Two of these participants started the program, but their completion of the exercises and participation in the discussions waned over time. The other two participants started late and failed to catch up. Again, the potential perception of the online nature of the program may have reduced commitment to meeting the participation requirements of the program. Attrition has been seen in other empirical coaching studies involving life coaching programs, but the current study’s attrition rate was higher than that observed in other studies.

There are measures that the researcher could have taken to potentially improve participation rates and reduce attrition. First, the researcher sent end-of-week reviews to participants via electronic mail. In the online discussion forums, one participant noted that this was suboptimal, suggesting instead that an e-mail reminder indicating that a new exercise was available should be sent at the beginning of the week so as to be more actionable. Additionally, several techniques that have been employed in online communities in order to foster and reward participation were not used in this study. These include the attribution of status (such as “Power User”), group-wide recognition, contests, incentives, and other means in exchange for participation (Buss & Strauss, 2009). As this was a formal and university-sponsored research study, the researcher declined to introduce these elements to the program. In a commercial or organizational setting, however, these incentives may lead to higher levels of participation and lower levels of abandonment in the delivery of online coaching.

The final practice-oriented limitation of the present study related to inadequacies in the coaching software platform. The hosted website software offered basic capabilities
related to online coaching including member profiles, discussion forums, and frequently asked questions. The overall capabilities proved extremely limited, however. The software lacked an effective notification mechanism for new posts and comments, self-management by participants of profile details, the ability to easily share rich media content such as photos and videos, and other basic functionality. From a coaching perspective, functionality to efficiently support the delivery of group coaching services was nonexistent. The coach had difficulty tracking participant responses as there was no consolidated view of participant responses in the software. Exercise results were contained in discussion responses rather than stored and retrieved in a more dynamic and engaging format. In the future, a fully functioning online coaching environment will need specific functionality and capabilities to properly enable the delivery of professional online coaching services.

**Delimitations**

The present study was not designed to investigate several areas related to online coaching. First, the two-group design of the study did not include a third experimental group that received face-to-face coaching. In such a study design, the experimental online coaching group and experimental face-to-face coaching group would participate in the same coaching program using the same exercises and discussion topics. Results from the two experimental groups could then be compared to each other as well as to those of the waitlist control group. The study would then be able to directly investigate the relative effectiveness of online coaching as compared to face-to-face coaching.
The present study was not designed to take consideration of participants’ relative experience in using online communication methods. It is possible that the relative online experience or technical proficiency of a participant may somehow influence the quantity or character of his or her interactions in an online coaching context. This limitation could be extended to also consider extroversion and introversion personality types, as there have been studies that have found relationships between these factors and online community participation and involvement (e.g., Kavanaugh, Carroll, Rosson, Zin, & Reese, 2005).

Finally, the quantitative design of the present study did not afford the opportunity to capture, categorize, and explore participants’ experiences from having participated in the online coaching program. The participants’ responses during the program and their comments about the program itself provided fertile commentary that was, unfortunately, inappropriate for inclusion in the present study. As opposed to quantitative study designs, qualitative designs “enable the researcher to understand and capture the points of view of other people without predetermining those points of view through prior selection of questionnaire categories” (Patton, 2002, p. 21). A qualitative study or a mixed methods design involving online coaching would likely be able to glean value from these experiences for the benefit of the field in terms of discovery and expanded knowledge.
**Recommendations for Further Study**

There are several opportunities to build on the present study. First, future research should aim to replicate the present study with a larger sample size. A larger sample would improve the observed power of such a study’s results and allow a Factorial MANOVA procedure to examine interactions and main effects for Coaching X Gender. Additionally, future online coaching studies could build on the present study by targeting specific populations or types of coaching services. For example, future online coaching studies may include studies involving executives, sales professionals, or nurses. Other studies may examine online wellness coaching or online career coaching specifically.

Based on the present study’s observation that varying levels of participation led to disparate results in terms of hope outcomes, it is recommended that future research investigate the relationship between participation levels and coaching outcomes. Users of online communication formats including discussion forums, support communities, and social media often exhibit an “ebb and flow” of participation over time. This may suggest that online coaching programs will be more fluid than traditional formats in terms of coachee participation. Coachees may dip in and out of the online coaching relationship the same way they connect and disconnect with members of their online social networks. This possibility heightens the need for improved understanding of the relationship between participation levels and online coaching outcomes.

Another suggestion for future research would be to conduct a multiple-group experimental study involving some combination of an experimental face-to-face coaching group, an experimental telephone-based coaching group, an experimental online coaching
group, and a waitlist control group. Neither researchers nor practitioners should be satisfied to learn only that online coaching is effective. Rather, additional research needs to be conducted to determine how effective online coaching is relative to other coaching formats in a variety of situations.

Finally, future research of a qualitative nature is also necessary to increase the field’s understanding of the online coaching experience. Such research should center on both the experiences of the online coachee and those of the online coach. This type of qualitative research may lead to new discoveries and the development of novel theories that might improve the design, delivery, and effectiveness of future online coaching services.

Conclusion

Rapid growth in both the coaching industry and in the use of Internet-based communication technologies has made the practice of online coaching inevitable. Practice without a foundation of research currently threatens the coaching industry, so empirical research that sought to answer the question “Is online coaching effective?” was designed to address the existing gap in the literature. A review of extant literature in the fields of coaching psychology, goal theory and motivation, and Internet technology led to the development of a hypothesis that an online evidence-based coaching program would be effective in the coaching outcomes of goal attainment, subjective well-being, and level of hope. The design of the present study was a randomly assigned posttest two-group
A One-Way MANOVA was significant for the overall comparison between the experimental coaching and waitlist control group as were post-hoc univariate tests of goal attainment and subjective well-being. A post-hoc univariate test of hope was nonsignificant.

The potential benefits from the online delivery of coaching services are substantial. Online communication technologies present an opportunity to unite coachees with professional coaches in a shared environment without regard to geography or time. Groups of individuals who have similar goals or life circumstances and who may otherwise be unable to gather in a physical sense can easily do so in an online environment. Future online coaching programs may benefit remote salespersons, teleworkers, small business owners, stay-at-home mothers, and deployed military personnel. The social nature, scalability, and economic feasibility of online coaching may increase the availability and consumption of coaching services in the future. Should this happen, the present study indicates that an evidence-based coaching program can be effective when delivered through an online format.

Coaching psychology researchers and professional coaches can consider this study a first chapter in a new line of science and practice. As such, it is also merely a starting point for future research and development. The coaching industry and the online landscape continue to change rapidly. Online coaching seems poised for significant growth in the future as coaching capabilities, the demand for coaching’s considerable benefits, and technical advancements continue to evolve and become melded together. The present study has made an important contribution to the literature, but a far greater understanding of the psychology of online coaching and the proper commercial adoption
of its effective and ethical practices remain essential to the realization of the full potential afforded by this new method of delivering coaching services.
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APPENDIX A. STRUCTURE OF THE ONLINE COACHING WEBSITE

Home

Coaching Program

1. Welcome!
2. Personal Values
3. Goal Structure
4. Goal Setting
5. Goal Attributes
6. Connectedness
7. Resources
8. Action Plan

9. Commitment
10. Receiving Feedback
11. Building Momentum
12. Capturing Learning

Celebration!

What’s Working?
What’s Not Working?

Member Profiles

Frequently Asked Questions
Helpful Tips and Acceptable Use

Resource: Exercise 2

Legend

Discussion Forums
Static Webpages