RUNNING WITH SOCIAL MEDIA:
SOCIAL NETWORK SITES AND THE ADOPTION OF MARATHON RUNNING

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ABSTRACT

With steady increases in social media use and Internet use for health information in general, individuals are turning to their interpersonal, social networks to find subjective evaluation information regarding health-related behavior. At the same time, marathon completion rates have been steadily increasing and are now at an all-time high. Scholars have assessed varying factors that contribute to successful adoption of marathon running, but none yet have examined the ways in which social media may be affecting those factors. Using framework and theory from the fields of communication, sport psychology, behavior, and health, this study identified relationships between social media use and other factors related to marathon-running adoption. It found that there is a strong, positive, and significant correlation between social media use and perceived observability of marathon-running activity on SNS; a moderate, positive, and significant correlation between social media use and athletic identity; and also a strong, positive, and significant correlation between perceived observability of marathon running on SNS and perceived competence to successfully adopt marathon running.
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CHAPTER 1: INTRODUCTION

The marathon, a long-distance race in which participants run a stretch of 26.2 miles, has risen in popularity in recent years. According to Running USA (2012), in 1976, there were approximately 25,000 marathon finishers in the United States. In 2011, the approximate number of marathon finishers rose to an all-time high of 518,000, which is significantly higher than the number of finishers just five years previous, which was 410,000 (Running USA). Although the finishers of a marathon differ greatly in terms of age, 52 percent of the finishers in 2011 were ages 20 to 39 (Running USA).

At the same time, social media use has continued to rise. In 2012, 66 percent of online adults in the United States used social network sites (SNS), compared to just 8 percent in 2005 (Madden & Zickuhr, 2011). This study uses the terms SNS and social media interchangeably. Adults ages 18 to 49 make up 65 percent of SNS users (Brenner, 2012). With more people engaging in social media, social networks can grow larger thereby allowing individuals more opportunities to engage in computer-mediated communication with greater numbers of people who comprise a wide variety of contexts. In addition, the average SNS user has more close ties than the average American, illustrating the powerful social effects of an SNS (Brenner, 2012).

The overlap of ages of individuals who make up both the largest numbers of marathon runners as well as those who are considered the heaviest users of SNS, paired with the synonymous rise of marathon finishers and SNS users in recent years, leads one to question whether there is a relationship between the adoption of marathon running and SNS use. Rogers’ (2003) diffusion of innovations framework was used as a guide for this study.

Rogers (2003) defines the diffusion of an innovation as “the process by which (1) an innovation (2) is communicated through certain channels (3) over time (4) among members of a
social system” (p. 11). For the purposes of the study, the focus centered on the first two elements, the innovation and communication channels. Rogers (2003) defines an innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption,” (p. 12). For many individuals, the sport of marathon running may be perceived as a new practice. A communication channel, according to Rogers (2003), is “the means by which messages get from one individual to another,” (p. 18). As most SNS provide mechanisms for posting public and private messages for other members of the site (boyd & Ellison, 2007), these can be considered a communication channel. As the literature review will demonstrate, marathon running can be considered an innovation and SNS, such as Facebook, which is used by 92 percent of SNS users (Hampton, Goulet, Rainie, & Purcell, 2011), can be considered a channel through which messages regarding marathon running are exchanged, and which may be aiding in the adoption of marathon running.

At a time when Americans are significantly more likely to be obese than they were in 2008 (Mendes, 2012), the need for physical fitness becomes increasingly relevant. With obesity comes a host of medical issues, and physical fitness in the form of regular exercise can help. Not only can regular exercise combat obesity, but it has also been shown to be “highly effective for the prevention and treatment of many common chronic diseases, and [improvement of] cardiovascular health and longevity” (Mayo Clinic, 2012, par. 2). The problem, however, is that on average, 50 percent of individuals who begin an exercise program quit within the first three to six months (Marcus, Rossi, Selby, Niaura, & Abrams, 1992). One way to increase continuance in an exercise program is to increase psychological motivations for participation (Anshel, 2012). Social media may be one way of helping to do this.
While previous researchers have studied motivations for marathon running (Masters, Ogles, & Jolton, 1993; Masters & Ogles, 1995; Horton & Mack, 2000; Havenar & Lochbaum, 2007; Deaner, Masters, Ogles, & LaCaille, 2011), few if any have explored the role of social media use and marathon motivations together. The idea that increased adoption of marathon running may be fueled at least in part by social media use has not gone totally unnoticed. Webley (2010) wrote a *Time Magazine* article with the title “Running in Marathons: Facebook Made Me Do It” that suggested social media as a main source for the increased participation in marathon races. Scholarly research on the topic, however, is lacking if not nonexistent. This study aims to contribute to the fields of communication, health, behavior, and sport psychology with research on this topic.

**Research Objectives**

This study explored the relationship between the adoption of marathon running and social media use for individuals. The following research objectives were used to guide the study:

1. Examine the relative importance of social media as a source of influence for marathon running.
2. Explore the ways in which social media use may contribute to the adoption of marathon running.
3. Determine whether social media use helps to motivate runners to successfully complete a marathon-training program.
CHAPTER 2: LITERATURE REVIEW

Considerable increases in social media use and marathon participation in the United States occurring at the same time (Brenner, 2012; Running USA, 2012) lead one to question the relationship between the two activities. While scholars in the past have addressed the topics of motivation and marathon running, the advent of social media brings a new question to the forefront: What relationships does social media have with an individual’s intentions to run and complete a marathon? This chapter presents a review of the literature on what previous scholars have found has motivated individuals in the past to run and complete marathons, social media use, the ways in which individuals are putting social media and marathon running together, and the ways in which social media may be helping individuals to adopt marathon running.

Marathon Running

Running a marathon typically takes a large commitment on behalf of participants. In a survey of more than 11,800 runners in the United States, respondents who ran a marathon reported running approximately 4.4 days per week for an average of 29.4 miles (Running USA, 2012). Most marathon training programs are designed to last 18 weeks (Hoefs, 2011), however this duration can vary depending on a participant’s fitness level. Running this frequently at long periods of time presents extremely challenging conditions, so it is not surprising that many individuals who begin training for a marathon drop out before the race. Havenar and Lochbaum (2007) studied first-time marathon runners and found that 70 percent dropped out before completing the race. This section will present literature that guided the study for determining constitution of adoption of marathon running and identifying factors that encourage continuance.
Determining the constitution of adoption. When considering marathon running as an innovation, what must be determined is what constitutes adoption. Deciding to run a marathon, registering for one, and starting a marathon-training program all signify the beginning of adoption. However, as Masters and Ogles (1995) have pointed out, the act of adhering to an exercise program, marathon running in particular, involves enduring extremely challenging circumstances. It is especially important to look at those who become marathon runners versus those who do not because not all individuals who begin an exercise or training program sustain it. As Marcus et al. (1992) found in their study of exercise adoption and maintenance, approximately 50 percent of people who begin an exercise program will drop out in the first three to six months. For marathon runners, as Havenar and Lochbaum (2007) found in their study, this number is significantly higher.

Many of the challenges associated with a marathon occur in the training period leading up to the race. During this time, many individuals drop out of their training, discontinuing the adoption of the innovation (Havenar & Lochbaum, 2007). Thus, this study considered adopters to be those individuals who made it up to the point of picking up a packet for the 2012 Honolulu Marathon. Marathon races typically distribute packets in the one to five days preceding the race. The assumption will be made that getting to this point meant that the individuals have endured the challenges posed by training without rejecting the innovation. Individuals must stay motivated during training in order to reach the race. For the online surveys, individuals who had either run a marathon within the past 12 months or planned to run a marathon in the next 12 months were considered adopters. More on those individuals is presented in Chapters 4 and 5. The following will discuss some factors that may affect that motivation.
Marathon running motives. Previous investigations of motivations for marathon running have found there are distinct differences in major motivations for varying levels of participation, such as first-time marathoners, mid-level marathoners, and veteran marathoners (Masters & Ogles, 1995). In their study of marathon runners at different levels of experience, Masters and Ogles (1995) found that first-time marathon runners consistently identified certain physical and extrinsic goals as major sources of motivation, such as weight concerns. This contrasted with more experienced marathon runners, whose main reasons for continuing running marathons focused more on intrinsic and psychological benefits, such as variables concerned with personal and social identity.

The idea of identity plays into other studies as well. Horton and Mack (2000) expounded on the idea of maintaining athletic identity, as they refer to it, in their study of 236 runners and how the identity affected other aspects of their lives. They found that runners with high athletic identity reported more commitment to running as well as an expanded social network, in the form of an increased number of friends in their overall social network, and better athletic performance. Runners with high athletic identity also associated with expanded social networks that consisted of higher proportions of friends who were runners.

In another study, which looked more closely at first-time marathon runners, Havenar and Lochbaum (2007) examined the differences in participation motives for first-time marathon finishers and what they refer to as “pre-race dropouts.” In their study, they surveyed 106 first-time marathon runners, 72 females and 34 males, all over the age of 18, which they recruited at pre-training informational meetings from two separate marathon-training organizations. Both organizations were non-profit and both provided free training and coaching in exchange for a set dollar amount to be raised by each participant for a particular charity. Using Masters, Ogles, and
Jolton’s (1993) Motivations of Marathoners Scale, along with additional questions regarding gender and running experience, Havenar and Lochbaum (2007) assessed reasons for the participants to begin marathon training. They then compared the motives with race results from the marathon race to differentiate the finishers from the dropouts. They found that 70 percent of the sample discontinued training prior to race completion. Compared to the rate of dropouts for general exercise programs, which Marcus et al. (1992) found was 50 percent, the percentage of marathon-running dropouts is significantly higher. Havenar and Lochbaum found that pre-race motives for finishers versus dropouts differed greatly. The results showed that the dropouts were more strongly motivated by weight concerns and recognition motives than finishers. However, they also note that the social motives were of less importance than weight concerns for dropouts.

Intrinsically motivated individuals are more likely to complete an exercise program, such as marathon running, than those who are extrinsically motivated (Deci & Ryan, 1985; Anshel, 2012). Thus, in order to increase the likelihood of continuing an exercise program, individuals must find the program intrinsically motivating. Ryan and Deci (2000) define intrinsic motivation as “doing an activity for its inherent satisfactions rather than for some separable consequence” (p. 56). Social media use may appeal to certain factors that, according to Deci and Ryan (1985), facilitate intrinsic motivation, such as perceived competence and social comparison. This may lead to lower rates of discontinuance. Before social media can be discussed in relation to marathon running, however, it will first be defined and put into perspective in the next section.

**Social Media Use**

boyd and Ellison (2007) define social network sites (SNS) as “web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2)
articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system,” (Social Network Sites: A Definition section, para. 1). SNS use has increased dramatically. In 2005, only 8 percent of online adults used SNS (Madden & Zickuhr, 2011), compared to 66 percent in 2012 (Brenner, 2012).

In 2011, Facebook was the dominant SNS, with 92 percent of SNS users, followed by MySpace at 29 percent, LinkedIn at 18 percent, and Twitter at 13 percent (Hampton et al., 2011). The ways in which individuals use social media vary. Hampton et al. (2011) looked into how the average SNS user engages with the various platforms and found that Facebook users have a tendency to be more trusting than others. Further, they found that Facebook users also get more social support than other individuals—in every form of support: emotional, companionship, instrumental aid, and total support (Hampton et al., 2011). They also found that Facebook users tend to be more politically engaged and also that the platform “revives dormant relationships” (Hampton et al., 2011, para. 12). Although Facebook has been established as the dominant platform among current SNS users, it should be noted that it is just one form of social media and one of many communication channels through which individuals may gather information regarding marathon running. The following section will review literature on the ways in which people use social media to gather and post information related to physical fitness, specifically in relation to running and marathons.

**Marathon Running and Social Media Use**

At the same time that more American adults than ever are participating in SNS (Brenner, 2012), they are also getting more exercise and fitness information online than ever before (Fox &
Jones, 2009). Of Internet users who report looking online for health information, 52 percent have looked for information related to exercise or fitness, according to Fox and Jones (2009).

Marathon organizers may have caught on to the trend. The biggest marathons in the country, New York, Chicago, Boston, Marine Corps, and Honolulu (Running USA, 2012), all utilize technology that allows participants the option to have Facebook status updates post automatically when they cross various points of the race, according to a Google search that included the names of the various marathons and the phrase “automatic Facebook updates.” There are countless more marathons internationally that take advantage of this capability as well.

Runners also use social media during training leading up to the marathon. Nike Digital Sport software, for example, integrates with a runner’s shoes, iPhone or iPod, and Facebook account simultaneously. It logs mileage and automatically posts messages to that user’s Facebook account (if he or she chooses that option). If that user’s friends “like” the status, the runner will hear applause through his or her headphones. Not only will the runner be publicizing training, but he or she will also receive instant gratification from his or her social network. The Nike Digital Sport technology has resonated with users and had approximately five million runners utilizing their services as of 2012 (Cendrowski, 2012). Although Nike is a major player in the realm of smart-phone applications (apps) catering to runners on social media, it is not the only one. The top-rated smart-phone apps for runners, such as Runkeeper, iMapMyRun, miCoach, SmartRunner, and Endomodo (Buckingham, 2011), all come with capabilities to connect to Facebook, according to a Google search of each of the apps. This makes announcing intentions to a wide group of people incredibly easy for runners utilizing these apps.

If an individual announces intentions to run a marathon on Facebook, it may make him or her more accountable to the goal, which may further motivate the runner. As Horton and Mack
(2000) showed in their study of athletic identity, which they describe as “the extent to which a person identifies with the athlete role” (p. 102), runners who identify themselves as such may push themselves to compete in order to fulfill that identity, more so than an athlete with low athletic identity. Identification as a marathon runner may also carry a certain level of prestige for some individuals (Delmont, 2006). Acquiring that title may further motivate those individuals to pursue marathon running. As Rogers (2003) points out, for many individuals, the desire to gain social status can be a major motivation for adoption. Perhaps if an individual observes satisfied adopters of marathon running have gained a perceived level of social status, they may consider taking it up as well. Some individuals may gain insight as to satisfied adopter behavior via social media. The next section will attempt to glean insight as to how social media use might play a role in influencing individuals to adopt and sustain marathon running.

**Social Media Aiding in the Adoption of Marathon Running**

The second element of the diffusion of innovations is the communication channel, which Rogers (2003) describes as the “means by which messages get from one individual to another,” (p. 18). SNS provide channels for interpersonal communication, with messages typically observable by participants outside of the exchange. Because of the extreme challenges posed by marathon running, Masters and Ogles (1995) suggest social reinforcement as a potentially necessary element for individuals to persevere in the sport. Social media may be helping in the adoption of marathon running due to its persuasive nature, its effects on the perceived attributes of marathon running, its role in athletic identity, and its confirming qualities. These factors will be discussed further in the following sections.
**Positive and persuasive nature of social media.** In order to help reduce uncertainty regarding a particular innovation, individuals may seek out information about an innovation’s expected consequences (Rogers, 2003). After first acquiring knowledge of an innovation’s existence, individuals form an attitude toward it, which may lead to a decision to adopt or reject it (Rogers, 2003). As Rogers (2003) notes, when it comes to the innovation-decision process, individuals often depend heavily on the information they get from interpersonal communication in weighing their decision of whether to adopt. He says that potential adopters will model and imitate the behavior of their network partners who have previously adopted the innovation (Rogers, 2003, p. 19). Information about the experience of near peers, who are likely similar to the potential adopters, comes into play during the persuasion stage of the innovation-decision process (Rogers, 2003). This is the stage in which an individual forms an attitude toward the innovation that influences subsequent adoption or rejection. Many SNS come with the ability to make interpersonal communication available for mass audiences, blurring the lines of mass communication and interpersonal communication.

SNS bring something to the picture that might have been less likely before: greater visibility of others’ interpersonal communication. While in the past, this visibility required a physical proximity, this is no longer the case. Instead, a relational proximity may be required, or in some cases, no relationship at all, in order to achieve an online proximity that could allow such visibility. For example, if an individual’s friend engages in a conversation with someone else, that activity may be viewable by many others, either by connection to one of the individuals or by an individual allowing his or her activity to be publicly available. Marathon runners who post about their activity and engage in conversation with others about it on Facebook, for example, may be sharing their experiences with others that extend beyond their own networks.
Facebook does not allow users to filter content by topic, making all types of activity available for view. In this way, Facebook and other SNS may speed up both the knowledge and persuasion stages of the innovation-decision process by making persuasive information available to individuals who may not even be seeking the information.

Further, information that people post regarding marathon running may tend toward positive content. As boyd (2007) suggests in her discussion of networked publics and writing identity via SNS, there are many factors at work when communicating on social media, many of which may result in participants’ inclination to present themselves in ways they deem will be most well received by their peers. In other words, messages and profile components may be crafted in a way that will appeal to the most people, which typically results in a positive message. A collection of positive messages about marathon running, for example, may be observed by others who may then deduce that marathon running is nothing but beneficial. Potential adopters may not be aware of others’ negative experiences with marathon running because those negative messages may not be exchanged online. This may affect the innovation’s perceived relative advantage.

**Social media helping to increase marathon running’s relative advantage.** According to Rogers (2003), an innovation is “an idea, practice, or object that is perceived as new by an individual or other unit of adoption,” (p. 12). Rogers found that individuals assess an innovation based on perceived attributes, which include relative advantage, compatibility, complexity, trialability, and observability. One of the most important characteristics of an innovation associated with its adoption is its level of relative advantage, according to Rogers. For a particular innovation, the relative advantage is “a ratio of the expected benefits and the costs of
adoption of an innovation” (Rogers, 2003, p. 233). Some dimensions included in relative advantage that are relevant to this study are social prestige and immediacy of reward.

In his qualitative study of marathon runners and their friends, Delmont (2006) found that all interviewees described marathon participation as carrying a level of distinction among their social networks. In this way, marathon running has a certain level of self-described prestige, according to Delmont, and an individual may gain some of this prestige by simply announcing on social media their intentions to begin training. Further, because of social media’s ability for virtually instant updates, that individual may receive instant gratification in the form of social support from his or her network demonstrated through comments and/or likes.

**Showing people they can do it.** Another important aspect for an individual to consider adopting an innovation is that he or she must see it as feasible. Rogers (2003) describes the perceived attribute complexity as the degree of perceived difficulty associated with an innovation, saying the more complex an innovation is perceived to be, the less likely it will be adopted. The complexity of marathon running may be a large deterrent to potential adopters. It carries a certain weight of difficulty, however social media postings may demonstrate to individuals that the innovation is attainable by showing an individual’s peers’ successful experiences with marathon running. Further, that same individual’s peers may affect that person’s threshold for adoption, which Rogers (2003) says is reached “when an individual is convinced to adopt as the result of knowing that some minimum number of other individuals in the individual’s personal communication network have adopted and are satisfied with the innovation” (p. 355). If individuals observe others in their social network participating in marathon running, a form of pluralistic ignorance may occur. Rogers describes pluralistic ignorance as “the degree to which individuals in a system do not know about the extent of the
behavior of other members’ behavior in their system” (p. 356). Individuals may incorrectly assume that the majority of individuals in their personal network have adopted marathon running, even if this is not the case, which in turn may affect their threshold for adoption.

An individual’s personal network is likely to be made up of other individuals who are similar, what Rogers describes as homophily, or “the degree to which a pair of individuals who communicate are similar,” (p. 305). This is especially important in exchanging ideas, such as subjective evaluations of marathon running, because as Rogers points out, “the more homophilous that two individuals are, the more likely that their communication will be effective,” (p. 306.) Further, in regards to new ideas/innovations, “the communication of new ideas is likely to have greater effects in terms of knowledge gain, attitude formation and change, and overt behavior change,” (Rogers, p. 19). As the numbers of marathon finishers continue to rise (Running USA, 2012), the possibility for the numbers of individuals in an individual’s network who adopt marathon running also rises.

Bandura (1977a) also addresses the idea of an individual’s perceived ability to carry out a course of action in his self-efficacy theory. According to Bandura, an individual’s level of personal efficacy can determine his or her level of adoption of a particular behavior. Individuals may derive their feelings of self-efficacy through a process of social comparison with others (Feltz & Lirgg, 2001). This may happen in person, but also likely occurs online. According to Feltz and Lirgg (2001), the process typically involves a potential adopter observing the performance of other individuals who have adopted an innovation, taking note of consequences in order to form opinions on one’s own performance.

Paralleling these same ideas is perceived competence, which Deci and Ryan (1985) say is an especially important factor related to an individual’s adoption of a behavior. An individual
may increase his or her perceived competence of marathon running via social media. For example, if he or she sees individuals of various levels of experience achieving success in marathon running, this may contribute to perceptions of less complexity (and more perceived competence) regarding the innovation. Individuals may also receive information regarding competence in the form of direct feedback via social media. As social media participants tend to present themselves in ways they deem will be well received (boyd, 2007), it is likely that much of the communication presented via social media will tend toward positive content. Therefore, it is also likely that feedback an individual may receive via social media regarding marathon running will also tend toward positive connotations.

Perceived competence is also increased by way of social comparison, through which an individual gathers information on how to improve one’s own skills (Deci & Ryan, 1985). Further, as Delmont (2006) points out, the feasibility of marathon running is eased when an individual’s family, friends, and peers promote the activity. This promotion likely occurs via social media.

Delmont (2006) also discusses the idea of feasibility in his study of marathon runners in which they viewed the marathon “as a significant, yet attainable, individual achievement that serves as a leisure credential within their existing social networks and when meeting new people” (p. 6). He argues that marathon completion carries a certain distinction that is similar to that of education credentials such as a school from which an individual graduated. He expands on the attainability of the marathon by citing several interviewees who were introduced to the sport by siblings, friends, and acquaintances who made the race seem feasible. He suggests that satisfied adopters of marathon running serve as “promoters” for the marathon and that an individual’s knowledge of their participation serves as an “invitation” to run the marathon.
This promotion is certainly not limited to face-to-face interactions. Social media may also serve as channels through which individuals can share their experiences surrounding the marathon and therefore serve as an “invitation” to others who may not have previously considered participation.

Delmont (2006) expands on the idea of social networks as invitations for people to join marathons, saying that even among existing social circles, sub-groups of marathon runners also form, and “the desire to join these clusters would motivate individuals to participate in marathons” (p. 14). Perhaps if an individual discerned the formation of a sub-group in his or her social circle that consisted of marathon runners, it might perpetuate a desire to join that group and therefore to train for and complete a marathon as well. This can happen in a face-to-face setting, such as at a party, but may also happen online via social media.

Social media, as a channel for interpersonal communication, may aid in the formation of an attitude toward marathon running. Once an individual forms an attitude about a particular innovation, the decision of whether to adopt may lie in the innovation’s trialability (Rogers, 2003). Training programs are one way in which individuals may try marathon running, but they may also do so vicariously through observation of their near peers. The following section will review literature regarding this idea.

**Trialability and observability of marathon running via social media.** Another perceived attribute of an innovation, according to Rogers (2003), is the extent to which an individual can try the innovation on a partial basis, which can sometimes occur through observing others who have adopted the innovation (p. 177). Rogers also discusses the perceived attribute of observability, which he describes as “the degree to which the results of an innovation...
are visible to others” (p. 258). When it comes to marathon running, these two perceived attributes overlap, in part, on social media.

Before the widespread adoption of SNS, the observability of marathon running may have been limited, but now, it is increasingly visible through marathon-related posts via social media as well as the same channels that traditionally carried it in the past (e.g. print and television). Observing others who have adopted marathon running may factor in as the vast social network of a marathon participant sees satisfied adopters’ progress and success. According to Bandura’s (1977b) social learning theory, individuals act as models to other individuals. Those other individuals pay attention to and encode the model’s behavior and may imitate the observation. This may play out on social media. The friends in the runner’s online social network may view the runner as a model and perhaps observe that person losing weight, expanding his or her social network, and displaying happiness, as previous studies have suggested are typical outcomes of running a marathon (Horton & Mack, 2000). The observers may be more likely to imitate the behavior when they observe its positive reinforcements, something McLeod (2011) refers to as vicarious reinforcement. Further, as more and more individuals in that person’s social network display similar behavior (and similar vicarious reinforcement), the pressure to imitate may intensify as the person’s threshold for adoption is reached. However, McLeod introduces the term identification as well, which may be more appropriate for this discussion. According to McLeod, identification is similar to imitation. However, rather than copying a behavior as with imitation, identification may simply involve adopting a number of behaviors. In this case, the behaviors to adopt would include training for a marathon and posting updates and/or photos related to running onto a social media platform such as Facebook.
Rogers (2003) reflects this same idea in his discussion of trialability, which he says is an essential attribute that can lead to a decision of adoption of an innovation. Rogers uses the term “trial by others” in which he says a peer’s trial of an innovation may act as a substitute, in part, for an individual’s trial of an innovation (p. 177). If the peer who is demonstrating the innovation is seen as an opinion leader, this can speed up the diffusion process, according to Rogers. An opinion leader is able to informally influence other individuals’ attitudes or behavior, and they “are at the center of interpersonal communication networks” (Rogers, 2003, p. 27).

Offline, individuals may also try marathon running in the form of training leading up to the race. This can be done individually or with training programs that encourage the social aspect of the sport. As Rogers (2003) points out, “most individuals who try an innovation then move to an adoption decision if the innovation proves to have at least a certain degree of relative advantage,” (p. 177). If an individual posts information regarding marathon training via social media and receives encouragement or support from his or her peers, this may help to increase the perceived relative advantage of the innovation. Further, identifying oneself as a marathon runner may also help to further motivate an individual to continue training.

**Social media aiding in athletic identity formation and external regulation.** As scholars have found in previous research, high athletic identity is associated with increased likelihood for completion or continuance of a marathon or exercise program (Horton & Mack, 2000). By the very nature of SNS, which allow users to construct a public or semi-public profile (boyd & Ellison, 2007), individuals are afforded opportunities through which they can identify themselves as marathon runners to others.

This plays into the idea of external regulation, which is a form of extrinsic motivation that “occurs when behavior is regulated by rewards or in order to avoid negative consequences”
(Guay, Vallerand, & Blanchard, 2000, p. 177). While announcing intentions for marathon running in the past was often done in offline settings, which may have resulted in fewer people being aware of intentions, the advent of social media makes those announcements much more public and observable by many more people. Thus, an individual who has announced intentions to run may feel extra pressure to do so in order to avoid negative consequences he or she may perceive as a result of failing to meet this goal. Another factor that may come into play is the reinforcement of the decision to adopt marathon running, which occurs at the confirmation stage of the innovation-decision process (Rogers, 2003).

**Social media allowing for easier confirmation.** At this stage, according to Rogers (2003), an individual “seeks reinforcement for the innovation-decision already made, and may reverse this decision if exposed to conflicting messages about the innovation” (p. 189). This is an especially important stage when it comes to marathon running and exercise, as dropout rates for both are incredibly high, 70 percent and 50 percent, respectively (Havenar & Lochbaum, 2007; Marcus et al., 1992). Factors that may counter motivations to discontinue the innovation include an individual’s intrinsic motivation (Anshel, 2012; Deci & Ryan, 1985).

Social media may support marathon training by facilitating an individual's intrinsic motivation to do so. Having intrinsic motivation for an activity, such as sport and exercise, is central to starting and maintaining involvement (Anshel, 2012; Deci & Ryan, 1985). Therefore, finding an activity intrinsically motivating may lead to higher continuance of participation. Masters and Ogles (1995) found support for this in their investigation of the differences of participation motives for marathon runners at different levels of experience, saying “adherence to exercise may be enhanced if initial efforts are directed toward psychological variables” (Implications and Limitations section, para 2).
One such way an individual may facilitate his or her intrinsic motivation is through mentally rehearsing a successful performance (Ryan, Mims, & Koestner, 1983). Mentally rehearsing completing a race may be aided by actual images or videos individuals may see of others successfully completing marathons that are posted on SNS. Further, seeing others’ success may help to reinforce the idea that the adoption was a good one. Beyond that, if the individual themselves begins engaging in posting marathon running activity on SNS, he or she may receive positive reinforcements from network peers. This reinforcement can be used as feedback in which an individual can assess his or her competency in the behavior, which also facilitates intrinsic motivation (Deci & Ryan, 1985).

**Summary**

Marathon participation has increased steadily (Running USA, 2012) along with the rise in social media use (Brenner, 2012). The increases are occurring simultaneously. This leads to questions about how the two, social media use and marathon running, may be associated. Ideas of social learning theory, athletic identity, and intrinsic motivation, which may positively affect an individual’s adoption and continuance of marathon running, play out in a public way on social media and may possibly lead to further motivations to complete a marathon.

Additionally, as Rogers (2003) points out, interpersonal communication about an innovation has a strong influence on an individual’s attitude concerning adoption of an innovation. SNS allow for interpersonal communication to be viewable by an increased number of people, which may have far-reaching implications.

Although many studies on motivations for marathon running have been conducted, none yet have examined the role of social media use and marathon motivation together. The idea has
been brought up in general consumer, popular culture articles, such as in *Time Magazine* (Webley, 2010), but it has not yet been pursued in scholarly arenas.
CHAPTER 3: RESEARCH HYPOTHESES AND KEY CONCEPTS

Based on this literature review, hypotheses were generated regarding social media use, perceived observability, athletic identity, and perceived competence as they pertain to marathon running. These hypotheses as well as their implications in terms of adoption of marathon running will be discussed in greater detail in this chapter.

Interpersonal communication can help to persuade an individual in forming an attitude regarding a particular innovation (Rogers, 2003). In fact, Rogers (2003) says that this communication between an individual and his or her near peers, regarding their experience with the innovation is “at the heart of the diffusion process” (p. 233). Much of this can take place via social media, where interpersonal communication can occur between individuals and, at the same time, be available for other members in the network to view. Getting the subjective opinions of peers who have adopted an innovation helps individuals to form attitudes regarding that innovation, according to Rogers.

Observability, which Rogers (2003) describes as “the degree to which the results of an innovation are visible to others” (p. 258), may be increased for individuals who are active on social media compared to individuals who are not. Further, the nature of content individuals tend to post via social media sways toward positive, least-common-denominator messages that present individuals in ways they deem will allow others to view them favorably (boyd, 2007). In other words, individuals think about their audiences on social media and craft messages that will appeal to most of them. Individuals who post marathon-related items via social media may limit their postings to successes they’ve encountered. Other individuals who observe their peers’ satisfaction with marathon running may be more likely to imitate the behavior, as suggested by
Bandura’s (1977b) social learning theory in which individuals act as models to other individuals who may imitate observations after encoding behaviors.

To learn more about how social media use may relate to perceived observability of marathon running, the following hypothesis was addressed:

**H1: There will be a positive, linear relationship between social media use among marathon runners and perceived observability of marathon-running activity via social media.**

Social media use may also affect certain extrinsic motivations. While it has been said that intrinsically motivated individuals are more likely to complete a marathon (Anshel, 2012; Deci & Ryan, 1985; Havenar & Lochbaum, 2007; Horton & Mack, 2000), other extrinsic motivations may also be at play. One such motivation may lie in the formation of an athletic identity, which Horton and Mack (2000) describe as “the extent to which a person identifies with the athletic role” (p. 102). Horton and Mack found in their study of 236 marathon runners that higher athletic identity was associated with better athletic performance and more commitment to running, among other things. The formation and maintenance of athletic identity can occur through the influence of others as well as through an individual him/herself (Chen, Snyder, & Magner, 2010).

SNS, by definition, allow individuals to construct a public or semi-public profile (boyd & Ellison, 2007). Individuals can identify themselves as marathon runners via social media by simply announcing intentions to run a marathon or including any other marathon-related material on their profiles. Making this type of information available to one’s social network opens that person up for feedback and enhancement of the athletic identity.
Identifying oneself as a marathon runner may also impose external regulations on an individual by adding pressure to live up to an explicit goal. External regulation, according to Guay et al. (2000), “occurs when behavior is regulated by rewards or in order to avoid negative consequences” (p. 177). In terms of marathon running, individuals may feel pressure to fulfill their expressed goal of completing a marathon in order to avoid perceived negative consequences of failure to reach that goal.

This suggests that marathon-related activity on SNS fosters an increase in an individual’s athletic identity, which may subsequently lead to continuance of the adoption. To learn more about this issue, the following hypothesis was addressed:

**H2: There will be a positive, linear relationship between social media use among marathon runners and athletic identity.**

Often, with marathon running and other exercise programs, factors related to intrinsic motivation positively affect individuals’ success rate of completion and/or continuance (Anshel, 2012; Deci & Ryan, 1985; Havenar & Lochbaum, 2007; Horton & Mack, 2000). Feedback concerning competence and social comparison for obtaining information for improvement are two ways of helping to facilitate intrinsic motivation (Deci & Ryan, 1985). This activity can occur via observation and interaction on social media.

Perceived competence is especially important in decisions to adopt an innovation, and it parallels ideas of perceived complexity (Rogers, 2003) and self-efficacy (Bandura, 1977a). According to Deci and Ryan (1985), Rogers (2003) and Bandura (1977a), individuals determine their level of adoption of a behavior on the basis of their perceptions of abilities to carry them out. If an individual sees others with various levels of experience achieving success in marathon
running, this may contribute to perceptions of less complexity (and more perceived competence) regarding the innovation. Individuals may also receive information regarding competence in the form of direct feedback via social media. As communication via social media tends toward content participants deem will be most well received by peers (boyd, 2007), it is likely that much of this communication will skew toward positive meanings. Therefore, it is also likely that feedback an individual may receive via social media regarding marathon running will also tend toward positive connotations.

Perceived competence is also increased by way of social comparison, through which an individual gathers information on how to improve one’s own skills (Deci & Ryan, 1985). Further, as Delmont (2006) points out, the feasibility of marathon running is eased when an individual’s family, friends, and peers promote the activity. This promotion likely occurs via social media.

To learn more about how perceived observability may be related to perceived competence, the following hypothesis was addressed:

**H3: There will be a positive, linear relationship between perceived observability of marathon activity via social media and perceived competence for marathon running.**

**Key Concepts**

This section presents the conceptual and operational definitions of the key concepts constituting the research hypotheses. Each concept was evaluated in terms of its relationships with social media use and the adoption of marathon running. These concepts are: social media use, perceived observability, athletic identity, and perceived competence.
Social Media Use

**Conceptual definition:** This concept refers to an individual’s self-reported level of social media use.

**Operational definition:** To measure this concept, individuals were asked to rate the following statements using five-point-scale-type responses ranging from strongly disagree to strongly agree, unless otherwise specified. The questions have been adapted from Ellison, Steinfeld, and Lampe’s (2007) article on social capital and students’ use of SNS.

1. Social media is part of my everyday activity.
2. I feel out of touch when I haven’t logged onto social media for a while.
3. In the past week, on average, approximately how many minutes per day have you spent on social media?
   
   $1 = \text{less than 10}, 2 = 10-30, 3 = 31-60, 4 = 1-3 \text{ hours}, 5 = \text{more than 3 hours}$

Perceived Observability

**Conceptual definition:** This concept refers to the level of marathon-related activity an individual observes via social media. SNS allow individuals to engage in and observe interpersonal communication, which Rogers (2003) says is at the heart of the diffusion process, as individuals often rely on the subjective evaluations of their peers and near-peers in the formation of an attitude regarding an innovation. In regards to marathon running, increased perceived observability through SNS can allow potential adopters to view the progress and experience of those who have already adopted. These observations can factor into decisions of
not only whether to adopt or reject but also offer insight as to the various ways in which an individual can incorporate marathon running into his or her life.

**Operational definition:** To measure this concept, individuals rated the degree to which they agreed with the following statements, using five-point-scale-type responses ranging from strongly disagree to strongly agree.

4. I have seen the progress of my peers in their marathon running via social media.
5. I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.
6. I have observed marathon-related activity from my peers via social media.

**Athletic Identity**

**Conceptual definition.** According to Horton and Mack (2000), athletic identity refers to “the extent to which a person identifies with the athletic role” (p. 102). Horton and Mack found that individuals with high athletic identity were more likely to push themselves in order to fulfill the identity, compared to those with low athletic identity. For this study, the role individuals would identify with would be that of a marathon runner. Social media may assist in helping an individual to identify as a marathon runner through posting intentions to run a marathon or other marathon-related items.

**Operational definition.** To measure this concept, individuals were asked to rate the following statements using five-point-scale-type responses ranging from strongly disagree to strongly agree. The statements have been adapted from validity-supported instruments from Masters et al. (1993) and Chen et al. (2010). They appeared on a questionnaire as follows:
7. Identifying myself as a marathon runner helps me to earn the respect of people in general.

8. Many of my friends are marathon runners.

9. I feel proud to tell other people that I am a marathon runner.

Perceived Competence

Conceptual definition. This concept refers to the perception an individual holds with regards to his or her competence to successfully adopt a behavior. Many scholars have discussed the likelihood of adoption of behavior and its relationship to an individual’s perceived competence, using terms such as complexity, self-efficacy and feasibility (Rogers, 2003; Bandura, 1977a; Delmont, 2006; respectively). Further, environments that promote competence facilitate intrinsic motivation (Deci & Ryan, 1985), which has been shown to be a major motivator for completion of a marathon (Havenar & Lochbaum, 2007). For this study, perceived competence for marathon running may be increased through social media. Postings via social media may demonstrate to individuals that marathon running is an attainable behavior by showing an individual’s peers or near peers who have experienced success in the behavior as well as through providing competence-promoting feedback.

Operational definition. To measure this concept, individuals rated the degree to which they agreed with the following statements, using a five-point-scale-type responses, ranging from strongly disagree to strongly agree. The first two statements have been adapted from Ryan’s (1982) validity-supported Intrinsic Motivation Inventory:

10. Social media shows me that I do pretty well at marathon running, compared to my peers.
11. Social media has shown me that I understand marathon running pretty well, compared to my peers.

12. Peers’ posts about marathon running on social media helped me realize that I could do it, too.

The methods for distributing questionnaires, gathering, and analyzing data are described in the following chapter.
CHAPTER 4: METHODS

This chapter will present the methods used for data collection and analysis for this study. In order to achieve greater insight into the research hypotheses, the study gathered information from two different samples with different strategies for administration. This section will go over the methods and analysis, covering: the samples, the questionnaire, and data analysis.

The Samples

The first sample consisted of individuals who picked up their marathon race packets for the 2012 Honolulu Marathon, one of the largest marathon races in the United States (Running USA, 2012), two days before the race.

The second sample was also a nonrandom sample and consisted of individuals who are Internet users that identified themselves as marathon runners. These individuals were notified of the questionnaire via a posting on a popular running magazine’s website, runnersworld.com (Douglas, 2012). For the in-person questionnaire, the sample was not restricted in any way, except for age, which included only individuals who were 18 years of age or older at the time of administration. The online questionnaire was restricted to only individuals who were 18 years of age or older and also to those who had run or planned to run a marathon within one year.

The Questionnaire

A questionnaire was used in order to gain quantitative data. The data was used to explore various aspects of the study’s research hypotheses. The same core questionnaire items were distributed in two different ways, with slight variations. The first questionnaire, which was
distributed offline to runners attending the mandatory packet pickup of the 2012 Honolulu Marathon on December 7, 2012, two days preceding the race, included additional questions. These questions included place of residence and BIB/race number. These questions were asked in order to draw comparisons of the sample to the data provided by the Honolulu Marathon as well as to help facilitate additional analyses for potential future studies. This questionnaire was also presented in both English and Japanese formats because of the large number of participants coming from Japan.

The second method for distribution occurred online via a newswire posting on the website for *Runners World* magazine (Douglas, 2012) in which readers were given a link to the survey, posted on surveymonkey.com. The data collection period for the online survey was from December 13, 2012, to January 29, 2013.

**Data Analysis**

To analyze data from the questionnaires, responses were coded according to the key concepts. Scores ranged from one to five with one representing strongly disagree, two representing disagree, three representing neutral, four representing agree, and five representing strongly agree, unless otherwise specified, such as the statement asking how many minutes per day on average were spent using social media.

Indexes were created using the statements measuring each key concept and reliability analyses to determine Cronbach’s alpha for each index were run. The hypotheses were then analyzed using the indexes for each key concept and bivariate correlation analysis to calculate Pearson’s r while also testing for one-tailed significance.
CHAPTER 5: RESULTS

A total of 228 individuals took part in the survey. Of those, 123 (54 percent of the total number of respondents) took part in the in-person survey, which was administered at the 2012 Honolulu Marathon expo. The other 105 (46 percent of the total number of respondents) took part in the online survey, which was administered via surveymonkey.com and accessed through a link provided by a newswire posting on Runner’s World magazine’s website (Douglas, 2012). All participants were 18 years of age or older.

Marathon Expo Sample

The survey participants from the marathon expo consisted of 65 males and 59 females, representing 52 percent and 48 percent of that sample, respectively. Although this was not a random sample, it does come close to the demographics gathered from the Honolulu Marathon website, which state that participants consist of 53 percent males and 47 percent females. However, it should be noted that participants did not match up to the marathon’s overall demographics in other categories, such as place of residence. Most notably, of those who reported place of residence in the sample, only 15.6 percent were from Japan. According to honolulumarthon.org, more than 60 percent of participants reside in Japan.

When it comes to experience, these individuals can be categorized as rookies, mid-level, and veteran marathoners, using Masters and Ogles (1995) divisions, in which rookies are first-time marathoners, mid.levels are those participating in their second or third marathon, and veterans are those who have completed more than three. Of the reporting sample from the
marathon expo, 25.2 percent fall into the rookie category, while 29.4 percent can be considered mid-level, with the remaining 45.4 percent considered veteran marathoners.

**Online Sample**

The online participants were those who agreed they were 18 years of age or older and had either run a marathon in the past 12 months or planned to run a marathon in the next 12 months. The participants consisted of 46 males and 59 females, 44 percent and 56 percent, respectively.

Regarding experience, the same categories of rookie, mid-level, and veteran marathoners were used. Of those who reported number of marathons completed, only 5.7 percent can be considered rookie, with 44.7 percent considered mid-level, and the remaining 49.6 percent considered veteran marathoners. The small number of rookie marathoners in this sample may be due in part to the method of distribution for this online survey, as readers of *Runners World* magazine’s online newswire may have already adopted running as part of their lifestyle.

**Total Sample**

The total sample, from the expo and online participants, compares to marathon finishers nationally in the following ways, with national data from Running USA (2012): The total reporting sample consisted of 46 percent males and 54 percent females, while the national data suggests finishers were 59 percent male and 41 percent female. For age, the reporting sample’s median age is 33, while the national data’s median age was 37. In the national data, finishers ages 25 to 44 made up the largest age group, consisting of 57 percent of respondents. This same age group in the reporting sample made up 61.4 percent of respondents.
In general, this group tended to be moderate to heavy users of social media. For example, 81.6 percent of those who answered their level of agreement with the statement “Social media is part of my everyday activity,” either agreed or strongly agreed with the statement. Further, 55.9 percent of those who reported their level of agreement with the statement “I feel out of touch when I haven’t logged onto social media for a while” either agreed or strongly agreed with the statement. The third statement measuring social media use asked how many minutes on average, per day, in the past week users spent on social media. Of those who answered the question, most (25.7 percent) fell into the category of one to three hours spent on social media. Extremely heavy users, who reported spending more than three hours on social media made up 17.6 percent of those who answered the question, and those who spent less than 10 minutes on social media made up 14.3 percent.

This group also generally reported agreement with statements regarding perceived observability. For instance, of those who reported their level of agreement with the statement “I have observed marathon-related activity from my peers via social media,” 76.3 percent either agreed or strongly agreed. Further, of those who reported their level of agreement with the statement “I have seen the progress of my peers in their marathon running via social media, 65.0 percent either agreed or strongly agreed. The final statement measuring perceived observability was “I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.” Of those who reported their level of agreement with the statement, 40.3 percent agreed or strongly agreed, and 36.4 percent either disagreed or strongly disagreed.

Regarding perceived competence, this group showed a tendency toward either neutral feelings or agreement with the items. For instance, of those who reported their level of
agreement with the statement “Social media shows me that I do pretty well at marathon running, compared to my peers” 45.2 percent agreed or strongly agreed, and 20.7 percent disagreed or strongly disagreed. For the next statement, “Social media has shown me that I understand marathon running pretty well, compared to my peers,” 53.9 percent of those who reported their level of agreement reported agreeing or strongly agreeing with the statement. For the final statement measuring perceived competence, “Peers’ posts about marathon running on social media helped me realize that I could do it, too,” 51.3 percent of those who reported their level agreement reported agreeing or strongly agreeing with the statement.

For athletic identity, this group in general tended to agree or strongly agree with the statements. For instance, 53.9 percent of those who answered their level of agreement with the statement “Identifying myself as a marathon runner helps me to earn the respect of people in general,” either agreed or strongly agreed with the statement. Further, of those who answered their level of agreement with the statement “I feel proud to tell other people that I am a marathon runner,” 75.2 percent either agreed or strongly agreed. Of those who answered their level of agreement with the statement “Many of my friends are marathon runners” 52.2 percent either agreed or strongly agreed.

The following sections will describe how these results were used to test the hypotheses.

**H1: There will be a positive, linear relationship between social media use among marathon runners and perceived observability of marathon-running activity via social media.**

First, to examine the relationship of social media use and perceived observability of marathon running, two indexes were created based on a reliability analysis of these items for the total sample. The social media use index was created using the three items measuring social
media use described above. A reliability analysis returned a Cronbach’s alpha of .792 for the three items together. The perceived observability index was created using two of the three items measuring perceived observability described above. The third item, which was the statement “I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself,” was left off because it reduced the Cronbach’s alpha. With the item in the index, the Cronbach’s alpha would be .685. However, without the item, the Cronbach’s alpha is a more reliable .823.

Table 5.1
Relation Between Social Media Use and Perceived Observability

<table>
<thead>
<tr>
<th></th>
<th>Social Media Use Index</th>
<th>Social media is part of my everyday activity.</th>
<th>I feel out of touch when I haven't logged onto social media for a while.</th>
<th>Minutes per day, on average, spent on social media in the past week</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observability Index</strong></td>
<td>Pearson Correlation</td>
<td>.576**</td>
<td>.537**</td>
<td>.499**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
<tr>
<td>I have seen the progress of my peers in their marathon running via social media</td>
<td>Pearson Correlation</td>
<td>.519**</td>
<td>.489**</td>
<td>.456**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>226</td>
<td>226</td>
<td>225</td>
</tr>
<tr>
<td>I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.</td>
<td>Pearson Correlation</td>
<td>.230**</td>
<td>.171**</td>
<td>.237**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.005</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
<tr>
<td>I have observed marathon-related activity from my peers via social media.</td>
<td>Pearson Correlation</td>
<td>.545**</td>
<td>.502**</td>
<td>.467**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).
The bivariate correlation analysis of the social media use index and the perceived observability index showed that there was a positive correlation that was strong (0.576) and significant (p < 0.001). Similar analyses were run with sub-samples of marathon-expo data only and online-only data, and positive, significant correlations were reported. H1 was supported.

**H2: There will be a positive, linear relationship between social media use among marathon runners and athletic identity.**

To examine the relationship of social media use and athletic identity, another index was created for athletic identity. The athletic identity index was created using two of the three items measuring athletic identity described in the previous section. The third item, which was the statement “Many of my friends are marathon runners,” was left off because it reduced the Cronbach’s alpha. With the item in the index, the Cronbach’s alpha would be 0.413. However, without the item, the Cronbach’s alpha is a more reliable 0.724.
### Table 5.2
Relation Between Social Media Use and Athletic Identity

<table>
<thead>
<tr>
<th>Athletic Identity Index</th>
<th>Social Media Use Index</th>
<th>Social media is part of my everyday activity.</th>
<th>I feel out of touch when I haven't logged onto social media for a while.</th>
<th>Minutes per day, on average, spent on social media in the past week</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>.274**</td>
<td>.245**</td>
<td>.287**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
<tr>
<td>Identifying myself as a marathon runner helps me to earn the respect of people in general.</td>
<td>Pearson Correlation</td>
<td>.283**</td>
<td>.248**</td>
<td>.306**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
<tr>
<td>I feel proud to tell other people that I am a marathon runner.</td>
<td>Pearson Correlation</td>
<td>.204**</td>
<td>.195**</td>
<td>.200**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.001</td>
<td>.002</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>226</td>
<td>226</td>
<td>225</td>
</tr>
<tr>
<td>Many of my friends are marathon runners.</td>
<td>Pearson Correlation</td>
<td>.090</td>
<td>.085</td>
<td>.150*</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.088</td>
<td>.101</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>228</td>
<td>228</td>
<td>227</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).
*. Correlation is significant at the 0.05 level (1-tailed).

A bivariate correlation analysis of the social media use index and the athletic identity index showed the correlation was positive, moderate (.274) and significant (p < .001). Similar analyses were run with sub-samples of marathon-expo data only and online-only data. The marathon-expo data returned a positive, moderate, significant correlation (r = .317, p < .001). However, it should be noted that when the social media use index and the athletic identity index bivariate correlation was run for the online-only data, the correlation was weak and not significant (r = .115, p ≤ .245). H2 was supported.
H3: There will be a positive, linear relationship between perceived observability of marathon activity via social media and perceived competence for marathon running.

To examine the relationship of perceived observability of marathon running and perceived competence for marathon running, another index was created for perceived competence. The perceived competence index was created using two of the three items measuring perceived competence described in the previous section. The third item, which was the statement “Peers’ posts about marathon running on social media helped me realize that I could do it, too,” was left off because it reduced the Cronbach’s alpha. With the item in the index, the Cronbach’s alpha would be .592. However, without the item, the Cronbach’s alpha is a more reliable .834.
Table 5.3  
Relation Between Perceived Competence and Perceived Observability

<table>
<thead>
<tr>
<th>Observability Index</th>
<th>Perceived Competence Index</th>
<th>Social media shows me that I do pretty well at marathon running, compared to my peers.</th>
<th>Social media has shown me that I understand marathon running pretty well, compared to my peers.</th>
<th>Peers' posts about marathon running on social media helped me realize that I could do it, too.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have seen the progress of my peers in their marathon running via social media.</td>
<td>Pearson Correlation .580** Sig. (1-tailed) .000 N 228</td>
<td>.529** .000 228</td>
<td>.545** .000 228</td>
<td>.426** 228</td>
</tr>
<tr>
<td>I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.</td>
<td>Pearson Correlation .501** Sig. (1-tailed) .000 N 226</td>
<td>.460** .000 226</td>
<td>.469** .000 226</td>
<td>.386** 226</td>
</tr>
<tr>
<td>I have observed marathon-related activity from my peers via social media.</td>
<td>Pearson Correlation .573** Sig. (1-tailed) .000 N 228</td>
<td>.521** .000 228</td>
<td>.540** .000 228</td>
<td>.402** 228</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (1-tailed).

A bivariate correlation analysis of the observability index and the perceived competence index showed the positive correlation was strong (.580) and significant (p < .001). Similar analyses were run with sub-samples of marathon-expo data only and online-only data, and similar correlations were reported. H3 was supported.

Additional Analyses

Although not included as part of this study’s hypotheses testing, respondents were asked to provide information regarding their expected completion time for their upcoming marathon.
races. For the marathon-expo participants, BIB/race numbers were also collected in order to draw comparisons between expected times and actual completion times.

Of respondents who reported expected completion times who also had available actual completion times, 9.8 percent completed the race within 5 minutes of their expected times, 41.4 percent were between 6 and 30 minutes off their expected times, and 48.8 percent were more than 30 minutes off. Of those who were more than 30 minutes off of their expected completion time, 90 percent came in slower than expected. This led to a question of association of perceived competence and estimated completion time.

A bivariate analysis of PCOMPIIndex2 and expected completion times showed a negative, moderate correlation (-.383) that was also significant (p < .001). This suggested that the higher a respondent’s perceived competence, the faster he or she expected to complete the race. The analysis of actual completion time versus expected completion time showed that reporting participants had a tendency to underestimate their finishing times (they guessed they would finish in a shorter amount of time).

Overall, the main hypotheses were each supported. Each was evaluated using bivariate correlation analysis, and each returned a positive, significant correlation. The contributions and implications of this research will be discussed in the following chapter.
CHAPTER 6: DISCUSSION

This research focused on the role social media may play in the adoption of marathon running. It builds on previous studies, which explore various factors leading to the adoption and continuance of marathon running such as intrinsic motivation (Deci & Ryan 1985; Guay et al., 2000), athletic identity (Delmont, 2006; Horton & Mach, 2000), self-efficacy/perceived competence (Bandura, 1977a; Feltz & Lirgg, 2001), and a range of varying motivations for exercise and marathon running (Havenar & Lochbaum, 2007; Marcus et al., 1992; Masters & Ogles, 1995; Masters et al., 1993). While scholars in the past have studied marathon running, few if any have done so in a way that incorporated social media use.

The literature review led to three hypotheses regarding social media use and factors that have been found to be related to the adoption of marathon running. This research has found that factors known to facilitate intrinsic motivation, such as perceived competence and perceived observability, do still come into play with the adoption of marathon running. Further, these factors and others relating to the adoption of marathon running may play out in a public way via social media. The three hypotheses will be discussed individually in this section.

**H1: There will be a positive, linear relationship between social media use among marathon runners and perceived observability of marathon-running activity via social media.**

In creating the index for observability in the testing of this hypothesis, the item “I have paid attention to individuals like me to see their experience with running before I decided to try it myself” reduced the Cronbach’s alpha. This item may not have been measuring the same construct as the other items in the index.
However, the hypothesis was still supported, and it suggests that individuals who use more social media may have a tendency to perceive observing more marathon-related activity than those who use less social media. With social media use at an all-time high (Brenner, 2012), this may suggest that individuals overall may be perceiving more observation of marathon activity than they may have without social media. According to Rogers (2003), interpersonal communication can help to persuade an individual in forming an attitude regarding a particular innovation. In this case, the innovation is marathon running, and the interpersonal communication may occur through social media. This may lead to subsequent decisions regarding the adoption or rejection of marathon running. However, given the least-common-denominator-type of content that is typically exhibited via social media, individuals may perceive more positive evaluations of marathon running than may actually exist. The rise of marathon finishers in recent years may be due, in part, to marathon-related communication occurring via social media.

**H2: There will be a positive, linear relationship between social media use among marathon runners and athletic identity.**

In testing this hypothesis, the item “Many of my friends are marathon runners” was left off of the perceived competence index because it reduced the Cronbach’s alpha. This item may have measured social factors rather than personal athletic identity. However, the hypothesis was supported.

This suggests that social media, which allow individuals to construct public or semi-public profiles, according to boyd and Ellison (2007), may aid in an individual’s ability to form an athletic identity. This extrinsic motivation may also serve as an external regulation that may
push individuals to carry out a behavior in order to avoid perceived negative consequences (Guay et al., 2000). Social media users may have higher athletic identity than those who do not use social media and therefore may feel more pressure to successfully complete their marathon races.

While the analysis of H2 for the total sample as well as the marathon-expo sample was both positive and significant, the analysis for the online-only sample returned a correlation that was not significant. This may have been due to the sample’s assumed preexisting propensity for running based on the method of distribution. A closer analysis of the online-only sample’s response for the statement “Identifying myself as a marathon runner helps me to earn the respect of people in general” shows that of those who answered the question, 28.6 percent answered neutral. Perhaps for this sample, of which 94.3 percent of respondents were mid-level to veteran marathoners, simple identification as a marathon runner may not be enough to gain respect.

H3: There will be a positive, linear relationship between perceived observability of marathon activity via social media and perceived competence for marathon running.

In testing this hypothesis, one item for the perceived competence index was left off because it reduced the Cronbach’s alpha. This item, “Peers’ posts about marathon running on social media helped me realize that I could do it, too,” may have been measuring something other than perceived competence. It should be noted that this was also the only item intended to measure perceived competence that was not taken from Ryan’s (1982) Intrinsic Motivation Inventory.

The hypothesis was still supported. Observation of an innovation allows for individuals to make social comparisons as to their own self-efficacy with regards to carrying out behavior to
adopt an innovation successfully. This perceived competence could greatly affect an individual’s
decision to adopt an innovation (Anshel, 2012; Deci & Ryan, 1985; Havenar & Lochbaum,
2007; Horton & Mack, 2000). This supported hypothesis suggests that individuals who perceive
observing more marathon-related activity via social media may also feel more competent to
successfully adopt marathon running compared to those who perceive observing less marathon-
related activity.

Because of its ability to span great geographical distances as well as its capability for
exposure to a great number of other individuals, social media affords individuals greater
opportunities for making social comparisons than they may be afforded in offline, face-to-face
settings. These social comparisons allow individuals to gather information as to their own skills
and likelihood of successfully adopting a behavior (Deci & Ryan, 1985).

Additional Analyses

Analyzing perceived competence, expected completion times, and actual completion
times showed that for this sample, individuals may have a tendency to perceive they can perform
better than they actually can. There is some discrepancy among perceived competence, expected
completion time, and actual performance. This leads one to question how actual performance
may affect perceived competence following the race and how this may relate to an individual’s
subsequent marathon-related behavior. Future studies in this area are suggested.

A larger, random sample might help to provide greater insight as to how these results
may represent the experiences of adopters of marathon running with social media. Other
limitations are discussed in the next chapter as well as conclusions, potential contributions, and suggestions for future research.
CHAPTER 7: CONCLUSIONS

This study was initiated as a result of reflection of the researcher’s personal experience with social media and the adoption of marathon running as well as personal observations of communication regarding marathon running exchanged via social media. This chapter will discuss overall conclusions of the study, potential contributions, limitations, and suggestions for future research.

Conclusions

The intent of this study was to gain a greater insight as to how social media may be affecting the adoption of marathon running. The objectives of examining the importance of social media as a source of influence and motivation for adopting and successfully completing marathon running were explored. The results showed that social media may play a major role when it comes to marathon running. Social media may help to influence not only decisions to begin a marathon training program but also motivations to adhere to a training regimen up to the point of successfully completing the race.

Contributions

This study fused theories and frameworks from multiple disciplines in order to build upon previous literature concerning marathon running, exercise, social media, motivations, and communication. While these topics have been explored in isolation in the past, this study hopes to contribute to several fields by encouraging future academic study and interest in how these ideas relate to one another.
From a practical standpoint, this study may also help to inspire and motivate individuals to seek out factors that may help themselves or others to sustain an exercise program. The rising rates of obesity and obesity-related disease continue to plague our society, and perhaps this study may help individuals to find ways to combat those issues, for running as well as for other health or exercise-related activities.

Limitations

The main limitation of this study is representativeness. While efforts were made to compare the samples against the population of marathon runners, especially in regards to data collected from the Honolulu Marathon, there was no access to contact information for these individuals in order to employ probability sampling. It is questionable how representative the respondents may be to other marathon runners.

Further, because of the method of distribution at the marathon expo, efforts were made to keep the questionnaire short in order to gain more participants. However, the indices created for the various key concepts could have been improved with a greater number of statements for measurement. Another limitation at the expo was the absence of a Japanese speaker to help distribute questionnaires. With approximately 60 percent of Honolulu Marathon participants coming from Japan, according to honolulumarathon.org, the absence of a Japanese speaker may have limited the number of respondents.

Suggestions for Future Research

This study showed that social media use might aid in the formation of athletic identity leading up to the race. Future studies should explore how this athletic identity carries over to
maintenance of the identity through additional races after an initial marathon. To what lengths do individuals go in order to maintain this identity after their first race?

Future studies should also look into more specific measures of SNS use. For example, SNS often come with features that allow members to form groups. To what extent do marathon runners utilize these features? Further, the connections among members in a social network are also of interest. Individuals with strong ties may not display all of their communication regarding marathon running via SNS, while those with weak ties may have more of a tendency to do this. Haythornthwaite (2005) discusses the idea of media multiplexity, which states that the stronger a tie between individuals, the more media they will use to communicate. Future studies should explore how media multiplexity may affect communication regarding marathon running posted via SNS.

The additional analyses of this research also provided some insight as to potential directions to take this line of study. The analysis of expected times in relation to perceived competence and compared to actual times was of particular interest. Perhaps this study could be used as the beginning of a new model to explore the various ways in which social media, perceived observability, and athletic identity come together to create perceived competence and subsequently expected completion time and actual completion time of racing events.

This idea has some parallels to Ajzen’s (1991) theory of planned behavior in which attitude, subjective norms, and perceived behavioral control lead to an individual’s intention to form a behavior and then to he/she carrying out the behavior. The distinction between intent to perform a behavior and actual implementation of that behavior is an important one. Rogers (2003) also makes this distinction in his discussion of the innovation-decision process. Runners may intend to finish the marathon within an allotted amount of time, and they may believe they
are capable of doing so, but there is a discrepancy between what they believe they are capable of doing and what they actually do.

What is especially interesting when it comes to marathon running is that many of these factors may be measurable to some extent using various forms of digital media such as smartphone applications, global-positioning devices, and race-timing chips. Researchers may be able to track points along the way of training to decipher when and how behavioral intent transfers to implementation. Further, social media provide records of data for which a researcher can refer back. Future studies should explore these ideas further.
APPENDIX A: IN-PERSON QUESTIONNAIRE (ENGLISH)

Social Media Use and Marathon Running

For this portion of the questionnaire, please rate each of the following items according to the scale below in terms of how strongly you agree or disagree with the statement.

<table>
<thead>
<tr>
<th>Social media include any web-based application used for social interaction (i.e. Facebook, Twitter, Instagram, blogs, discussion boards, and the like).</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media is part of my everyday activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I feel out of touch when I haven’t logged onto social media for a while.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have seen the progress of my peers in their marathon running via social media.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I have observed marathon-related activity from my peers via social media.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Social media shows me that I do pretty well at marathon running, compared to my peers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Social media has shown me that I understand marathon running pretty well, compared to my peers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Peers’ posts about marathon running on social media helped me realize that I could do it, too.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Identifying myself as a marathon runner helps me to earn the respect of people in general.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I feel proud to tell other people that I am a marathon runner.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Many of my friends are marathon runners.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

For the remaining questions, please choose the best response or write in your answer, where applicable.

12. Number of marathons completed: _____
13. Gender: ___ Male ___ Female
14. Which of these best describes your residence:
   ___ Hawaii ___ U.S. Mainland ___ Japan ___ Other (please describe):
15. Which of these best describes your ethnicity:
   ___ Hispanic/Latino ___ White ___ Black or African American ___ Native Hawaiian or Other Pacific Islander ___ Asian ___ American Indian or Alaska Native ___ Two or More Ethnicities
16. Age: _____
17. Bib/Race Number: _____
18. Expected completion time: _____
19. In the past week, on average, approximately how many minutes per day have you spent on social media? 1=less than 10, 2=10-30, 3=31-60, 4=1-3 hours, 5=more than 3 hours
APPENDIX B: IN-PERSON QUESTIONNAIRE (JAPANESE)

ソーシャルメディアとマラソン・ランニング

以下のアンケート部分では、1-5段階で最も当てはまると感じたものをお選びください。

<table>
<thead>
<tr>
<th>ここでは、ソーシャルメディアとは交流手段として用いられるWeb上のアプリケーションを指します。(例 Facebook, Twitter, Instagram,その他ブログ,掲示板,など)</th>
<th>全くそう思わない</th>
<th>そう思わない</th>
<th>どちらでもない</th>
<th>そう思う</th>
<th>とてもそう思う</th>
</tr>
</thead>
<tbody>
<tr>
<td>自分にとってソーシャルメディアは日常生活の一部である。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>少しの間でもソーシャルメディアにログインしないと、時代にとり残されてしまったりような気がしてしまう。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ソーシャルメディアを通じて、仲間や友人がマラソン・ランニングで上達している事を目にすることがある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>自分がマラソン・ランニングを始めようと決断をした以前に、自分と似た職業や経験に対して興味を見ただした事がある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ソーシャルメディアを通じて、仲間や友人のマラソン関連アクトアビリティについて見た事がある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ソーシャルメディアを通じて、“仲間や友人と比べて自分のほうがマラソン・ランニングに関してはよりよく出来ている”と感じる時がある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ソーシャルメディアを通じて、“仲間や友人よりも自分のほうが、マラソン・ランニングをよく理解している”と感じる時がある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>ソーシャルメディア上で仲間や友人のマラソン・ランニングに関する投稿を見ても“自分にもやれば出来る”と感じた事がある。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>自分をマラソンランナーだと認識することは、一般大衆からのリスペクト（尊敬）にもつながると思う。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>運んでいて、”自分はマラソンランナーである”と告げる事が誇りに思う。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>私の友達の多くがマラソンランナーである。</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

残りの質問部分は、最も適したものを選ぶか、該当する内容をご記載ください。

12. マラソン完走回数：
13. 性別: 男性　女性
14. あなたの居住地域：
   _ハワイ _米国本土 _日本 _その他 (ご記載ください): 
15. あなたの民族性：
   _ヒスパニック/ラテン _白人 _黒人 _またはアフリカンアメリカン
   _イギリス・ハワイアンまたはその他太平洋諸島出身 _アジア人
   _北アメリカ・インディアンまたはアラスカ・ネイティブ _二つ以上の種類・民族
16. 年齢：
17. セックス/レース番号：
18. 予想される完走タイム：
19. この一週間で考えた場合、平均で一日に何分ぐらいソーシャルメディアに時間を使うでしょうか。
   1=10分未満 2=10-30分 3=31-59分 4=1-3時間 5=3時間以上
APPENDIX C: ONLINE QUESTIONNAIRE

Note: This questionnaire was distributed online via surveymonkey.com. It did not visually appear online exactly as follows. However, the content was the same.

Social Media Use and Marathon Running

For this portion of the questionnaire, please rate each of the following items according to the scale below in terms of how strongly you agree or disagree with the statement.

<table>
<thead>
<tr>
<th>Social media include any web-based application used for social interaction (i.e. Facebook, Twitter, Instagram, blogs, discussion boards, and the like).</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social media is part of my everyday activity.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel out of touch when I haven’t logged onto social media for a while.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the past week, on average, approximately how many minutes per day have you spent on social media? 1=less than 10, 2=10-30, 3=31-60, 4=1-3 hours, 5=more than 3 hours</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have seen the progress of my peers in their marathon running via social media.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have paid attention to individuals like me to see their experience with marathon running before I decided to try it myself.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have observed marathon-related activity from my peers via social media.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social media shows me that I do pretty well at marathon running, compared to my peers.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social media has shown me that I understand marathon running pretty well, compared to my peers.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peers’ posts about marathon running on social media helped me realize that I could do it, too.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identifying myself as a marathon runner helps me to earn the respect of people in general.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel proud to tell other people that I am a marathon runner.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Many of my friends are marathon runners.</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For the remaining questions, please choose the best response or type in your answer, where applicable.

13. Number of marathons completed:

14. Gender: __Male ___Female

15. Which of these best describes your ethnicity:
   __Hispanic/Latino ___White ___Black or African American
   __Native Hawaiian or Other Pacific Islander ___Asian
   ___American Indian or Alaska Native ___Two or More Ethnicities

16. Age:

17. What is your expected marathon completion time for the marathon you are training for (or your finish time if you have already completed a marathon this year)?
References


http://jcmc.indiana.edu/vol12/issue4/ellison.html


