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Development of the Running Identity Scale

Matthew Philip Bejar
University of Tennessee - Knoxville, mbejar@vols.utk.edu

To the Graduate Council:

I am submitting herewith a dissertation written by Matthew Philip Bejar entitled "Development of the Running Identity Scale." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Kinesiology and Sport Studies.

Leslee A. Fisher, Major Professor

We have read this dissertation and recommend its acceptance:

Lars Dzikus, Jennifer Ann Morrow, Rebecca A. Zakrajsek

Accepted for the Council:

Carolyn R. Hodges

Vice Provost and Dean of the Graduate School

(Original signatures are on file with official student records.)

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Abstract

The construct of running identity has been explored in both the sport psychology (e.g., Busanich, McGannon, & Schinke, 2012) and sport sociology literature (e.g., Allen-Collinson & Hockey, 2007). In comparison to other athletes, runners are typically more susceptible to exercise addiction (Coen & Ogles, 1993; Sachs, 1981), eating disorders (Wheeler, Wall, Belcastro, Conger, & Cumming, 1986), and preoccupation with leanness (Allen-Collinson & Hockey, 2007; Busanich et al., 2015). While instruments such as the Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, & Linder, 1993) and the Public-Private Athletic Identity Scale (PPAIS; Nasco & Webb, 2006) measure athletic identity, there are no instruments to date that assess the psychosocial nuances of running identity, or the degree to which one identifies with the runner role. Therefore, the purpose of the current study was to develop a reliable and valid scale that assesses running identity. Items were created based on a literature review and a modified Delphi technique (Hsu & Sandford, 2007). Four hundred thirty-seven high-level U.S. runners completed 30 preliminary items in addition to the AIMS, PPAIS, demographic items, and three open-ended questions about running identity. An exploratory factor analysis with principal axis factoring and direct oblimin rotation was utilized to analyze the psychometric properties of the instrument. The resulting solution comprised 11 items and three factors: (a) *Running Performance* (α = .82); (b) *Running Exclusivity* (α = .81); and (c) *Running Self-Identity* (α = .67). The Cronbach's alpha reliability coefficient for the overall scale was .85. Running Identity Scale scores were positively correlated with both AIMS (r = .69, p < .01) and PPAIS scores (r = .56, p < .01), which demonstrated convergent validity. Implications and future directions are also discussed.

Keywords: athletic identity, distance running, cross-country, track and field

Preface

This dissertation is divided into three main sections. In Section One, a manuscript version of the study, which entails a brief introduction, methods, results, and discussion, is presented. Section Two includes an extended literature review, which includes four main topical areas: (a) sociocultural aspects of running; (b) identity, athletic identity, and social identity; (c) changes in athletic identity during injury, retirement, and forced termination; and (d) confirmatory factor analysis. In Section Three, an extended discussion of the results is provided.

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Section 1: Manuscript

Introduction

In psychology, *identity* has been defined as the “human capacity—rooted in language—to know ‘who’s who’ (and hence, ‘what’s what’)… knowing who we are, knowing who others are, them knowing who we are, us knowing who they think we are, and so on” (Jenkins, 2008, p. 5). Sport and exercise psychology researchers have examined athletic identity (Brewer, Van Raalte, & Linder, 1993), obligatory running (Coen & Ogles, 1993), and commitment to running (Carmack & Martens, 1979). However, running identity has not been conceptualized as thoroughly as the aforementioned constructs. This may be largely based on the assumption that such a measure would not be necessary given its resemblance to athletic identity.

Athletic identity is the degree to which an individual identifies with the athlete role (Brewer, Van Raalte, & Linder, 1993). This construct has been conceptualized on a continuum between a cognitive structure (in the narrowest sense) on one end and a social role (in the broadest sense) on the other (Brewer, Van Raalte, & Linder, 1993; Markus, 1977; Pearlin, 1983). A strong athletic identity may be associated with positive attributes such as having a strong sense of self (Brewer, Van Raalte, & Linder, 1993) and performing at a high level (Danish, 1983).

On the other hand, a salient and exclusive athletic identity can also be associated with various drawbacks. In particular, high-level athletes often experience identity foreclosure, which entails making a premature commitment to their sport at the expense of other identities and domains in their lives (e.g., academic, personal, social, spiritual, career; Petitpas & France, 2010). For example, college athletes may neglect academic roles (Adler & Adler, 1991) and career exploration (Lally, 2007). Furthermore, individuals with exclusive athletic identities have demonstrated difficulties coping with retirement (Brown, Glastetter-Fender, & Shelton, 2000; Kerr & Dacyshyn, 2000; Lally, 2007; Webb, Nasco, Riley, & Headrick, 1998), deselection

(Brown & Potrac, 2009; Grove, Fish, & Eklund, 2004), and injury (Allen-Collinson & Hockey, 2007; Brewer, Cornelius, Stephan, & Van Raalte, 2010; Fortunato & Manchant, 1999; Wiechman & Williams, 1997). In addition to having an influence on post-injury responses, an exclusive athletic identity may predict the incidence of injury. In particular, some researchers (e.g., Brewer, Van Raalte, & Linder, 1993; Young, 2004) have concluded that individuals with stronger athletic identities are more likely to overtrain and risk their physical health, subsequently increasing their chances of sustaining an injury. Additionally, for male athletes, a strong athletic identity has been shown to predict conformity to masculine norms (e.g., hazing, violence, low help-seeking attitudes; Steinfeldt & Steinfeldt, 2012) in U.S. college football players. Similarly, significant relationships have been observed among athletic identity, anger, and aggressiveness in male athletes who participate in contact (i.e., basketball, soccer, or wrestling) or collision sports (i.e., football or rugby; Visek, Watson, Hurst, Maxwell, & Harris, 2010). Consequently, athletic identity may have implications for moral identity and development. Within the sport of running, athletic identity has also been shown to be positively correlated with disordered eating and obligatory running (Gapin & Petruzzello, 2011).

The most widely used scale related to the assessment of athletic identity has been the Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, & Linder, 1993). Initially, the AIMS was developed as a unidimensional scale; however, subscales were later proposed. First, a factor analysis conducted by Brewer, Boin, Petitpas, Van Raalte, and Mahar (1993) revealed the following factors, each with three items: (a) *social identity* (e.g., “Other people see me as an athlete”), (b) *negative affectivity* (e.g., “I would be very depressed if I were injured and could not compete in sport”), and (c) *exclusivity* (e.g., “I spend more time thinking about my sport than anything else”). Additionally, as a result of a confirmatory factor analysis, Martin, Eklund, and

Adams-Mushett (1997) found a fourth factor, *self-identity* (e.g., “I have many goals related to my sport”) to separate self-referenced cognitions from the way that individuals perceive how others view them (i.e., social identity).

However, Nasco and Webb (2006) critiqued the AIMS for favoring items that assess private athletic identification based on prior research suggesting that athletic identity entails both public and private dimensions (Webb et al., 1998). They defined public identity as “our perception of how others see (and judge) us in a particular social role” (Nasco & Webb, 2006, p. 435). As a result, they developed the Public-Private Athletic Identity Scale (PPAIS), which comprised two factors that measure public athletic identity (e.g., “I often fear people will not like me as much if I do not compete well”) and private athletic identity (“I obtain personal satisfaction from competing in athletics”).

Running Identity

Building on Brewer, Van Raalte, and Linder’s (1993) definition of athletic identity, *running identity* can be described as the degree to which an individual identifies with the runner role. The inquiry regarding running identity as a distinct construct from athletic identity is warranted for multiple reasons. First, several researchers (e.g., Chan & Grossman, 1988; Furst & Germone, 1993; Pierce, 1994; Sachs, 1981) have indicated that runners are more susceptible to exercise addiction. In fact, the term *obligatory runner* has been used to describe those with exercise addition in this particular population (Coen & Ogles, 1993). Second, in comparison to other sports, runners have been shown to experience more anorexia nervosa, especially female individuals and those who run high mileage (i.e., $\geq$ 40 miles per week; Wheeler et al., 1986). Third, both male and female distance runners have exhibited preoccupation with their bodies, particularly taking pride in their leanness (Allen-Collinson & Hockey, 2007). This differs from

other sports that emphasize muscle mass (e.g., football, lacrosse). Likewise, male runners in Western countries typically hold different attitudes than male non-runners who may desire and take pride in large musculature (Leit, Gray, & Pope, 2002; Pope, Olivardia, Gruber, & Borowiecki, 2000).

Few studies in sport psychology and sport sociology have directly explored running identity or athletic identity in runners. For example, in a sport sociology study, Allen-Collinson and Hockey (2007) utilized autoethnography to explore running identity disruption during injury. They also employed Perinbanayagam's (2000) symbolic interactionism framework to categorize their own running identities into three classifications: (a) *materialistic* (e.g., running settings, personal appearance); (b) *associative* (e.g., running gear, acquaintances); and (c) *vocabularic* identifications (e.g., running lingo). The *materialistic* classification referred to how their particular identities were reflected through settings, props, and personal appearance (i.e., the use of certain running routes, maintaining low body fat levels during injury, and wearing particular clothing like waterproof running tights and "serious" running shoes). These props allowed them to maintain their running identities. The *associative* identity referred to the companionship and attention they experienced from others of the same identification group. For instance, they stated that through *materialistic* identifications, they witnessed *associative* identifications (e.g., recognition from other runners that they were wearing new shoes). The *vocabularic* identity was performed through particular speech that was specific to this group (i.e., they used certain words like "endured" and phrases like "digging in" to distinguish themselves from "less-committed, fairweather runners"). These examples represent subcultural aspects of running identity.

In a sport psychology study, Busanich, McGannon, and Schinke (2012) explored the food, body, and exercise relationship in young, semi-competitive distance runners. Using a

narrative analysis, they found that more competitive individuals participated in running to demonstrate superiority over others. Moreover, male and female runners described their bodies within the dominant discourses of hegemonic masculinity and hegemonic femininity, respectively. For example, male runners perceived that being an avid runner also allowed their bodies to withstand tough conditions and engage in more risk-taking behaviors. On the other hand, female runners developed pride through transforming their bodies into ideal, feminine representations. Distance runners in this study also relied on recognition or validation from others, and obsessed over body-altering behaviors (e.g., dieting, calorie deprivation, running excessive mileage). These findings illustrated how social and cultural forces shaped their running identities and, in turn, their exercise and health behaviors.

Statement of Problem

Although the term *running identity* has been used in both the sport psychology and sport sociology literature, there is no quantitative instrument that specifically assesses this construct. Furthermore, while running identity has been explored on both the social and personal levels in recreational runners (Abbas, 2004; Allen-Collinson & Hockey, 2007; Busanich et al., 2012; Shipway, Holloway, & Jones, 2013), there is surprisingly little research directly focusing on competitive (i.e., collegiate or professional) runners (e.g., Busanich, McGannon, & Schinke, 2014, 2016; McGannon, Curtin, Schinke, & Schweinbenz, 2012; Ronkainen, Watkins, & Ryba, 2016). Additionally, as discussed above, there are multiple nuances of running identity that are distinct from other sports. Therefore, the purpose of the current study was to develop a valid and reliable scale that assesses running identity using a sample of high-level runners.

Methods

Participants

Seven hundred eighty-five individuals were recruited via purposive and convenience sampling procedures to participate in the main phase (i.e., pilot testing) of the current study. More information about recruitment and the phases of the study is provided in the procedures. The sample included 130 participants who self-identified as non-runners, 210 as recreational runners, 39 as serious runners, 394 as collegiate runners, four as professional runners, and eight who did not specify. For the purposes of factor analysis, the sample was restricted to those who self-identified as serious, collegiate, or professional runners (*N* = 437) based on two reasons. First, it was assumed that high-level runners (i.e., the population of interest) would provide a more stable and accurate representation of running identity (Colton & Covert, 2007; DeVellis, 2012). Second, Brewer, Boin, et al. (1993) speculated that Brewer, Van Raalte, and Linder (1993) found the AIMS was unidimensional because they included a wide range of athletes (e.g., recreational/fitness, intramural/local/regional/, and intercollegiate/national) as well as non-athletes. However when Brewer, Boin, et al. and Martin et al. (1997) included only high-level (e.g., collegiate, national, and international) athletes in their samples, they found that the AIMS was multidimensional. Consequently, this sample was restricted to high-level runners.

The mean age of this smaller sample was 20.04 years (*SD* = 2.17 years) and comprised 233 females, 198 males, and five who self-identified as genderqueer/androgynous. Three hundred fifty participants self-identified as White/Caucasian (80.3%), 39 as Hispanic/Latino(a) (8.9%), 21 as biracial/multiracial (4.8%), 11 as African American/Black (2.5%), eight as Asian American/Pacific Islander (1.8%), and seven as American Indian/Native American (1.6%). These proportions are similar to the reported demographics for cross-country student-athletes

from the National Collegiate Athletic Association (NCAA) Divisions I, II, and III for the 2014-15 year (National Collegiate Athletic Association, 2015); however, individuals self-identifying as African American/Black were underrepresented (2.5% vs 7.9%), and all other racial groups were slightly overrepresented in this sample. Most participants were U.S. college students, including 126 first-years, 106 second-years, 100 third-years, 91 fourth-years, and 11 graduate students. Participants were represented from the NCAA Division I (*n* = 111), Division II (*n* = 71), Division III (*n* = 188) as well as from the National Athletic Intercollegiate Association (NAIA; *n* = 38) and the Northwest Athletic Conference (*n* = 7). They had an average of 7.44 years (*SD* = 2.9 years) of experience competing for a cross-county and/or track and field team at the elementary, secondary, collegiate, or club levels. Participants' mean weekly mileage within the past month before completing the survey was 41.4 miles per week (*SD* = 14.8 miles per week) for female runners and 52.4 miles per week (*SD* = 20.1 miles per week) for male runners. The somewhat large standard deviations in weekly mileage may have been attributed to the fact that not all athletes were in their competitive season (i.e., not all schools had indoor track as an official sport) given that this phase was completed in February. Furthermore, some participants were injured and thus running close to zero miles per week, which may have skewed the means and standard deviations.

Procedures

The current study was approved by the university Institutional Review Board (see Appendix A). The Running Identity Scale (RIS) was developed in three phases: (a) creation of items; (b) pretesting of the scale; and (c) pilot testing of the scale (see Figure 1).

Phase I: Creation of items. The RIS was adapted to a format similar to previous scales assessing athletic identity, including the AIMS (Brewer, Van Raalte, & Linder, 1993) and the

Public-Private Athletic Identity Scale (PPAIS; Nasco & Webb, 2006). In particular, the RIS contained items asking participants to rank their level of agreement with potential responses ranging from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Seven-point Likert-type scales have been shown to be ideal for allowing participants adequate flexibility to accurately rate the intensity of agreement (Colton & Covert, 2007). Items were created based on the procedures outlined by DeVellis (2012). Specifically, the content of items was based on a thorough literature review and feedback from nine experts who were sport psychology and/or sport sociology scholars who had conducted research on distance running (Delphi technique; Hsu & Sandford, 2007).

Literature review. The items were largely based on an exhaustive review of the literature pertaining to running and athletic identity. In particular, the first 10 items were modified from the AIMS to be more applicable to running. Generally, the word "sport" was changed to "running," and the word "athlete" was changed to "runner" (see Appendix B). For example, the item, "I have many goals related to my *sport*" was modified to "I have many goals related to *running*." Similarly, "Other people mainly see me as an *athlete*" was changed to "Other people mainly see me as a *runner*." Because the reliability of the AIMS was established through three different studies (Brewer, Van Raalte, & Linder, 1993), it was hypothesized that these 10 modified items would also be reliable and valid for the RIS.

An additional four items that reflected the psychological aspects of running identity were added. These included the following: "When I wake up in the morning, the first thing I think about is my run"; "My race performances have a big impact on my self-esteem"; "I spend a lot of my time researching race results"; and "I spend a lot of my time on running websites." Some of

these items were similar to (but not adapted from) the AIMS (Brewer, Van Raalte, & Linder, 1993) and were intended to tap into the specific nuances of running identity.

Furthermore, as previously discussed, some researchers (e.g., Nasco & Webb, 2006; Webb et al., 1998) have asserted that there is a public aspect of athletic identity in addition to a private dimension. As a result, items that assessed the public dimension of running identity (e.g., “Compliments from other runners about my times are important to me”) were included in the current study. Additionally, sport sociology literature on running identity and running subcultures helped inform these items. In particular, symbolic interactionism has been one of the most predominant theoretical frameworks utilized in sociology to understand identity, and, more specifically, running identity (Allen-Collinson & Hockey, 2007; Burke & Stets, 2009; Hewitt, 2007). Items on the RIS were, therefore, also created based on studies conducted by Allen-Collinson and Hockey (Allen-Collinson, 2003; Allen-Collinson & Hockey, 2007; Hockey, 2005) and their use of three symbolic classifications of running identity: (a) *materialistic*, (b) *associative*, and (c) *vocabularic* identifications (see Appendix C). In total, 26 items were adapted from Allen-Collinson and Hockey’s studies and the public dimension of running identity (which overlapped with the *associative* identification described by Allen-Collinson & Hockey).

Delphi technique. In addition to an extensive literature review, the Delphi technique was utilized to generate a list of additional items and to provide feedback on existing items. This method of controlled feedback provides anonymity and reduces the chances of certain group interaction effects (e.g., influences of dominant individuals, noise, and pressures to conform; Hsu & Sandford, 2007). Nine expert reviewers (six male and three female) who were sport psychology and/or sport sociology scholars and had conducted research on athletic identity and/or distance running were recruited for this purpose. This number of panelists has been

recommended for Delphi participants with homogenous backgrounds (Delbecq, Van de Ven, & Gustafson, 1975). Furthermore, several experts had previous competitive running experience.

This process, which consisted of four rounds, was adapted from the procedures outlined by Hsu and Sandford (2007). In the first round, Delphi respondents were informed of the purpose and format of the survey (see Appendix D). Subsequently, they were asked to provide feedback on a preliminary list of 40 items generated based on the literature review (see Appendix E). They also had the opportunity to suggest additional items. As a result of the feedback, seven items, which were primarily derived from Allen-Collinson and Hockey's symbolic interactionism studies (Allen-Collinson, 2003; Allen-Collinson & Hockey, 2007; Hockey, 2005) were eliminated. Additionally, per the suggestions of the Delphi respondents, 20 items were added, producing a net total of 53 preliminary items (see Appendix F). In the second round, the questionnaire with preliminary items was sent to the experts. They were asked to rate how well each item assessed running identity on a 4-point scale (1 = *not at all applicable*, 2 = *barely applicable*, 3 = *fairly applicable*, 4 = *very applicable*). Items that revealed a median of at least 3.25 and 70% of experts rating it a 3 or higher were deemed to be in "consensus" as credible items. This was based on Green's (1982) standard for achieving consensus. As a result, the scale was then condensed to 27 items.

In the third round, Delphi respondents received the same questionnaire in addition to the summarized ratings of each item from the prior round. They were asked to either revise their judgments or to qualitatively justify their reasons for not holding the consensus opinion. Although some experts revised their ratings in the third round, no items were added to or removed from the "consensus" list of items. In the fourth round, the respondents received a questionnaire with the remaining items, summary of ratings, and rationale for minority opinions

from the third round. At that point, Delphi respondents were provided one last opportunity to revise their judgments. No reviewer changed their opinions in this round; thus, 27 items emerged from the Delphi process. Appendix G provides a summary of the Delphi respondents' final ratings and reasons for not revising their original ratings.

Phase II: Pretesting of scale. Then, using purposive and snowball sampling procedures, the scale was pretested by soliciting feedback from 15 former U.S. collegiate track and field athletes (10 male, five female; 13 NCAA Division I, one NCAA Division II, one NAIA) who had graduated within the past five years. Furthermore, two were experts (one in sport psychology and one in sport sociology) who had conducted research in distance running. In line with the recommendations of Sheatsley (1983), 15 respondents allowed for adequate feedback. The respondents in this phase were delimited to former collegiate runners in order to preserve potential participants for the pilot test. Respondents were emailed the survey comprising the 27 approved items as well as a list of the rejected items from the Delphi process. Participants were also presented with a list of criteria and potential questions to consider as they evaluated the scale, which were based on Colton and Covert's (2007) recommendations (see Appendix H). As a result of the feedback, three items were added to the scale, producing a total of 30 items (see Appendix I).

Phase III: Pilot testing of scale. Two different sampling procedures were utilized for the pilot test. Current U.S. collegiate runners were recruited via purposive sampling procedures by contacting cross-country and track and field head coaches at various colleges and requesting that their athletes complete an online version of the survey (see Appendix J). This sampling method was employed due to its efficiency, convenience, and cost-effectiveness (Fowler, 2014). Ultimately, 412 individuals (mostly U.S. collegiate runners) participated in the online portion of

the current study. Additionally, using convenience sampling procedures, 373 college students in the Southeastern U.S. who were enrolled in kinesiology, recreation and sport management, and physical education courses were recruited to participate in the current study after obtaining permission from the instructor to distribute the survey at the beginning or end of class. Most of these participants were not collegiate runners and completed paper-and-pencil versions of the aforementioned survey. In total, the study comprised 785 participants. On the survey introduction page, participants were informed that participation was voluntary and that they could withdraw from the study at any time (see Appendix K). They were also notified that by beginning the survey, they voluntarily provided their consent. In order to preserve anonymity, IP addresses were not tracked by the online survey software.

In addition to the 30 preliminary items from the RIS, participants also completed the AIMS (Brewer, Van Raalte, & Linder, 1993) and PPAIS (Nasco & Webb, 2006). The AIMS comprises 10 items which assesses the strength and exclusivity of the athlete role on a seven-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Examples of items include “I spend more time thinking about my sport than anything else” and “Sport is the most important thing in my life” (see Appendices A, H). The AIMS has exhibited strong reliability with high Cronbach’s alpha values of .93, .87, .81 in Brewer, Van Raalte, and Linder’s (1993) three studies as well as a test-retest reliability coefficient of .89 over two weeks in their first study. These values indicate good reliability (George & Mallery, 2003).

The PPAIS (Nasco & Webb, 2006) assesses both public and private dimensions of athletic identity in addition to overall athletic identity. An example of an item that assesses public athletic identity is “I fear people will not like me as much if I do not compete well” (see Appendix H). An example of an item that assesses private athletic identity is “I obtain personal

satisfaction from competing in athletics." The PPAIS comprises 10 items with responses on a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). Regarding the reliability, Cronbach's alpha values of .74 and .75 have been reported for the public athletic identity and private athletic identity factors, respectively. The Cronbach's alpha value for the overall PPAIS was .73. These values demonstrate acceptable reliability (George & Mallery, 2003).

Additionally, participants completed three open-ended questions: (1) "What does running identity mean to you?" (2) "In your opinion, what are some unique aspects of running identity in comparison to other sports?" and (3) "Is there anything else that you want to share about your running identity?" These open-ended responses will be thematically analyzed and presented in a separate manuscript. Furthermore, participants completed demographic items such as age, gender, ethnicity, college athletic classification, academic classification, and history of injuries (see Appendix I). Respondents were also asked to self-identify as a non-runner, recreational runner, serious runner, collegiate runner, or professional runner. Finally, participants were asked to provide the number of years that they had been competing in running (i.e., cross-country and/or track and field), average weekly mileage in the past month, and the number of hours invested in running and running-related activities per week.

Data Analysis

Data cleaning. Prior to conducting any data analyses, the data were cleaned based on procedures outlined by Morrow and Skolits (2013). First, a codebook that specifically listed the variable names (e.g., composite RIS scores) and how they were labeled in SPSS was created. This also included citations of scales, sample size of the research dataset, and the list of files in the project. Second, a data analysis plan that included specific types of analyses (discussed below) and the SPSS syntax was created. Third, initial frequencies were calculated in order to

check for any errors in how the data were recorded or coded. Fourth, the data were further scrutinized to check for coding mistakes. From the surveys that were completed via paper-and-pencil, 0.17% of the survey data (i.e., RIS, AIMS, and PPAIS responses) were missing, or .0007% of the overall data. Because of the very low proportion of overall data missing, it was simply left alone. Fifth, new variables were created, such as the total RIS scores for the final scale. Sixth, another round of frequencies and descriptives were performed in order to check for others errors as well as to check for indices of normality (i.e., skewness, kurtosis). Seventh, the data were checked for outliers using Tabachnick and Fidell's (2013) definition of any values that were ± 3.29 SD from the mean. Outlier scores were omitted from data analyses. Eighth, an Shapiro-Wilk test was performed and revealed non-normality; thus, the alpha level was reduced from .05 to .025 for data analyses. Ninth, any noticeable trends were critically scrutinized. Tenth, the number of cases in each cell was analyzed to ensure that anonymity existed. Eleventh, a final round of frequencies and descriptives was performed. Twelfth, because an EFA was subsequently conducted, the assumptions of linearity and lack of extreme multicollinearity were tested (Beavers et al., 2013).

Exploratory factor analysis. Using SPSS software, an EFA, or common factor analysis, was conducted in order to generate a model that represented the relationships among the various items. This technique was selected over other factor analysis methods (e.g., component analysis) since it was hypothesized that the items would theoretically *reflect* (rather than *cause*) running identity (Beavers et al., 2013).

First, when evaluating each EFA, the intercorrelation matrix of all the items were examined. Using Tabachnick and Fidell's (2013) criterion, correlations that were greater than 0.32 justified the possibility of factor loadings. Second, the following values were calculated and

scrutinized in order to measure the strength of the correlation matrix: Determinant, Bartlett's Test of Sphericity, and Kaiser-Meyer-Olkin Test of Sampling Adequacy, item communalities, and the proportion of variance explained.

Due to non-normality, principal axis factoring was selected as the extraction method (Beavers et al., 2013; Fabrigar, Wegener, MacCallum, & Strahan, 1999). Subsequently, the Kaiser Criterion (i.e., eigenvalues $\geq$ 1.0) and the Scree test were utilized to help determine the number of factors to retain (Beavers et al., 2013; Park, Dailey, & Lemus, 2002). Eigenvalues represent the amount of variance in the items that can be explained by that factor (Furr & Bacharach, 2013). Scree plots are graphical representations of the items and their associated eigenvalues, arranged from highest to lowest (Beavers et al., 2013).

Finally, based on the assumption that factors would be related, an oblique rotation (i.e., oblimin) was utilized in order to produce a solution with the simplest structure. Adjusting the frame of reference reduces the ambiguities of prior analyses, thus producing a more interpretable solution (Child, 1990, as cited in Beavers et al., 2013). In social science research, oblique rotations are typically more theoretically appropriate than orthogonal rotations if there are indeed relationships among the factors (Fabrigar et al., 1999). When interpreting the factor solution, items that were not significantly correlated with any of the factors ($r < 0.32$) or items that loaded on multiple factors ($r_{\text{difference}} < 0.20$) were deleted (Tabachnick & Fidell, 2013). Finally, items with communality values < 0.4 were deleted (Costello & Osborne, 2005).

Reliability. In order to assess the internal consistency of the scale, Cronbach's alpha coefficients were calculated for each of the factors that emerged from the scale as well as for the overall scale. This measure of internal consistency represents the homogeneity of the scale (Litwin, 1995).This method was selected over test-retest reliability given the time-sensitive

nature of this project. Further, given that response rates are typically lower for online surveys (Fowler, 2014), it was expected that responses rates would be substantially lower for the retest.

Validity. Multiple strategies were employed to establish the validity of the RIS. First, in order to establish *convergent validity* (i.e., the degree to which a measure relates to another measure of a similar construct), Pearson correlations were calculated between scores on the RIS and AIMS (Brewer, Van Raalte, & Linder, 1993) as well as between scores on the RIS and PPAIS (Webb & Nasco, 2006). Likewise, Pearson correlations were calculated between RIS scores and age, years of running experience, weekly mileage, and number of hours per week invested in running aside from running itself. Second, in order to establish *concurrent validity* (i.e., how well the instrument is able to discriminate between various groups), a one-way ANOVA was conducted for overall RIS scores among three running identifications (i.e., professional/collegiate/serious runners, recreational runners, and non-runners). Additionally, one-way ANOVAs were conducted in order to compare RIS scores across NCAA Divisions and academic classification. Bonferroni post hoc tests were also utilized to identify areas with significant differences between group means. This test was deemed suitable for the analyses in this study due to its flexibility and low chance of Type I error (Gravetter & Wallnau, 2013). It was also deemed appropriate since the one-way ANOVAs in this study contained a relatively small number of groups (i.e., three to five). When significant, effect sizes (i.e., eta-squared values) were also calculated in order to assess practical significance.

Results

Exploratory Factor Analysis

An EFA was conducted on the initial set of 30 items from the RIS. Because the data were not normally distributed, principal axis factoring was employed, and an oblique (i.e., direct

oblimin) rotation was used based on theoretical assumptions and empirical evidence that the factors were correlated. Kaiser-Meyer-Olkin values of .911 and 847 were calculated for the initial and final solutions, respectively, indicating meritorious factorability (Beavers et al., 2013). The initial loadings of all 30 preliminary items are outlined in Table 1. Examination of the factor loadings, communalities, eigenvalues, and scree plot supported a three-factor solution with 11 items. Cumulatively, these factors accounted for 54.9% of the variance; the first factor accounted for 37.48% of the variance, while the second and third factors accounted for an additional 10.38% and 7.09%, respectively. Table 2 depicts a list of the remaining 11 items with the original item numbers, text of each item, and primary factor loadings. All items loaded on their respective factor at greater than .51, and their loadings on other factors were all less than .22. Table 3 provides a list of communality values for each item in the final solution.

The first factor, which contained five items, was named *running performance*. The second factor, which contained four items, was named *running exclusivity*. The third factor, which contained two items, was named *running self-identity*. All factors were moderately correlated (see Table 4).

Reliability

In order to assess the internal consistency of the RIS, Cronbach's alpha coefficients were calculated for the RIS and each of its three factors. Alpha coefficients of .82, .81, and .67 were obtained for the *running performance*, *running exclusivity*, and *running self-identity* factors, respectively. An alpha coefficient of .85 was calculated for the composite scale. With the exception of the *running self-identity* factor, these values represented good reliability (George & Mallery, 2003).

Additionally, inter-item correlations were calculated (see Table 5). Within-factor correlations ranged from .406 to .619 in the *running performance* items and from .381 to .686 in the *running exclusivity* items. The two *running self-identity* items correlated at .520. Cross-factor correlations between *running performance* and *running exclusivity* items ranged from .146 to .461. Cross-factor correlations between *running performance* and *running self-identity* ranged from .125 to .314. Cross-factor correlations between *running exclusivity* and *running self-identity* ranged from .029 to .424. Given that within-factor item correlations were generally higher than cross-factor item correlations, this provided additional evidence that the factors were distinct.

Validity

Various forms of validity were obtained. First, the rigorous and systematic Delphi process (i.e., review from experts) that was undertaken in the creation and screening of the items supported *face validity* of the instrument. Second, *convergent validity* was established via RIS composite scores correlating with both AIMS (r = .69, p < .01) and PPAIS composite scores (r = .56, p < .01). Nonetheless, these correlations were moderate, which suggested that running identity and athletic identity are related, yet distinct constructs. Table 6 depicts the relationships between the various composite and factor scores of the RIS, AIMS, and PPAIS. Furthermore, there were small, but significant correlations between RIS composite scores and years of running experience on a cross-country and/or track and field team (r = .24, p < .01), weekly mileage (r = .22, p < .01), and hours devoted to running outside of practice (r = .15, p < .01). There was no significant relationship between RIS composite scores and age (r = -.08, p > .05).

Third, *concurrent validity* was established by comparing RIS scores across groups (see Table 7). With regard to RIS composite scores, significant differences were found among professional/collegiate/serious runners, recreational runners, and non-runners ($F_{2, 704}$ = 835.76, p

< .01). Professional/collegiate/serious runners scored highest on the RIS (*M* = 51.3, *SD* = 10.4) followed by recreational runners (*M* = 25.1, *SD* = 10.6) and then non-runners (*M* = 15.0, *SD* = 4.5). Bonferroni post hoc tests confirmed that professional/collegiate/serious runners scored significantly higher than both recreational runners ($p < .01$, $\eta^2 = .545$) and non-runners ($p < .01$, $\eta^2 = .706$) and that recreational runners scored significantly higher than non-runners ($p < .01$, $\eta^2 = .259$). As seen, large effect sizes were found between all groups.

Demographic Variables

Additionally, other group comparisons and relationships were assessed. A one-way ANOVA revealed no significant differences between male and female runners in scores on the composite RIS ($F_{1,\,428} = .579$, $p = .447$) or each of its three factors: *running performance* ($F_{1,\,428} = .1.543$, $p = .215$), *running exclusivity* ($F_{1,\,429} = .000$, $p = .995$), and *running self-identity* ($F_{1,\,429} = .001$, $p = .973$). Likewise, there were no significant differences among NCAA Division I, Division II, Division III, and NAIA collegiate runners in composite RIS scores ($F_{3,\,404} = 2.860$, $p = .037$) or *running performance* scores ($F_{3,\,404} = .927$, $p = .428$). Although there were significant differences in *running exclusivity* scores ($F_{3,\,404} = 3.448$, $p = .017$), Bonferroni post hoc tests showed no significant differences between any two groups. Similarly, a one-way ANOVA revealed significant differences in *running self-identity* factor scores ($F_{3,\,404} = 3.696$, $p = .012$); however, Bonferroni post hoc tests only revealed significant differences between NCAA Division III and NAIA runners ($p < .01$). Finally, a one-way ANOVA revealed no significant differences among first-year, second-year, third-year, fourth-year, and graduate students in composite RIS scores ($F_{4,\,428} = .422$, $p = .792$), *running performance* scores ($F_{4,\,428} = .798$, $p = .527$), and *running exclusivity* scores ($F_{4,\,429} = .079$, $p = .989$). Although significant differences

were found for *running self-identity* scores ($F_{4, 429}$ = 2.831, p = .024), Bonferonni post hoc tests revealed no significant differences between any two groups.

Open-Ended Responses

A preliminary analysis of the open-ended responses from the sample of self-identified serious/collegiate/professional runners revealed multiple themes surrounding running identity. First, a number of participants emphasized *distinctions between runners and joggers*, for example:

> Not jogger but runner, the long miles of lonely roads with people besides me who are going through the same pain; the throbbing in my legs towards the end of a run only to pick up the pace even more; the familiar bent over at the waist attempting to catch my breath and staring down in blurry vision at those familiar shoes (trainers, spikes, flats).

Second, participants discussed the *sense of community* that running provided, as exemplified here: “It means being a part of a larger community than the one you are in. Runners can usually always bond with other runners.” Another participant added:

> Running identity is unique from other sport identities because of the immense community that you build with those who run. No matter what level of running you are currently involved in, you completely understand the pain and hard work that it takes to a runner.

Third, multiple participants described *commitment, dedication, and hard work* as foundational elements of a running identity: “It means hard work, dedication, and perseverance. Pushing through pain and ignoring the voice in your head saying, ‘I can’t.’” Fourth, participants also exhibited *heightened body awareness* in relation to running identity. One participant wrote, “I think the biggest physical difference is just the way we look. A teammate describes us as ‘skinny dweebs.’” Another individual stated, “Running is very much about the body, the body for many

is already an identity, to then train it to reach running goals…perform and compete means running is exponentially more important to you/ your identity is about your body achieving those goals." Because of these heightened concerns, various references were made to eating disorders: "I was bulimic for 2 years because my coach told me the more I ran, the more weight I carried every step."

Discussion

The purpose of the current study was to develop a valid and reliable scale that assesses running identity, or the extent to which one identifies with the runner role, using a sample of high-level (i.e., serious, collegiate, or professional) runners. Exploratory factor analysis procedures supported a three-factor solution: (a) *running performance,* (b) *running exclusivity*, and (c) *running self-identity*. Based on the Cronbach's alpha coefficients, the composite scale and each of the three factors demonstrated good reliability with the exception of the *running self-identity* factor. The RIS also demonstrated numerous forms of validity, including *face*, *convergent*, and *concurrent* validity.

The first factor, *running performance*, contained five items that referred to race times, personal best times, and other performance-related stems. Conceptually, it would be expected that individuals with salient running identities would also invest a great deal of their self-worth into how they perform in the running domain. In other words, the importance that one ascribes to a given self-concept domain most likely determines the degree to which competence or incompetence influences affect, motivation, and/or self-esteem (Harter, 1990). Items 14, 22, and 28 reflected this notion (see Table 2). Item 10 ("Compliments from other runners about my times are important to me") also reflected the degree to which one ascribes importance to running performance; however, it also entailed a public dimension of running identity (Webb & Nasco,

2006). Nonetheless, the other items pertaining to public running identity were omitted from the scale, and, consequently, *running performance*, *running exclusivity*, and *running self-identity*, appeared to be a more adequate representation of the factors. An example of an item that assessed public dimension of running identity included “Compliments from coaches and other runners about my high mileage are important to me.” It is possible that this item was ultimately deleted (due to cross-loading) because the participants did not perceive high mileage to signify running performance, albeit, related to running performance. The inclusion of item 23 (“I often compare my personal best times to other runners’ best times”) revealed that performance is not only judged by running times (i.e., task-orientation), but that how runners rank in relation to other runners (i.e., ego-orientation) was also salient. Given that this sample was validated primarily on collegiate and professional runners, this was not surprising. Likewise, prior research has shown that athletic identity is positively correlated with both task and ego goal orientations (Proios, 2012a). Previous researchers (e.g., Martin et al., 1997) who have examined the factor structure of the AIMS did not find a similar factor pertaining to athletic performance; however, this aspect was addressed in the *negative affectivity* factor (e.g., “I feel bad when I perform poorly in sport”). On the whole, however, most of the items from the AIMS are concerned with overall sport participation in contrast the RIS which contains more items about running performance.

The second factor contained four items pertaining to *running exclusivity*, or the degree to which individuals rely on the running role compared to other roles. According to previous research on identity, when an individual is highly invested in one domain, other domains or identities are often compromised. Martin et al. (1997) found a similar factor pertaining to athletic exclusivity in the AIMS. Given that three of the four items in this factor (Items 4, 5, and 8) were

adapted from the AIMS, it was not surprising that the findings from these two studies with regard to this factor were identical. Item 16 ("Running takes up a considerable amount of my daily thoughts") was suggested by a Delphi respondent as an alternative to "Running is the most important thing in my life," which may be prone to social desirability bias. Ultimately, however, both items were retained in the final solution.

The third factor comprised two items pertaining to *running self-identity*, or the overt understanding that an individual has of him/herself as a runner. Martin et al. (1997) found a similar factor, describing this dimension as "self-referenced cognitions in contrast to…athletes' perceptions of others' view of them" (p. 76). In fact, this factor comprised two items adapted from the AIMS ("I consider myself a runner" and "I have many goals related to running"). The original form of these items also accounted for the self-identity factor in Martin and colleagues' factor analysis of the AIMS.

The scale was originally intended to comprise both psychological and sociological (i.e., subcultural) aspects of running identity. As mentioned previously, symbolic interactionism informed the development of much of these items; however, the vast majority of those items were deleted as a result of the Delphi process. Furthermore, none of these sociological items remained in the final solution after the EFA was conducted. This is likely due to the fact that psychologists and sociologists have traditionally been guided by different definitions of identity (see Schwartz, Luyckx, & Vignoles, 2011). From a psychological perspective, Brewer, Van Raalte, & Linder (1993) conceptualized (athletic) identity as the degree to which one identifies with a particular role (e.g., athlete). Therefore, the RIS ultimately reflected a psychological definition of running identity (i.e., the extent to which one identifies with the runner role). On the other hand, Burke (1991), a sociologist, defined identity as a "set of meanings applied to the self

in a social role or situation" (p. 11). Because sport sociology is often more contextual than psychology, it may have been difficult to "capture" the sociological aspects of running identity in this scale. Likewise, exploring these social and cultural nuances of identity may not have been methodologically aligned with the positivist elements of scale research. Nonetheless, a content analysis of the open-ended questions (see Appendix I) will perhaps be more suitable to describing the sociological and subcultural aspects of running identity. These findings will be presented in a separate manuscript.

Limitations and Future Directions

This study contained a few limitations. First, the *running self-identity* factor contained only two items. This may have contributed to the questionable reliability of this factor as well. Typically, factors with less than three items are not recommended (Worthington & Whittaker, 2006). Nonetheless, including both of these items ultimately resulted in the best solution in terms of overall reliability, total variance explained, eigenvalues, and communalities. Given this limitation, it is recommended that more items pertaining to running self-identity (e.g., "I refer to myself as a runner" or "I have many ambitions related to running") be included in future iterations of this scale. Having a higher number of items should also help enhance the reliability of this factor.

Second, after a preliminary analysis of the open-ended responses (e.g., "What is your average weekly mileage in the past month?"), it appears that some of the participants were injured athletes. Previous research suggests that athletic identity decreases during injury (Brewer et al., 2010). Accordingly, earlier research in psychology has indicated that individuals devalue threatening aspects of the self in order to maintain a positive self-concept (Markus & Wurf, 1987; Sedikides, 2007). Therefore, it is possible that running identity may have been lower in

injured participants. As a result, it is recommended that future studies on running identity exclude injured athletes or include a question about currently being injured so that researchers have the option of excluding them from analyses.

Third, social desirability was not assessed in the current study. Consequently, it may be beneficial to distribute the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) in conjunction with the RIS. For example, the item, "Running is the only important thing in my life" may be subject to social desirability. Identifying strong correlations between RIS items and social desirability could enhance the quality of the data. Nonetheless, no correlations were found in previous research between social desirability measures and the AIMS (Brewer, Van Raalte, & Linder, 1993) or the PPAIS (Webb & Nasco, 2006).

Future iterations of this scale should attempt to include more items that assess the public dimension of running identity. As mentioned, only one such item remained in the final solution. It is unclear if items tapping into public running identity are too contextual to be "captured" by a scale (and thus not retained after an EFA) or if public running identity was not adequately represented in this scale. Adapting items from the PPAIS (Nasco & Webb, 2006) would be one recommended method for adding more items on public running identity. Future research should further validate this scale via a confirmatory analysis with another sample of high-level runners (see Extended Literature Review).

One interesting finding was that there were no significant differences in running identity or athletic identity among NCAA Division I, Division II, or Division III runners. Given that there are typically more resources (e.g., scholarships) in Division I athletics, it was expected that Division I runners would demonstrate higher levels of both running and athletic identities. Likewise, there is a greater emphasis on performance at Division I institutions; however, there

were no significant differences in running performance factor scores (see Extended Discussion). Nonetheless, even at the NCAA Division I level, there are typically less scholarships available for cross-country and track and field. In fact, fully funded athletic scholarships are rare for cross-country and track and field athletes. As a result, future studies should assess scholarship status and the magnitude of the scholarship when examining running identity across NCAA Division I, Division II, Division III, NAIA, and other college athletic affiliations.

Likewise, there were no significant differences in running identity scores across academic classifications. Murphy, Petitpas, and Brewer (1996) found that first-year college students exhibited the highest levels of athletic identity and that seniors had the lowest levels of athletic identity. Other researchers (e.g., Lally, 2007) have suggested that as athletes approach graduation, they begin to divest themselves from the athlete role as they invest more into their future careers and other identities. It was surprising, therefore, that the results of the current study did not follow a similar trajectory for running identity (see Extended Discussion). Given the cross-sectional nature of this group comparison, future research should employ longitudinal designs to see if similar results are obtained. Furthermore, mixed methods designs (e.g., surveys with follow-up interviews) may help elucidate the reasons for the inconsistent findings between running identity and athletic identity in regards to age and academic classification.

Finally, as previously noted, this scale was validated on a U.S. population that was 80% White. While this was generally consistent with racial proportions reported by the NCAA (2015), a greater exploration of running identity across cultures is needed. For example, there may be differences in how running identity is understood and experienced between Western and East African cultures. In particular, qualitative methods (e.g., interviews, co-participant observation) may best for obtaining thick descriptions of running identity in non-U.S. contexts

(Creswell & Miller, 2000). Similarly, it would also be interesting to see if the RIS is reliable and valid for runners in other cultures and countries outside of the U.S.

Practical Implications and Conclusions

It is hoped that the development of a valid and reliable scale assessing running identity is of great value to sport psychology, exercise psychology, sport sociology, and other disciplines. For example, sport psychology researchers can explore the relationship between running identity and student identity, identity foreclosure, career exploration, and other similar constructs in collegiate runners. In turn, the RIS, particularly the *running exclusivity* factor, may have potential value for identifying collegiate runners who are at-risk of foreclosing other identities in favor of running. As a result, this scale may be implemented in coaching education and student-athlete life skills programs at college athletic departments. Additionally, sport sociology and social psychology researchers can explore the relationship between running identity and moral identity, moral reasoning, and conformity to masculine norms (e.g., violence, hazing, sexism). Furthermore, exercise psychology researchers can examine running identity as a predictor of various health behaviors including obligatory running, exercise addiction, and disordered eating. Likewise, the RIS may be used to identify runners who are at-risk of developing a clinical eating disorder. There are a number of other constructs that could be explored in relation to running identity, including body image, overtraining, and emotional intelligence, and various post-injury responses, to name a few.

Finally, cultural sport psychology has been advocating for the exploration of athlete identities for the last 13 years (Fisher, Butryn, & Roper, 2003, 2005). Specifically, sport psychology consultants have been called to challenge athletes to think about their roles beyond performance and become engaged citizens. This may be achieved by having open discussions of

power as well as encouraging athletes to become more aware of superseding social and political issues. The RIS, particularly the exclusivity factor, may be one tool that can identify athletes who are falling short of these objectives.

Section 2: Extended Literature Review

Sociocultural Aspects of Running

Since the 1970s, long distance running has become the most visible form of physical activity throughout much of the Western world (Bale, 2004; Shipway & Holloway, 2010). As a sport, there are various permutations, including track and field, cross country, road racing, trail racing, and orienteering. Likewise, in terms of competitive drive and ability, there exists a continuum from the leisurely jogger to the serious elite runner. The various classifications (as well as the purported beliefs and practices of each subgroup) along this continuum have often been debated. Accordingly, several tensions exist across among these various subgroups (e.g., degree of "seriousness," mode of running).

In this section, I provide an overview of the sociological scholarship on running identity and running subcultures. An *identity* is a "set of meanings applied to the self in a social role or situation" (Burke, 1991, p. 837). A related term, a *subculture* refers to a smaller group within a dominant culture that exhibits differences "in such things as language, values, religion, diet, and style of life from the larger social world of which they are a part" (Yinger, 1960, p. 626). In this review, I first briefly discuss the social-historical context of running and its relationship to the development of running identities and subcultures. Second, I outline symbolic interactionism and discuss its practicality in understanding running identity. Third, I mention other approaches to understanding running identity, as well as the various proposed classifications of distance runners.

The Social-Historical Context of Running

As Gotaas (2008) noted, it is not possible to provide an objective and complete and account of the world history of running. Therefore, in this section, I provide a brief account of

notable events that have shaped the current discourse of running, and hence, the production of running identity.

The origins of running as a primordial human trait can be traced back to our *Australopithecus* ancestors (see Bramble & Lieberman, 2004; Gotaas, 2008). Prior to becoming a modernized sport (e.g., track and field, cross-country, orienteering), running existed in various non-achievement forms. Generally, running was considered a form of play, which Guttman (2004) defined as "any nonutilitarian physical or intellectual activity pursued for its own sake" (p. 3). Additionally, in pre-colonial east Africa (e.g., modern-day Kenya and Ethiopia), running was essential for hunting, fighting, rites of passage ceremonies, and dance (Bale, 2007; Bale & Sang, 1996). Nonetheless, as Bale and Sang (1996) asserted, competition was not entirely absent in pre-colonial east Africa as was suggested by traditional colonialist writers (e.g., Lindblom, 1920); rather, this was manifested in different forms in comparison to traditional Western sports, which were characterized by bureaucratization, repeated movements, and other features. For example, hunting (which required running and spear throwing skills) was considered a competitive endeavor. In fact, individuals in the Nandi tribe who were skilled enough to kill a lion were called *Barng'etuny*, an honorable term in this culture (Bale & Sang, 1996). Accordingly, high performances were valued, and in turn, physical training was prevalent in pre-colonial eastern African cultures.

In particular, the beginning of achievement running has been attributed to an event in 776 BC when a Greek man named Corobeus won a sprint spanning the length of the stadium at the first Olympic games, where runners carried flames to light the alter of Zeus (Gotaas, 2008). During the first dozen Olympics, this was the only athletic event before other running events were added. Interestingly, the Greeks never recorded times. Instead, they were more interested in

making symbolic estimations of speed, such as saying a particular runner was fast enough to catch or hare or beat a horse in a race (Gotaas, 2008, p. 38). This differed radically from modern-day serious runners' obsessions with racing marks, which is discussed later. When the Romans came into power, the Olympics fell out of favor, as the last Ancient Olympic Games were played in the 400s AD.

In contrast, Guttman (2004) proposed seven characteristics of modern sports that distinguish them from primitive, ancient, and medieval sports and forms of play: (a) secularism; (b) equality; (c) specialization; (d) rationalization; (e) bureaucracy; (f) quantification; and (g) records. First, in Ancient times, sport activities often coincided with religious and cultic events. For example, men of the Timbira tribe in Brazil were required to participate in a relay race, which also entailed complicated rituals such as abstinence from meat and sexual intercourse, that was intended to reenact a race between the sun and moon (Guttman, 2004). Although modern sports may certainly be infused with religious elements, such as a pre-game prayer, it largely remains on the sidelines during competition. Second, modern sports are based on the perception of equality and fairness. In other words, everyone should have an opportunity to participate, and the rules and regulations should be the same for all participants (Guttman, 2004). Third, while individuals in primate and ancient times were skilled in various areas, modern sport is often characterized in specialization in a certain sport (or a group of sports with similar skills). Furthermore, one can observe the specialization within many sports, such as American Football which comprises 22 positions, excluding "special teams" roles. Fourth, rationalization refers to the rule-bounded nature of modern sport. Although Guttman (2004) noted that primitive sports may have contained more rules, such as the noble races of the Apaches, rules of modern sport have a logical relationship between means and ends. Fifth, as mentioned previously,

bureaucratization is prevalent in modern sport with governing bodies, such as the National Football League or the National Collegiate Athletic Association in the United States. Sixth, most feats can be translated into a measurable, quantifiable form (i.e., statistics). Seventh, given this move towards quantification, there is also a greater obsession with national and international records. These last two aspects, in particular, are highlighted below with regard to the historical trajectory of achievement running.

The modern Olympic Games, similar in name only to the Ancient Olympic Games, began in 1896 with a number of political events leading up to that moment (Gotaas, 2009). At the turn of the 19th century, running was introduced into the curriculum of British primary and secondary education. At this time, running was perceived to be a torturous activity by many; thus, it was also thought to be one way of initiating boys into manhood (Bale, 2004). Later, an interest in speed and personal marks emerged as running developed into a college and professional sport in the 1860s. Although there were other forms of running (e.g., cross-country, orienteering), the track became the predominant sporting arena during this time. In the early 1800s, races took place on grass or gravel tracks, typically designed for only two-person races (Bale, 2004, p. 41). This changed in 1867 with the invention of the cinder track with laps that spanned 200 yards; although races continued to be run on grass tracks until the 1960s (separate records were kept for grass-surfaced tracks). Throughout the first half of the 20th century, the size and shape of the track was continuously debated and tested. At the 1896 Olympics, the track was U-shaped with a theatre-like setting at each end. Then, at the 1900 Paris Olympics, the track was a 500 meter grass oval. Next, in 1908 at London, the track measured 536 meters (about one-third of a mile) with longer straightaways that facilitated greater speed. At the Stockholm Olympics in 1912, the size regressed to 383 meters, and at the 1920 and 1924 Olympics, the track increased back to the

French-influenced 500 meters. Finally, at the1928 Olympics in Amsterdam, the track measured 400 meters, which became the norm. Additionally, starting blocks were invented in 1927 and first used at Chicago in 1927. Also, in the 1970s, the synthetic track was invented so that the track could be used in various weather conditions. In alignment with the Olympic motto *citius, altius, fortius* (faster, higher, stronger) these changes reflected an increasing interest in manipulating nature to maximize speed, as well as to establish an arena to make objective comparisons and thus take the sport seriously (Bale, 2004; Gotaas, 2009).

In line with this fascination of speed, the first officially recorded sub-four minute mile was accomplished by Roger Bannister on May 6, 1954 in a time of 3 minutes 59.4 seconds. This remains the most decorated event in running history. Likewise, Roger Bannister is widely regarded as a hero for many in the distance running world (Bale, 2006). Accordingly, this event has been subject to much critical examination within the scholarship of running (e.g., Bale, 2004; Bale & Howe, 2006; Gotaas, 2009). For example, Gotaas (2009) contended that the Native American from the Pawnee tribe Koo-tah-we-Coots-oo-lel-hoo, Chief Great Hawk, was alleged to have run a mile in 3 minutes 58 seconds per two US Army officers who independently timed him. Moreover, there were rumors of multiple runners breaking the four-minute barrier in practice. However, these times were not run on a standardized track and, thus, were easily forgotten in history.

According to Bale (2004), Bannister was not only idolized for breaking the record, but he was also renowned for doing it as an amateur. As a Brit and Oxford scholar, it was deemed “improper” to take sport/leisure seriously during this era. He was widely regarded as an English sporting gentleman, as he claimed to only train three days per week of light training. In reality, Bannister privately was a scientist, structuring his training plans in a very precise, systematic

manner. In fact, amid the worship of Bannister's feat, a vocal minority criticized him for his "cold scientific approach" to running (Bale, 2006). For example, Bannister was very selective about the meets he competed in. In fact, Bannister initially refused to attempt the sub-four minute feat due to the wind that was present on that day before it dissipated to his liking prior to the race. Furthermore, he accomplished this feat with the help of two "pacemakers," his friends Chris Brasher and Chris Chataway. Consequently, people questioned whether he was truly capable of beating world class competitors, or if he was only interested in merely racing against a clock (Bale, 2006). He also drew ire for refusing to disclose his scientific methods. Ultimately, Bannister's record would only survive for 46 days, as the Australian John Landy ran 3 minutes 57.9 seconds for the mile (Gotaas, 2009). Within the next few years, dozens of other runners would cross the sub-four minute threshold without receiving a fraction of the notoriety that was bestowed on Bannister. Accordingly, Bale (2006) critiqued the unreasonableness of the commons sports fan to valorize the sub-4:00 barrier more than the sub-3:59 barrier.

Nonetheless, the four-minute barrier continues to inspire young runners and excite the common sports fan (Denison, 2006). Even though the mile is not an official event at the Olympics or IAAF Outdoor Track and Field World Championships (it has been replaced by the 1500 meter event), there is a sense of nostalgia for this event in history. "The time, 3:59, is a stamp of approval; it is something people know they can trust, a label or a brand that is safe and comforting" (Denison, 2006, p. 281). Furthermore, a sub-4:00 minute alone does not automatically mean that a (male) middle-distance runner is competitive at the international level; although, many sports fans who are uneducated about running believe this. Although this milestone is not uniquely remarkable as it was in 1954, this feat still plays a significant role in the construction of a respectable identity (Denison, 2006). Trying to explain this unreasonable

nostalgia, Denison hypothesized that as African athletes continue to outperform runners from the West (i.e., U.S., United Kingdom), the four-minute mile serves as a reminder when distance running was predominantly a White space. Furthermore, he argued that such attitudes (i.e., remaining fixated on the past rather than creating a new future) are detrimental to the progress of distance running in North America and Europe. On the other hand, the first woman's sub-five minute mile did not garner any interest or nostalgia, nor does this issue of western superiority appear to be a salient issue in women's track and field (Parry, 2006).

Additionally, it is worth mentioning the running boom over the past 40 to 50 years that has swept up the United States and much of the Western world. Much of its popularity can be attributed to the fact that jogging and running came to signify weight loss and improved fitness (Abbas, 2004; Bale, 2004). Abbas (2004) noted that exercise was an integral part of a healthy society, and in turn, running was the most visible form of exercise. Furthermore, the idea of the "runner's high," or the euphoric feelings and overall elevated mental state that individuals experienced during or after the run, was widely publicized (Gotaas, 2009). This was often attributed to release of endorphins; though, other factors (e.g., enjoyment of scenery, exposure to fresh air) were purported to play a positive role, as well. Accordingly, the public became aware of its role in potentially reducing depression and other negative mood states. Because of these psychological benefits, running became a "positive addiction" for many Americans (Gotaas, 2009).

Although serious runners are often quick to distance themselves from leisure/fitness joggers, the running boom that occurred in the general population actually emanated from the social worlds of professional athletes. In the 1960 Olympics, many runners from New Zealand enjoyed unchartered success, prompting other professional coaches and runners to inquire about

what they were doing correctly (Gotaas, 2009). Bill Bowerman, head track and field who coach at the University of Oregon who would later go on to coach the US Olympic team in 1972, took a trip to New Zealand with his runners to discover the supposed secrets of their success. There, he found that ample people of all ages and abilities were running on a daily basis—not just serious runners. Bowerman, who was 51 year of age at the time, had generally assumed that he was too old to continue running on a daily basis, but his opinion was instantly changed when he was outpaced by a 73-year old man who had survived three heart attacks (Gotaas, 2009).

Furthermore, the New Zealand coach, Arthur Lydiard, was known for recommending jogging to individuals with heart disease and generally observing radical improvements in their condition. Bowerman claimed to have lost 10 pounds on that week-long trip and shared the benefits of leisurely jogging with the public upon returning to the United States. Additionally, the famous doctor Kenneth Cooper (1968) advocated for exercise, especially running, when he published his famous book *Aerobics*. Cooper had previously been obese and unfit, but by exercising on a consistent basis, he was able to reverse this trend. Both Bowerman and Cooper became effective conduits for the message of running not just because of the knowledge they delivered, but also due to the fact that they could provide anecdotal evidence regarding the positive effects of running.

The development of achievement running in colonial east Africa mirrored Western societies' increased emphasis on time and records as a result of colonial influences. Bale (2007) demarcated this cultural transition into four phases: (a) the germinal phase (approximately 1900-1920), (b) the incipient phase (approximately 1920-1930), the struggle for hegemony phase (approximately 1930-1950), and the take-off phase (approximately 1950 to 1968). As mentioned previously, running was prevalent in pre-colonial east African cultures (e.g., rite of passage

ceremonies, hunting). In the early twentieth century, European researchers (e.g., Boyes, 1912; Hinde & Hinde, 1901) were fascinated with individuals from the Maasai tribes, asserting that they exhibited genetic capabilities of running long distances. In fact, Boyes (1912) wrote that "the Maasai runner thinks no more of carrying a message sixty miles a day than we should a three mile stroll" (p. 61). On the contrary, Bale and Sang (1996) critiqued these exotic representations in addition to Westerners' fascinations with the Maasai tribespeople (which they termed "Maasai-itis"), noting that they accounted for a very small proportion of the overall Kenyan population. Additionally, European colonizers introduced Western forms of running through the use of a stopwatch and measured distances. By the early 1920s, young Kenyan children were partaking in organized sports due to the influence of Western missionaries and military regimes. This was undergirded by a political ideology in which they sought to "civilize" natives by teaching them manliness, good temper, and other desirable qualities through sports (Bale, 2007).

During the incipient phase, achievement running became more bureaucratized in Kenya and throughout east Africa (Bale, 2007). James Orr, the Kenyan colony's first Director of Education, initiated the formation of the Arab and African Sports Association (AASA) in 1924. Running also was used as form of institutional social control. For example, plantation owners held organized races to "keep the locals away from mischief" (Bale 2007). During the 1920s and 1930s, running resembled a hybrid of both western and pre-colonial elements. For example, more modern events, such the 100 yard dash, were prevalent; however, the results were not as quantified as modern track and field events. Furthermore, competitions were less serious than modern competitive sport events, where applause was primarily reserved for those who committed mishaps (Bale, 2007).

In the third phase, achievement (western) forms of running largely submersed any remaining pre-colonial elements that were still intact. Indeed, throughout the late 1930s, running began to resemble modern sport. Accordingly, national records began to be recorded and made official in Uganda and Kenya in 1934 and 1936, respectively (Bale, 2007). As a result, running began to be viewed from a European lens, where comparisons were made via statistics (i.e., personal records). Nonetheless, early track meets were often disorganized with timing errors and incorrectly measured distances (Bale & Sang, 1996). Bale (2007) noted that the formation of the Kenyan Amateur Athletic Association (AAA) in 1951 symbolized the breakthrough of achievement running. As a result, Kenyans began to participate in international events, such as the 1952 Indian Ocean Games in Madagascar.

In the take-off phase, which spanned the 1950s through 1968, east Africans continued to compete in international venues, including the Empire Games (a colonial version of the Olympics) and the English Championships in addition to the Olympic Games themselves. In fact, in the 1954 English Championships, Kenyan runner Lazaro Chepkwoney drew the attention of track and field fans when he rushed into the lead while running barefoot in the six-mile event before dropping out midway through the race, which served to reinforce racist notions of African athletes lacking stamina (Bale, 2007). Additionally, in the 1960 Rome Olympics, Ethiopian Abebe Bikila won the marathon. Further, Kenyan Wilson Kiprugut won the bronze medal in the 800 meters at the 1964 Tokyo Olympics. Despite these and other accomplishments, notions of eastern African athletes lacking stamina (and hence, elite distance runners) continued to persist. A breakthrough occurred in the 1968 Mexico City Olympics when Kenyans won 11 medals over six events. This included Kipchoge Keino's victory over American Jim Ryun in the 1500 meter race as well as Amos Biwott and Benjamin Kogo finishing top two in the 3000 meter

steeplechase. The success of Kenyan runners was large regarded as a fluke in part due to the Olympic Games taking place at an above-average elevation (Bale, 2007); however, eastern African athletes have continued to enjoy success in distance running events. Nonetheless, colonialism and the development of a hierarchical system played a critical role in shaping these developments; they did not simply “happen” (Bale, 2007).

Symbolic Interactionism

Symbolic interactionism originated in American sociological research, but it has also been employed in social psychology to describe human behavior. It is philosophically undergirded by pragmatism, which views organisms as making practical adjustments to the demands of their environment (Hewitt, 2007). Pragmatists do not believe in the existence of absolute truth, but that it is relative to the needs and interests of other living things. One of the primary influences of this framework, Mead (1934) argued that human behavior was too complex and diverse to be explained by predictable biological instincts. Instead, human acts are often socially coordinated based on “significant symbols” with shared meanings. Furthermore, Mead contended that these symbols are predominantly vocal gestures that have the potential to arouse the same response in others as one self. For example, as Hewitt (2007) noted, yelling “Fire!” in a public place can be considered a symbol that allows everyone present to take control over their conduct and ultimately produce a plan of action. Furthermore, Mead (1934) postulated that significant symbols allow humans to not only imagine the responses of others but to also have an awareness of the self. Hewitt (2007) stated:

> We are able to become *objects* to ourselves; that is, we become able to act toward ourselves as we act towards others, to be one of the many things, ideas, persons, or experiences of which we are conscious and toward which our activity is directed. We can

> name ourselves, think about ourselves, talk to ourselves, imagine ourselves acting in various ways, love or hate ourselves, and feel proud or ashamed of ourselves; in short, we can act toward ourselves in all the ways we can act toward others…. (p. 9)

This theory is able to account for both inner experiences and the social nature of human life; hence, this framework has provided value for the fields of sociology and psychology.

Hewitt (2007) outlined the following tenets of symbolic interactionism. First, human conduct is contingent on the creation and maintenance of meaning. People's behaviors are intentional and not wholly dictated by culture. Furthermore, intentions are guided by these shared meanings. In brief, objects and categories provide shared meanings and responses, which are variable and emergent. Moreover, there is an emphasis on the socially constructed meaning of the behaviors rather than on the behaviors themselves. As noted, these meanings are neither objective nor permanent and are often negotiated among different subgroups struggling to gain consensus. Second, human conduct is self-referential. In other words, humans act towards themselves with the same extent as their external world. Furthermore, individuals strive to maintain a positive self-image. Third, people form meanings through interaction. As Davies and Banks (1992) stated, "subjectivity is formulated through discourses, given substance and pattern through storyline and deployed in social interaction" (p. 3). Fourth, the relationship between culture and human conduct is bidirectional; that is, culture influences human conduct; however, it is also the product of human conduct. Humans are born into a society, which defines reality for them, but they do not necessarily have to reproduce this culture. Accordingly, Blumer (1969) contended that the survival of a particular belief, norm, or value was contingent on individual and collective actions, or ongoing social processes.

Methodological considerations. Both quantitative and qualitative methods have been used in studies that are undergirded by symbolic interactionism theory. Regarding quantitative methods, some authors have employed questionnaires to make inferences about symbolic interactionism in relation to other variables. For instance, in exploring sport consumption behaviors with regard to minor league hockey behavior, Armstrong (2007) used the six-item General Scale to Measure Involvement (GSMI; Traylor & Joseph, 1984) to measure reference group influence on involvement with a symbolic product. She found that repeat spectators scored significantly higher than less frequent attendees on items indicating that hockey was a self-expression/identity affirming activity. Additionally, Anson (1974) used questionnaires to examine the relationship of leadership opinions, self-concept, and past participation with present activity participation levels, as well as to ultimately justify the use of symbolic interactionism in the study of sport and leisure. Also, Ramos (1994) employed questionnaires in conjunction with a symbolic interactionism framework to create model of subjective meaning of leisure.

A wide array of qualitative methodologies has also been used to explore symbolic interactionism in sport. Most pertinent to this topic are Allen-Collinson and Hockey's studies based on their collaborative autoethnography exploring the (disruption of) various nuances of running identity while experiencing knee injuries during a two-year span (Allen-Collinson, 2003, 2008; Allen-Collinson & Hockey, 2001, 2007; Hockey, 2005). In simple terms, Autoethnography is a narrative of the self. It is "an autobiographical genre of writing and research that displays multiple layers of consciousness, connecting the personal to the cultural….Autoethnographers vary in their emphasis on the research process (graphy), on culture (ethno), and on self (auto)" (Ellis & Bochner, 2000, p. 739-740). The findings from these inquiries are discussed in detail below. Also, Donaldson, Leggett, and Finch (2012) used

questionnaires with open-ended questions to assess Australian football club representatives' perceptions of a new Australian Football League-developed sports trainer policy. Responses were analyzed using a symbolic interactionism framework, where the authors specifically searched for objects that held significant meaning for the participants. Likewise, in order to explore the specific meanings of the coach-athlete relationship, Poczwardowski, Barott, and Peregoy (2002) conducted in-depth interviews and participant observations and subsequently interpreted the findings using a symbolic interactionism lens in conjunction with social exchange theory and negotiated order theory.

Identity work. A fundamental contribution of symbolic interactionism is the construction and maintenance of identity. According to this theory, various forms of identity are jointly created via people's acts towards themselves and others' actions towards them (Hewitt, 2007). Individuals constantly locate themselves in relation to one another (e.g., student to teacher, parent to child, friend to friend). Hewitt (2007) discussed three categories of identity in relation to symbolic interactionism: (a) situated identity, (b) social identity, and (c) personal identity. These categories are not mutually exclusive, and the salience of each is constantly in flux. Depending on the sociocultural context, some people rely on just a few identities on a daily basis, while others manage several.

Situational identities essentially are roles in particular contexts (Hewitt, 2007). For example, an athlete and athletic trainer engage in a social interaction with presumably understood roles. In this context, the athlete emphasizes his/her "patient" self over other identities (e.g., friend, teammate). The athlete knows how to act in the athletic training room setting. Likewise, the athletic trainer typically acts in a predictable manner, making a diagnosis and recommending a treatment protocol. These perspectives not only allow for anticipated social

interaction, but they also contribute to the experience of the self. Because of these aforementioned roles, humans are able to locate themselves in relation to one another. A situated identity accounts for the integration of a person's thoughts, feelings, and actions in a particular situation, and it provides a feeling of continuity for a limited period of time (Hewitt, 2007). Nonetheless, these social interactions are prone to error or disjointedness. People often get distracted, miss symbols, or midjudge the responses of others, as is often the case with teams who are said to not be "clicking," or performing well (Hewitt, 2007). Of course, these situational identities are temporary and variable based on the context. While still very much fluid, social and personal identities entail more stable aspects of the self.

In discussing the "person beyond the immediate situation," Stryker (1980) coined the term *biographical self* to describe the ways that people locate themselves and one another in social life. The biographical self comprises both social and personal identities. In explaining the existence of these entities, Scheff (1990) contended that identification and differentiation are driving forces in human conduct. Specifically, people are motivated to identify with people with common qualities and objectives. "They must recognize that they are in the same place, that a particular range and sequence of activities are called for, and that they are linked to one another in particular ways" (Hewitt, 2007, p. 101). These shared understandings (i.e., identifications) produce positive emotional responses to others and situations. Paradoxically, Scheff (1990) also noted that differentiation, or the knowledge that an individual is distinctive from others, is instrumental to healthy social bonds. Individuals need to believe that they are making individual contributions to the group and that their individual goals are worth pursuing.

Per Hewitt (2007), a social identity comprises three essential features. First, individuals are located in a particular social space longer than any situation, as is the case with situational

identities. For instance, baseball players can have various situational identities that reflect their position or role during a game (e.g., pitcher, catcher, batter); however, the “athlete” or “baseball player” identities are more consistent and enduring. Second, identification with a particular social category implies that a particular group shares common norms, values, beliefs, and goals. As mentioned, these shared symbols and understandings typically produce positive affect. Third, identification has the potential to transform social categories into functional communities. Accordingly, people in the same social circles typically feel a sense of shared purpose and develop relationships. Thus, social identity is not just a construct of relevance to the self; rather, it influences how people act towards the individual (for example, based on significant symbols). Conversely, others’ actions toward an individual can have a profound impact on his or her social identity, as well.

Like a social identity, a personal identity locates an individual in a social space that is more extensive and ongoing than any situation. In contrast to social identity, the personal identity is centered on the individual’s life story (Hewitt, 2007). Moreover, it locates an individual within society as a whole rather than a particular community. For example, former Major League Baseball player Cal Ripken Jr., who set a record for playing in 2632 consecutive games, indisputably had a social identity of an “athlete” and “baseball player;” however, his personal identity (i.e., life story) was marked by dedication and a strong work ethic. A personal identity is “a person’s property…something the person creates, owns, and is entitled to modify as her or she sees fit” (Hewitt, 2007, p. 107). Nonetheless, some type of social confirmation is still a necessary element of personal identity. Using symbolic interactionism terms, a personal identity is still dependent on announcements and placements in the same manner as social identity. An individual must announce his or her social location and subsequently find a way to demonstrate

that placement. For example, an adolescent may announce his or her intention to be independent, which might be evidenced by breaking from the parents' religious views or staying out beyond a previously curfew. In return, the parents could acknowledge and place their child into this identity through various actions, such as adjusting the rules, bestowing punishments, or relinquishing the child's financial dependence on them. Thus, personal identities are not just intrinsic entities; rather, they are observable through language and actions, and they are produced via social interaction.

Running identity: A symbolic interactionist perspective. Symbolic interactionism has been a valuable framework for exploring the various aspects of running identity. The following is a review of the various categorizations, of symbols, that have emerged from the critical inquiry of distance running. Specifically, the temporal, materialistic, associative, and vocabularic identifications of running, as defined by the researchers in their respective studies, are discussed below. In particular, the latter three classifications are based on Perinbanayagam's (2000) symbolic interactionist identity categorizations (as cited in Allen-Collinson & Hockey, 2007). Akin to the previous discussion of identity, it is important to note that each these categorizations are not mutually exclusive, as there is certainly some overlap among these various elements.

Time: The temporal dimension of running identity. Some sport sociology researchers (e.g., Allen-Collinson, 2003; Bale, 2004; Smith, 2002) have offered critical perspectives regarding the temporal dimension of running and its role in shaping running identity. For example, runners talk about their personal bests (in minutes and seconds), training schedules (in weeks and months), and recovery times (typically in days, weeks, or months). Employing an ethnographic analysis informed by symbolic interactionism, Smith (2002) found that that time

was salient in their discussions of running achievement, careers with stages and turning events, and cyclical calendars.

Performances. Perhaps the most evident way that time manifests in running is how runners discuss their race times and personal bests. In achievement running, times represent the undisputed method for objectively establishing performance (Bale, 2004; Smith, 2002). As evidenced by the Olympic motto *citius-altius-fortius* (faster, higher, stronger), serious running has been centered on the time-space compression since the 19th century (Bale, 2004, p. 21). In other words, track and field athletes have been judged by how successful they are at reducing their time or traversing a greater distance. Despite the existence of space-oriented records (for example, the IAAF record for how much distance one can cover in an hour), speed (i.e., time over distance) has clearly garnered much more interest (Bale, 2004; Smith, 2002). As such, runners are often branded by their times (e.g., “a 3:40 1500 meter runner,” “a 1:55 800 meter performer”). “A ‘time’ displays an athletic capacity, yet, as a type of credential, it also bestows a particular identity: it is emblematic of the self” (Smith, 2002, p. 350). Accordingly, runners often talk about times in a possessive manner (e.g., “my 13:20”). Furthermore, track and field marks are more privileged than cross-country or road races. The varying terrains (e.g., hills) and, in some cases, obstacles (e.g., streams, fences) can impact a runner’s performance across multiple courses of the same distance; thus, while these events can certainly be significant (for example, the Boston Marathon or IAAF Cross Country World Championships), they are not deemed as objective; thus, placing is more important in these events. In fact, the preciseness of these course distances is often scrutinized by serious runners (Smith, 2002). For example, if multiple people tend to run a better time on a particular course, its authenticity is often questioned. While there are still multiple variables that can impact track and field races (e.g., weather, altitude, type of

surface), the track is regarded as the gold standard for judging the potential of a serious runner. Nonetheless, Bale (2004) was critical of these taken-for-granted notions of objectivity and preciseness that are associated with the track, noting that runners often run slightly more than the stated distance by briefly running in the outer lanes.

Running careers. Second, time is similarly an essential feature when examining the trajectory of runners’ careers. Often, athletes’ performances are reduced to their personal best time by year (Smith, 2002). In his ethnography, Smith found that some runners realized that they could become an international-caliber athlete when they improved their personal best time by a significant margin, as well as beating well-known foes. Performers could also be judged by other factors, such as individuals beaten, consistency of performance, and placings in significant races; however, personal bests remain the privileged method of assessing an athlete’s career. Additionally, Nash (1976, as cited in Smith, 2002) has suggested that “critical differences between runners should be identified “in terms of ‘moral career’: changes in diet, physical appearance, outlook, shoes and kit worn that are seen to herald and index changes in self-conception” (p. 351). Moreover, runners are often cognizant of their time in relation to how much time they have left to perform at a high level, let alone run at all. In his investigation, Smith (2002) also noted the widely held belief that “every well-known runner is just one injury or illness away from obscurity” (p. 351). In other words, many runners share a common anxiety about the uncertain future to varying degrees; hence, they are cognizant that there is a finite amount of time in which they can accomplish their objectives.

Allen-Collinson (2003) also critically examined the temporal dimension of running identity in relation to the injury and rehabilitation process. In her autoethnography, she noted that the runners in the study sought to reclaim the time that had been devoted to running prior to their

knee injuries. They did this by using that bloc for less intense exercise (i.e., brisk walking) or rehabilitation exercises. Referring to this as linear time, she noted that this also came to signify both progress and failure. For example, in this aforementioned study, one of the participants noted that being able to run seven minutes continuously without pain represented progress, yet at the same time, it was distant from being able to run 60 minutes, which signified “real runner” to him. Additionally, Allen-Collinson (2003) mentioned inner time, particularly with regard to the participants’ experiences of re-familiarizing themselves with the rhythm of running after a two-year layoff. Likewise, upon returning to play, they also discussed having to regain a “feel” for their pace, or how fast they were going, something that serious runners are expected to possess. Finally, Allen-Collinson identified biographical time, where participants drew upon past narratives in order to put their injury into perspective. For instance, one participant recalled past successes (e.g., prior good performances) in order to motivate him during difficult points in rehabilitation. Additionally, participants drew upon earlier phases of injury as markers of progress. For example, one participant contrasted her present experience of being able to walk on hills with not being able to traverse staircases three months prior.

Training plans. Third, time plays a profound role in how runners organize and discuss their training regimens. To start, athletes’ plans (i.e., training, nutrition, work) are centered on the day of a race. Schedules are designed in a manner to progressively lead them to a day of the race. Furthermore, like all sports, professional running has a consistent temporal organization. For example, in Britain, the cross-country season spans from October to March, while track and field takes place in the summer months (Smith, 2002). Accordingly, cold and wet conditions do not promote fast times on the track; however, they contribute to the formation of mud, which is typical of most cross-country courses. Because races typically occur at a fixed point in the

calendar year (for example, the Boston Marathon takes place on the third Monday of April), this also creates a natural rhythm to how training regimens are structured (Smith, 2002). For runners who specialize in track and field races, the fall is devoted to building up their weekly mileage, peaking around January or February. At that point, more intensity is introduced into their workouts, which is often referred to as “speed endurance” or “strength” workouts (e.g., tempo runs). As the weather becomes warmer in the spring months, the mileage decreases, but the intensity continues to increase as athletes focus more on interval workouts to prepare them for races in the summer. Akin to the cyclical nature of race scheduled and training regimens, Allen-Collinson (2003) found that although the injured runners in their study presumed a straightforward recovery, they found it to be more cyclical in nature with periods of improvement followed by setbacks.

Although training methods may differ, the week is universally considered the most basic cycle of training (Smith, 2002). Typically, a similar type of training occurs on the same days of the week. For example, intervals may always be completed on Tuesday, tempo runs on Saturdays, and the longest runs on Sundays. In fact, serious runners with a full-time typically schedule their high-volume (i.e., long runs) and/or high-intensity workouts (e.g., intervals, tempo run) on Saturdays and Sundays since the weekends can afford them the most time (Smith, 2002). In the same vein, most races also take place on the weekends. Consequently, the careers of runners have a profound impact on the temporal organization of training. Finally, the act of keeping a “running log” or “training diary” is essential to a runner’s identity. This allows the individual to look to the past for details of a workout as well as how they felt on that particular day in order to better plan for the future. A running log also enables an athlete to search for explanations of particular race performances, injuries, illnesses, and other occurrences.

Similarly, Bale (2004) contended that the clock is a significant symbol in the lives of runners:

> Marty Liquori was told by his coach to 'live like a clock.' This meant rising every day at the same time and eating and training at the same time each day. In Liquori's words, 'I must live regularly if I'm going to progress…I fit my life into a groove…It's like being a zombie…I'm like a communist athlete who's confined at a training camp.' Leslie Heywood found that she could readily run at four in the morning because she was woken by the discipline of her 'internal clock'; she added, 'I don't need any machines, I'm one myself.' (Bale, 2004, p. 90)

Accordingly, he asserted that time is central to the daily routines of serious runners, as evidenced by these shared experience from two well-known runners. Furthermore, he appeared to be critical of the ways in which the clock dominated these athletes' lives, later arguing how runners (and other athletes) have increasingly resembled cyborgs as the lines between human and machine have become blurred. Consequently, Bale viewed time as a conservative, oppressive force for serious runners.

Time: oppressive or empowering? Finally, Smith (2002) called attention to a similar paradox of time in distance running. As previously mentioned, runners can become oppressed by time due to diminished autonomy. Also, they can experience anxiety about the impact that taking time off will have on one's training schedule, as in the case of those who are purported to suffer from running addition. Additionally, they can become obsessed with the performances of themselves and other. These negatives notwithstanding, Smith noted that they can also exploit it as a resource in a myriad of ways. For instance, while runners may appear to be constrained by the cyclical patterns of training, they often structure their sessions to balance other obligations

(e.g., work, family). Discussions of time provide runners with shared vocabulary and understandings that are essential to running identity.

Materialistic identifications. In symbolic interactionism, the *materialistic* classification refers to how a particular identity is reflected through settings, props, and personal appearance (Perinbanayagam, 2000).

Running routes. In their autoethnography, Allen-Collinson and Hockey (2007) noted that the use of certain running routes were integral to their identities as runners. Specifically, the running routes were significant symbols to running identity; hence, while they could not run on them due to injury, they still used them via walking. Symbolically, this represented a commitment to return to previous levels of fitness. Additionally, as mentioned above, devoting this 60 minutes that was previously allotted to running to walking or rehabilitation exercises allowed them to preserve part of their running identities (Allen-Collinson, 2003; Hockey, 2005; Allen-Collinson & Hockey, 2007). On a more practical level, walking on soft, grassy routes placed less stress on their knees in comparison to higher-impact surfaces, such as pavement or roads. As opposed to more recreational, "fair-weather" runners, serious runners invest a lot of effort into choosing a route that will facilitate their training objectives (Hockey, 2004). In particular, they are able to evaluate terrains based on subcultural knowledge and select trails that facilitate movement, maintain momentum, enhance performance, and avoid injury (Hockey & Allen-Collinson, 2006). In turn, what constitutes a desirable and safe running route becomes common knowledge within running circles, for example, through running clubs or online message boards. For instance, a route with variable terrain is often preferred for fartlek runs (i.e., Swedish for "speed play," these runs typically entail an alternation between periods of higher and lower intensity), while flat, open grass or roads are preferred for steady state runs.

Experienced runners also possess a heightened awareness regarding the seasonal changes of running routes. For instance, Allen-Collinson and Hockey (2008) were cognizant of the impact that wet weather would have on trails.

In addition to performance and convenience, safety figures prominently into discussions of running routes. Hockey (2004) noted that experienced runners are attuned to avoiding routes with poor street lighting, dense foot traffic, dark pathways, and uneven terrain. For example, from their autoethnographic data, while quiet and open country roads would otherwise be preferred during the day, Allen-Collinson and Hockey (2008) shied away from these routes in the evenings as the days became shorter in the winter due to safety and pacing reasons. Additionally, these authors took on the responsibility of avoiding collision with other pedestrians by slowing down as trails became narrower, for example. Smith (1997) also called attention to these social interactions that are commonplace in the running social world. He noted that since running is the more "socially deviant" form of locomotion in comparison to the more popular walking, runners often take it upon themselves to take responsibility for avoidance. Interestingly, among runners, there appears to be a shared disdain for dogs that often get in their way despite the best efforts and hence disrupt the pace of their runs (Allen-Collinson & Hockey, 2008; Smith, 1997). However, this contempt is primarily directed at the owners of dogs, who often make half-hearted attempts to control their dogs. Given this fundamental conflict of interest, parks and other recreational areas can represent spaces of tension between runners and dog owners (Smith, 1997). However, while runners and dog owners do not subscribe to the predictable forms of social conduct that are outlined in symbolic interactionism, Allen-Collinson and Hockey (2008) found that runners gave each other warnings about canine-populated zones, though they may be strangers lending evidence of shared understandings among runners.

Beyond performance and safety considerations, the aesthetic qualities of running trails often figure prominently into one's identity as a runner. In particular, Bale (2004) noted that in multiple books (e.g., *The Front Runner* by Patricia Warren, *The Loneliness of the Distance Runner* by Alan Sillitoe) and movies (e.g., *Chariots of Fire*), rural running signifies escape from the rigors of structured track workouts, as well as mundane (sub)urban life. Moreover, because serious runners typically police their diet and behavior, the unpredictability of nature may symbolize a temporary escape from these obligations (Bale, 2004). Certainly, many athletes have alluded to intense, sensual feelings associated with nature, particularly in high-risk sports (Laurendeau, 2011; Schneider, Butryn, Furst, & Masucci, 2007). Furthermore, Bale (2004) noted that this pleasure is maximized when all the senses are engaged. However, the best way to truly engage this is by slowing down to take in the scenery. Bale (2004) stated:

> Running in the countryside, the beach, the forest or the meadow may refresh the athlete but it does not permit the runner to fully absorb the pleasures and senses of nature in a way that walking can…the 'stroll,' not a run…provides a source of pleasure. One can take in the landscape and its variety more fully; one may pause and contemplate, even communicate. (p. 75)

Therein lies an interesting paradox, whereby many serious runners report the refreshing aspects of nature, yet concurrently view it as an obstacle to running at a fast pace and staying centered on the moment.

Embodiment. Maintaining a lean body is essential to a runner's identity. When runners are injured, they are unable to engage in the very process that contributes to their lean appearance; thus, maintain a fit body becomes a salient concern during rehabilitation. Hockey (2005) noted that people with little knowledge of running tend to ridicule runners' appearances

as “sickly” or “haggard,” yet the autoethnographic data in this study showed that comments served to reify their running identities. Accordingly, these authors (Allen-Collinson & Hockey, 2007; Hockey, 2005) mentioned that they were preoccupied with maintaining low body fat levels while they were recovering from their knee injuries; that is, they wanted to still look the part of a “real runner.” This heightened body surveillance occurred continuously throughout the day, such as when the authors were examining themselves while looking in the mirror, performing stretching routines, or massaging their muscles during rehabilitation. In order to abate this anxiety, the runners in this study maintained strict diet and reaffirmed their commitment to each to return to their previous fitness levels. They stated, “We both valorized and enjoyed the strength and light muscularity of our running bodies, the cardiovascular conditioning, and also the lightness afforded by a relatively lean body” (Allen-Collinson & Hockey, 2007, p. 390). In addition to remaining associated with their running routes, the act of brisk walking served to meet these objectives, as well.

On the other hand, there are undeniably negative consequences of this obsession with the body. US female collegiate runners and other athletes in weight-sensitive sports are at an increased risk of developing eating disorders (Beals & Hill, 2006; Reinking & Alexander, 2005). Additionally, almost half of female collegiate distance runners in the US have engaged in disordered eating behaviors, such as self-induced vomiting, diuretics, laxatives, and diet pills in order to keep their weight down. In turn, this often leads to menstrual irregularities, low bone density, depression, and a higher risk of injury (Cobb et al., 2003). Bale (2004) has noted that it is common, yet perhaps rarely spoken, in serious running subcultures to subtly observe and scrutinize other runners’ bodies. Further, he argued that this is ultimately disempowering for the individual to succumb his or her body to societal surveillance and subcultural expectations.

Nonetheless, this phenomenon again illustrates how human interactions with significant symbols (i.e., ideas, behaviors) have an intrapersonal and interpersonal impact on running identity. Similarly, multiple scholars (e.g., Abbas, 2004; McGannon & Busanich, 2010) have critiqued Western society's portrayal of the ideal athletic/runner's body, where the young male body is privileged, while any other deviation is viewed as a hindrance. Specifically, Abbas (2004) found that popular running media (e.g., *Runner's World*, *Running Times*) have conveyed the message that being female or over the age of 40 is seen as having a negative impact on body fat and running performance (Abbas, 2004). Also, many feminist scholars (e.g., McGannon & Busanich, 2010) have also been critical of Western running culture which promotes eating disorders and disordered eating behaviors, particularly for females who are held to unreasonable standards of beauty and thinness.

Clothing and apparel. In addition to embodiment, wearing running-appropriate clothing and apparel is also integral to the runner's appearance and overall social identity. In the aforementioned autoethnographic inquiry, Allen-Collinson and Hockey (2007) performed their running identities by continuing to wear their usual running gear. Not only did these acts reaffirm their own running identities, but they acted as significant symbols to other runners, demonstrating the continuity of their running selves. Apparel, such as serious running shoes, waterproof running tights, and Gore-Tex jackets were objects that were recognizable by other members of the running subculture. In Goffman's (1959) terms, the authors maintained their usual "props" in order to manage the impressions of others, as well as themselves. Hockey (2005) stated, "We were working hard at getting back to running; we had not thrown our kit in the cupboard in desperation; here we were, still putting the disciplined effort in and still looking like runners" (p. 47).

Associative identifications. As previously mentioned, personal and social identities do not simply involve self-reflection of various objects and actions; rather, they emerge through identification with other people. This is typically exemplified through various interactions in running clubs and other related affiliations (Allen-Collinson & Hockey, 2007; Hockey, 2005; Shipway, Holloway, & Jones, 2012). In addition to learning about various norms and rituals related to running, many runners have reported that distance running clubs provide an "extended family environment" and are a source of strong emotional attachments. Additionally, running peers are often a source of sympathy, empathy, and advice when faced with a long-term injury (Hockey, 2005). In their autoethnography, Allen-Collinson and Hockey (Allen-Collinson & Hockey, 2007; Hockey, 2005) found that their fellow runners played an instrumental role in reaffirming their identities as runners. In fact, although they appreciated the social support that they received during injury and rehabilitation, Allen-Collinson and Hockey (2007) found that others' continued perceptions of them as distance runners was most meaningful for them. Similarly, they found associative identification via materialistic identifications. Specifically, when a fellow runner acknowledge one of the author's new pair of running shoes, this helped validate the individual's running self (Allen-Collinson & Hockey, 2007). Lastly, these authors remained associated with the running subculture by reading magazines associated with running (Hockey, 2005). For instance, they continued educating themselves on training plans and specific workouts based on particular goal times. Furthermore, they read published race results, trying to deduce where they would have finished if they were healthy.

Vocabularic identifications. According to symbolic interactionism, language is the primary vehicle through which significant symbols are exchanged and recognized in human interaction (Hewitt, 2007). Therefore, it makes sense that there is a myriad of terms that are

specific to the running culture. Examples of words and phrases that have been found to prevalent in running social circles include *blowing up*, *hitting the wall*, *miles in your legs*, *carb loading*, and *tapering*, to name a few (Shipway et al., 2012). Running events (i.e., races, club meetings) provide opportunities for learning the various forms of identity talk and other norms of the subculture. Furthermore, the use of certain lingo can differentiate the self from other classes of runners. For instance, while injured, Allen-Collinson and Hockey (2007) noted that they used certain words (e.g., "endured") and phrases (e.g., "digging in") to distinguish themselves from "less-committed, fairweather runners" and remain anchored to their "serious runner" identities. They also found themselves recalling past stories where they exhibited perseverance and overcame running-related adversity in the past. This served as motivation to restore themselves to their previous athletic selves (Hockey, 2005). Finally, by expressing these aforementioned vocabularic identifications, individuals are able to engage in associative identifications through these shared understandings.

Other Views of Running

In this section, I have argued that symbolic interactionism is a valuable theory for exploring running identit(ies). In this next section, I review other frameworks that have been utilized to understand various aspects of running identities and subcultures. In particular, I discuss figurational sociology and social worlds, as they relate to distance running. While these theories differ from symbolic interactionism, it is worth nothing that these frameworks do not necessarily dispute or rejects aspects of symbolic interactionism. In fact, all three theories arguably contain elements that overlap with each other.

Figurational sociology. Drawing upon a figurational sociology framework, Smith (1998) stated that:

> People are enmeshed in human figurations, webs of interdependencies, and axes of tensions that we experience and recognize as families, occupational groups, sporting associations, universities, states, and grouping of states. It is in and through these human figurations that people and groups of people pursue what they see as their interests and attempt to minimize their fears. In so doing, they give human figurations their immanent dynamics. (p. 177)

Utilizing this approach, Smith (1998) proposed three types of individuals who competed in road races in the United Kingdom: (a) athletes, (b) runners, and (c) joggers. Interestingly, a popular British magazine in the 1990s, *Running Magazine* branded itself as the magazine "for joggers, runners, and athletes," trying to demonstrate its widespread appeal. Similarly, the US magazine followed a similar trajectory, originally being titled *Jogging* before being renamed to *Running* and then its present name. According to Smith (1998), *athletes* are those who have potential to win road races or at least place highly in them. Thus, their desire to win and achieve high ranking within this group of elite runners are their primary motivations for competing. *Joggers*, also known as "fun runners," are individuals who have no chances of winning road races (and may not even compete at all). They train on an infrequent basis, and their main motivations include weight loss, body appearance, and health. Often in a disparaging manner, they are also accused of only running in good weather conditions, and thus are also called "fair-weather" runners. Smith conceptualized *runners* as individuals falling someplace between the athlete and jogger continuum. These people run more than what is required for basic physical fitness (e.g., 30 miles per week), yet do not stand a realistic chance of winning a road race. Smith also noted that individuals with salient athlete and/or running identities are quick to distance themselves from joggers since they are considered nonparticipants. Accordingly, in his investigation, he found

that runners engaged in “repulsion” in response to perceived lack of recognition. This intense dislike reveals stark differences in status and power among these subgroups.

Social worlds. Building on Smith’s (1998) categorizations, Shipway (2008) sought to create a new framework of distance running subcultures. Unruh’s (1980) notion of social worlds was another essential influence. *Social worlds* refer to “amorphous and diffuse constellations of actors, organizations, events, and practices, which have coalesced into spheres of interest and involvement for participants” (Unruh, 1980, p. 261). This term encompasses previous concepts, such as *communities within communities* (Goode, 1957), *behavior systems* (Irwin, 1977), *social circles* (Kadushin, 1976), and *subcultures* (Gordon, 1947; Cohen, 1955). Furthermore, this term “communicates the notion that ‘world views’ are often created which unite social actors in terms of practices, procedures, and perspectives” (Unruh, 1980, p. 272). According to Coakley (2014), “these patterns constitute identifiable ways of life and social arrangements that are maintained or changed over time as people interact with each other’ (pp. 4-5). Accordingly, these shared understandings and actions represent important units of social categorization for participants who strongly identify with a particular social world.

Unruh (1980) proposed four features of involvement that are unique to social worlds in comparison to other units of organization. First, involvement in social groups is voluntary (*voluntary involvement*). Likewise, departure from social worlds is also intentional. Second, a participant can only be involved in a fraction of the total events that take place (*partial involvement*). Third, individuals are likely involved in a multitude of social worlds to various degrees (*multiple identification*). Fourth, media (e.g., television coverage, internet forums, Twitter, and Facebook plays a substantial role in forming and maintaining social worlds (Stebbins, 2001).

Drawing on Unruh’s (1980) notion of social worlds, Smith’s (1998) aforementioned categorizations of runners, and a similar investigation on 2007 London Marathon runners (Shipway & Jones, 2008), Shipway (2008) proposed a new typology of the distance running social world. This contained four concentric circles, representing: (a) sporting “outsiders”, (b) “occasional,” casual participants, (c) regular, recreational runners, and (d) experienced long distance running “insiders.” The outermost circles, the “outsiders,” refer to those with no particular interest in running or knowledge of the cultural meanings of distance running. The “occasional” participants have a basic understanding of running and may engage in it as part of their general health and fitness. “Regular” runners engage in running in order to supplements other forms of sport or exercise; thus, running is a means to an end. Finally, in the innermost circles, experienced “insiders” are typically a member of a running and are familiar with the norms of the distance running “community.” Running is a salient identity for these individuals. Utilizing participant observations in conjunction with unstructured interviews across two distance running clubs over a two-year period, Shipway, Holloway, and Jones (2012) examined the distance running social world and particularly how runners were united in terms of their practices, procedures, and perspectives. Through an inductive thematic analysis, they derived four themes that were consistent with Unruh’s (1980) concept of a social world: organizations, practices, actors, and events. Regarding organizations, they found that distance running clubs were central to developing their social identity as runners. In particular, these clubs provided opportunities for social interaction, activity, and learning about distance running. This is very similar to the notion of social identity in symbolic interactionism.

Next, many of these participant practices related to feelings of pain and suffering during running, as well as how one deals with injuries that are often associated with high-impact

activities. Indeed, there was a paradox of runners deriving pleasure from pain. Nonetheless, this ability to tolerate pain and enjoy suffering is a source of bonding, as well as a marker of social identity. In fact, such beliefs of pain are what separate the “insiders” from other categories in Shipway’s (2008) typology of running. Bale (2004) was critical of this enamorment with pain, stating that although sport is often viewed as an escape from the mundaneness of life, many athletes do not know how to escape from sport itself.

Shipway et al. (2012) framed “insider” runners as actors trying to perform and conform to a distinctive social identity. They noted that distance running identity was more invisible in comparison to other identities, such as race or gender. Accordingly, in the aforementioned investigation, they found that runners would accentuate their identity through dress and vocabulary. These resemble the materialistic, associative, and vocabularic identifications discussed in Allen-Collinson and Hockey’s (Allen-Collinson & Hockey, 2007; Hockey, 2005) autoethnography. Typically, “insider” runners are concerned with aligning with the unique ethos of distance running, an activity that clearly became meaningful and purposeful in their lives. Finally, Shipway et al. (2012) discussed the importance of running events. For example, many participants stated that the atmosphere of a race event (e.g., ample crowd support at a marathon) was a major attraction in itself, particularly at large scale races (e.g., New York Marathon). Additionally, participants noted a sense of euphoria experienced when finishing a race. Furthermore, races are prime venues for projecting various elements for projecting various elements of running identity that have been previously discussed (e.g., clothing, humor, vocabulary). Thus, races and other events provide a space for these individuals to celebrate their space in the subculture. Jenkins (1996) takes this assertion a step further, noting that individuals can emerge from events (i.e., races) with a more salient, authentic running identity as they

continue to become enmeshed in the culture. Finally, these events are also significant for "insider," or more serious, runners since their post-race emotional states are heavily attached to their race performances.

Summary

In this section, I have provided a review of the sociological, cultural, and historical aspects of running. First, I provided very brief overview of key events that had a profound influence on running identities and subcultures. Second, the bulk of this section was centered on the major tenets of symbolic interactionism. Furthermore, I illustrated why this is a valuable framework for understanding the personal and social dimensions of running identity. Third, I mentioned other perspectives that have been employed to understand the social nature of running. It is important to mention that there are a host of other notable works within the sociology of running, namely the body of scholarship focusing on how running has (re)produced hegemonic social norms, particularly with regard to race (e.g., Bale & Sang, 1996; Walton & Butryn, 2006). However, I believe these aforementioned works were germane to the purposes of my dissertation project, which is the development of a scale that assesses running identity.

Definitions

1. An *identity* is a "set of meanings applied to the self in a social role or situation" (Burke, 1991, p. 837).
2. A *subculture* refers to a smaller group within a dominant culture that exhibits differences "in such things as language, values, religion, diet, and style of life from the larger social world of which they are a part" (Yinger, 1960, p. 626).
3. *Fitness running*, often used synonymously with *recreational jogging*, refers to a running as a form of exercise (Bale, 2004). Health-related reasons remain a primary motivator for

fitness running. While many recreational joggers run outdoors, the use of treadmills is more common within this subgroup.

4. *Achievement running*, often used synonymously with *serious running* in this essay, refers to running as a sport (Bale, 2004). In contrast to fitness running, achievement running is centered on speed and the seeking of records and competition victories. Example of achievement running sports include cross-country, indoor track and field, outdoor track and field.
5. *Symbolic interactionism* is a sociological theory comprising the following assumptions: (a) People, individually and collectively, act on the basis of shared meanings; (b) meaning and conduct arise through interactions among individuals; and (c) meanings are assigned and modified through an interpretive process that is frequently fluctuating (Blumer, 1969).
6. In symbolic interactionist terms, a *significant symbol* is a "gesture that arouses a similar response both in the one *employing* the gesture and in the others who *perceive* it" (Hewitt, 2007, p. 31). These may also be called *signs*.
7. In symbolic interactionist terms, an *act* is a "fundamental unit of conduct, with an identifiable beginning and end, that is related to the organism's purposes and that is oriented toward one or more objects" (Hewitt, 2007, p. 72).
8. In symbolic interactionist terms, an *object* is "anything [tangible or intangible] to which attention can be paid and toward which action can be directed" (Hewitt, 2007, p. 75).
9. In symbolic interactionist terms, the *self* is "a social object…to which attention is paid and toward which actions are directed… [and essential to] the formation and control of human conduct " (Hewitt, 2007, p. 76)

10. In symbolic interactionist terms, *announcements* refer to “any act or gesture that serves to indicate or claim an identity in the presence of others” (Hewitt, 2007, p. 134).
11. In symbolic interactionist terms, a *placement* is “an act or gesture that assigns a social location within a situation or the broader community or society” (Hewitt, 2007, p. 137).
12. In symbolic interactionist terms, a *situated identity* refers to a “location the individual has in interaction with others in a particular social situation…established when announcements and placements correspond” (Hewitt, 2007, p. 138).
13. In symbolic interactionist terms, a *social identity* refers to “the person’s sense of place or location in a community of some kind” (Hewitt, 2007, p. 138).
14. In symbolic interactionist terms, a *personal identity* refers to “a claim of special plans, projects, or purposes, and often entails a sense of difference from others rather than identification with them” (Hewitt, 2007, p. 137).
15. *Social worlds* refer to “amorphous and diffuse constellations of actors, organizations, events, and practices, which have coalesced into spheres of interest and involvement for participants” (Unruh, 1980, p. 261).

Identity, Athletic Identity, and Social Identity

In psychology, *identity* has been defined as the “human capacity – rooted in language – to know ‘who’s who’ (and hence, ‘what’s what’)… knowing who we are, knowing who others are, them knowing who are, us knowing who they think we are, and so on” (Jenkins, 2008, p. 5). In order to develop an adequate scale that assesses running identity, it is necessary to review the foundational theories regarding identity, identity development, and athletic/running identity. First, I outline paradigmatic differences regarding philosophical assumptions of the self. Second, I review sociological theories of identity, emphasizing Burke and Stets’ (2009) identity theory,

which is influenced by symbolic interactionism and control systems theory. Third, since this dissertation project is situated within sport psychology, I delve into greater detail with regard to the mainstream theories of identity development in psychology. Additionally, I review more recent and critical identity frameworks, which have been mostly influenced by postmodernism, feminism, and intersectional approaches. Fourth, I summarize and highlight the differences among the sociological and psychological theories and models discussed in the previous two sections. Fifth, I focus the discussion on identity in sport, specifically addressing athletic identity and sport subculture socialization. Also, I propose a tentative conceptualization of running identity and why this is a worthwhile line of inquiry. Sixth, I conclude this section by discussing how this background literature can inform my *praxis*.

Views of the Self: Paradigmatic Differences

When researching the self, it is imperative to be cognizant of the paradigm being utilized by the researcher. A paradigm refers to "basic set of beliefs that guide action" (Guba, 1990, p. 17). Each paradigm entails its own ontological, epistemological, and axiological assumptions that define reality for the communities who subscribe to it (Denzin & Lincoln, 2005). Ontology refers to the nature of reality; that is, what accounts for truth (Creswell, 2007). Epistemology entails the relationship between the researcher and knowledge; in other words, how do we know what we know? Axiology refers to the role of values in research. Finally, these assumptions both impact and are intertwined with the methodological choices of the researcher (i.e., the tools that one employs to explore identity). In this section, I focus on the following paradigms: *positivism, post-positivism, postmodernism, and post-structuralism*. Specifically, I address the philosophical assumptions undergirding each one as well as how identity is construed.

Positivism and post-positivism. Positivism is founded on the belief that that the social world is orderly and predictable (Creswell, 2007). Moreover, positivists believe in the existence of singular absolute truths, which can be discovered through precise and objective measurements. However, most researchers in psychology and sport psychology have subscribed to the less rigid post-positivist paradigm (McGannon & Johnson, 2009). Whereas positivists make claims of certainty with regard to truth, post-positivists talk about probabilities, asserting that absolute truth is not always necessarily attainable. Nonetheless, both paradigms are characterized by the scientific approach to research, containing elements of reductionism, empirical data collection, logic, and determinism (Creswell, 2007). As a result, research typically takes place in a logical, systematic order of steps that is guided by *a priori* hypotheses.

With regard to identity, post-positivists believe that identity is a fixed, given entity, or structures or processes in the mind (McGannon & Johnson, 2009). The "self is stable, exists concretely in the person's mind, and is formed only in part via cultural categories of identity such as race, gender, nationality, and age" (McGannon &Johnson, 2009, p. 61). However, as McGannon and Johnson critiqued, in cross-cultural studies, identities (e.g., race, ethnicity, social class) often tend to be reduced to categorical variables. Similarly, as these authors noted, statistical procedures, such as analyses of variance, are guided by the assumptions that within-group variance is minimized and that between-group variance is maximized. As a result, this may obfuscate the complex ways that various identities and other cultural factors are interrelated. Nonetheless, cross-cultural studies that tend to be undergirded by post-positivism have still been instrumental in advancing the limited cultural scholarship in the field of sport psychology. Gano-Overway and Duda (2001) partially managed these aforementioned issues by utilizing hierarchical regression techniques, which allows researchers to examine main effects and

interaction effects. In this investigation, they sought to examine the effects of race, ethnic identification, and gender on goal orientations. While they dichotomized race, they allowed participants to rate their ethnic identity on a continuum via the Multigroup Ethnic Identity Measure (Phinney, 1992). Additionally, in line with the epistemological assumptions of post-positivism, researchers' identit(ies) are not considered when carrying out studies in order to make claims of objectivity (McGannon & Johnson, 2009). This point of contention with postmodernists is discussed more below.

Postmodernism and post-structuralism. Postmodernists are critical of the aforementioned traditional assumptions of identity as a fixed entity. Instead, they typically subscribe to a more subjective view of identity, asserting that truth claims serve interests based on personal, cultural, and political dimensions (Richardson & St Pierre, 2005). Likewise, Fisher, Roper, and Butryn (2009) suggested that sport psychology researchers and practitioners could be more cognizant of how athletes construct and reconstruct their identities from various subcultural axes of power, including gender, age, race, ethnicity, nationality, social class, age, sexual orientation. Furthermore, these authors asserted that "athletes' identities are multiple, fragmented, and dependent upon location rather than fixed or unchangeable" (Fisher et al., 2009, p. 24). All in all, postmodern perspectives tend to share the goal of challenging traditional hegemonic ways of thinking (Creswell, 2007). Furthermore, postmodernists aim to create:

> …new texts that break boundaries; that move from the center to the margins to comment on and decenter the center; that forgo closed, bounded worlds for those more open-ended and less conveniently encompassed; that transgress the boundaries of conventional social science; and that seek to create a social science about human life rather than *on* subjects. (Lincoln, Lynham, & Guba, 2011, p. 124)

As Moya (2000) noted, essentialist ways of understanding identity obscure the heterogeneity within groups. Nonetheless, postmodernists claim that there is no one way of understanding the self and identity; therefore, post-positivist methods and research can exist alongside postmodernism as one of many possible approaches (McGannon & Johnson, 2007).

Post-structuralism, on the other hand, is a paradigm that can be conceptualized as a form of postmodernism. This approach emphasizes the role of language in constructing, rather than, reflecting identity and self-related views (McGannon & Johnson, 2009; Richardson & St. Pierre, 2005). Furthermore, the self and identity are discursively produced and influenced by local, social, cultural, and political forces. In other words, language is used in particular ways and in certain contexts to construct particular views of the self. Ultimately, the goal of many post-structuralists is to create alternative discourses to generate more possibilities of thinking, feeling, and behaving (McGannon & Johnson, 2009). As an example, McGannon and Johnson described how a female runner who solely subscribes to the dominant discourse of having a slim, feminine body may feel disempowered if she perceives that she is not thin enough to be successful in her sport. In turn, this may lead to negative emotions and behaviors such as engaging in strict dieting, counting calories, and purging. Instead, the post-structuralist seeks to create other discourses that allow female athletes to reconcile their athletic identities in an empowering manner. Furthermore, McGannon and Johnson (2009) called on cultural sport psychology researchers to be aware of how they themselves construct their own identities in accordance with (or in contradiction to) various discourses, noting that this profoundly impacts the entire research process (i.e., conceptualization of research questions, methodological decisions, how results and voices are (re)presented). This awareness is known as *reflexivity* and is essential to enhancing the rigor of various qualitative studies undergirded by postmodern and/or post-structuralist lens.

Furthermore, Smith and Sparkes (2010) echoed the concern that mainstream sport psychology scholars have tended to conceptualize the self as something that someone “has” and that can be “found.” In other words, identity has been discussed as concrete, tangible, and coherent. Smith and Sparkes problematized these notions, suggesting that these conceptualizations are devoid of the cultural forces that shape identity development. Instead, they offered narrative approaches, which are often undergirded by post-structuralist lenses, to understanding self-identit(ies). They asserted:

> individuals cannot be simply understood as having a fixed narrative self that is ontologically prior to their position in the social world. The self is not singular, but plural in its origins and subsequent formation… our selves are relational and inhere in the social interactions a person has with others. (Smith & Sparkes, 2010, p. 90-91)

Until the past 10 to 15 years, such conceptualizations of the self, which lend itself to culturally-inclusive research, were generally castigated to the margins of mainstream sport psychology research. In other words, critical discussions of identity beyond the traditional post-positivist notions of athletic identity have been rare. Recently, however, greater strides have been made to locate individuals’ multiple, fragmented identities within complex social matrices that oppress some people and privilege others rather than treating identity as a static, unitary, categorical variable (Fisher, Butryn, & Fisher, 2009; Schinke & McGannon, 2015).

Sociological Theories/Models of Identity

In sociology, an identity has been defined as “set of meanings that define who one is when one is an occupant of a particular role in society, a member of a particular group, or claims particular characteristics that identify him or her as a unique person” (Burke & Stets, 2009, p. 3). This section focuses on Burke and Stets’ (2009) identity theory, which is primarily informed by

symbolic interactionism and ideas pertaining to control systems theory. These frameworks are discussed below. Given that symbolic interactionism, particularly traditional symbolic interactionism, was discussed at length in the previous section, only a brief overview is provided. Finally, the key tenets of identity theory according to Burke and Stets (2009) are outlined.

Symbolic interactionism. Although Blumer (1969) coined the term *symbolic interactionism*, this theory is rooted in the work of Mead (1934), who posited that the mind/self is located in society and developed through interaction with others. Furthermore, language allows individuals to select meanings (symbols) and attribute them to the self and others. The self is shaped through social interaction, and in turn, culture is impacted by individuals. Additionally, people occupy multiple roles within society. Accordingly, the self is comprised of multiple "smaller selves," each of which can be referred to as an identity (e.g., self as a father, self as a student, self as an athlete; Burke & Stets, 1991). On the other hand, for Burke and Stets, the term "agent" represents the "overall self" and reflects an individual's drive to act in a purposeful, goal-driven manner. Symbolic interactionism can be summarized by three basic tenets: (a) people, individually and collectively, act on the basis of shared meanings; (b) meaning and conduct arise through interactions among individuals; and (c) meanings are assigned and modified through an interpretive process that is frequently in flux (Blumer, 1969).

Identity theory in this sociological framework (Burke & Stets, 2009) is more predominantly influenced by structural symbolic interactionism, a version of symbolic interactionism proposed by Stryker (1980) who placed a larger emphasis on the role of society and more local social structures in identity development. He wrote:

> This view sees social differentiation as a continuous process countering homogenization of interactional experience and the structures within societies. It sees society as composed

> of organized systems of interactions and role relationships and as complex mosaics of differentiated groups, communities, and institutions, cross-cut by a variety of demarcations based on class, age, gender, ethnicity, religion, etc. It sees the diversity of parts as sometimes interdependent and sometimes independent of one another, sometimes isolated and insulated from one another and sometimes not, sometimes cooperative and sometimes conflicting, sometimes highly resistant to change and sometimes less so. (Stryker, 2008, p. 19)

In other words, Stryker rejected Mead's notion of one society that would gradually evolve to possess a collection of universal, shared meanings. Nonetheless, in contrast to the ideas regarding a fluid social structure in traditional symbolic interactionism, Stryker (1980) posited that these social structures are stable, patterned, and organized. Consequently, he viewed identities as roles, which entail shared understandings based on a social structure and are then internalized by the individual. Accordingly, this assumes that social structures are stable; however, multiple researchers in psychology (e.g., Layton, 1998) and sport psychology (e.g., Smith & Sparkes, 2010; Ryba & Wright, 2005) have offered different views. These are discussed in more detail below. Additionally, Stryker (1980) proposed that these identities are organized in a salience hierarchy, which predicts how an individual will behave in a particular situation. A more salient identity is one that is likely to be activated across multiple contexts. Identity salience is determined by behaviors rather than individual perceptions of identity prominence. Also, perhaps more relevant to the study of athletic identity, the more salient a particular identity is, the more likely an individual will remain committed to that particular role. Specifically, commitment will be high if an individual perceives that there will be high costs for giving up an identity, namely the number and strength of the ties in one's social network based on a particular

role (Stryker, 1980). Defined in this way, this theory comprises more post-positivist elements, assuming that the "stability and constancy of selves, action, and society makes us able to use *a priori* theory and develop theory" (Burke & Stets, 2009, p. 53).

Control systems. Theories pertaining to control systems were largely borrowed from the field of cybernetics. Weiner (1948) posited negative feedback could be utilized to control the output of mechanical and electrical systems, such as steam engines or electronic motors. According to his cybernetic control model, a varying input is sent into a system and becomes a steady controlled output. In turn, some of this output is fed back to the input, a process called negative feedback. For example, if the input rises below a desired level of output, a signal is delivered to subtract the amount of input into the system. In an optimally functioning system, the output is maintained at a steady state.

Later, Powers (1973) applied these concepts to humans and other organisms. He noted that humans differed from non-living systems in that living beings focus on regulating the control of perception or input to the system. Moreover, humans strive to maintain a steady and stable environment rather than consistent output. The perceptual control model is a more complex framework that accounts for these aforementioned differences in humans. In this model, Powers distinguishes the system from the environment. First, a particular situation is modified by an individual's perception. Then, it is sent to the comparator, which measures the mismatch between reference and perceptual signals. Finally, after accounting for any error, it modifies this output (akin to the negative feedback process in the cybernetic control model), but it also revises the original situation (i.e., input). This negative feedback serves to counteract any disturbances in the environment, thus maintaining a constancy of the situation. This bears relevance for identity because it illustrates the relationship between an individual and the environment as a dynamic

control system entailing an active agent and a passive perceptive component that allows frequent adjustment to fit into its environment as well as to alter the environment to the individual's desires. Furthermore, the degree to which an individual matches his environment and with other beings in a situation has consequences for feelings and emotions, which further influence one's behavior.

Applying this model to identity theory, Burke (1980; Burke & Stets, 2009) argued that identity and behavior are connected with a system of shared meanings. In other words, behavior is tied to the meaning that one places in one's identity. Not all identities are perceived and acted upon in a similar manner. Burke and Stets (2009) provided the example of a student identity. For one individual, being a student could mean being "academic," which could be enacted by attending classes regularly, taking meticulous notes, and passing exams; however, another student could attribute a "sociable" meaning to being a student and thus would spend most of his/her time socializing with friends and attending parties. In brief, individual meanings significantly impact behavior as one seeks to validate his/her identit(ies). Burke and Tully (1977) also contended that multiple bipolar continuums (e.g., good and bad, powerful and powerless, active and passive) with underlying perceived meanings exist for every identity. For example, Burke and Stets (2009) noted that a "feminine" identity could entail being "noncompetitive" (competitive to not at all competitive dimension), "passive" (very active to very passive dimension), and "feelings easily hurt" (feelings not easily hurt to feelings easily hurt dimension). It is worth noting that other identity theorists, such as Lynne Layton, are critical of such dichotomies; this is discussed in more detail below.

In accordance with identity theory and the perceptual control model, an identity serves as a standard reference or reference for an individual (Burke & Stets, 2009). In addition to the

identity standard, the aforementioned feedback loop comprises the perceptual input of self-relevant meanings from a situation. This includes how an individual views him or herself as well as meaningful feedback received from other people. Also, the feedback loop entails a comparator, which compares the identity standard and the perceptual input. Finally, the loop contains output to the environment (i.e., meaningful behavior). The system works by modifying the output in the social situations and mitigating the discrepancy between the identity standard and input. Behavior is oriented toward achieving this congruence, or identity verification. In this model, commitment represents the amount of pressure to keep perceptions of self-in-situation meanings congruent with the identity standard (Burke & Reitzes, 1991). Accordingly, commitment moderates the relationship between identity and behavior. While this differs with Stryker's (1980) views on commitment and identity salience, it does not refute the importance of social structure. For example, Burke and Stets (2009) noted that a highly committed student with a strong degree of "academic responsibility" may develop relationships with other people with similar identities or those that reward this identity (e.g., parents, teachers). In turn, the student would act accordingly by investing time in studying and raising his or her grade point average.

Identity model: A synthesized framework. According to Burke and Stets (2009), identity theory has the advantage of considering identity on the "micro, meso, and macro levels." Specifically, identity theory combines McGall and Simmons' (1978) interactional views, Stryker's (1980) structural emphasis, and Burke's (1980) perceptual control model framework. Furthermore, Burke and Stets (2009) posited that identities have both cognitive and affective components. Additionally, they function at both a conscious and unconscious level. Certainly, humans are aware of symbols (shared understandings) and use language and gestures in an

intentional matter. However, at other times, individuals behave in ways that are unintentional, yet reflected by social and cultural forces.

Similar to Burke's (1980) earlier perceptual control model, Burke and Stets (2009) proposed an identity model consisting of four basic components: (a) an input; (b) a comparator; (c) an identity standard; and (d) an output. As noted, each identity standard possesses a set of meanings and serves as the reference point in this model, and these are located on a dimension (e.g., masculine-feminine continuum). Following, inputs refer to the individual's perceptions; the control of these cognitions is paramount to this model. People are driven to match these perceptions with the identity standard. It is important to note that a human does not necessarily change the environment; rather, he or she acts in a manner that changes his/her initial perceptions. For example, if someone identifies as masculine, acting weak may result in incongruence with this identity standard. Next, the comparator simply compares the inputs to the identity standard. Finally, the outputs refer to the behavior in the situation. In the aforementioned example, if Tom does not perceive that he is acting as masculine as his identity standard, he will adjust his behavior to be more masculine or less feminine. However, it is important to note that what is considered masculine or feminine in one culture may not be so in another context. Thus, the feedback loop would need to adjust for these differences in each situation. Additionally, Burke and Stets (2009) highlighted that this is a continuous loop. Although this occurs in various degrees of awareness, inputs are always being compared with the identity standard, and feedback is always operating to influence outputs in order to revise the initial inputs via the comparator. Also, in line with the symbolic interactionist influences, these authors highlighted that the perceptions (inputs), identity standards, and behaviors (output) are subjectively based on shared meanings, rather than some objective measurement of an identity performance. The degree to

which identities are verified is strongly tied to certain emotional states. For instance, if an athlete experiences a long-term injury, he or she will experience a discrepancy between the input (perception of low athletic ability) and identity standard (salient athletic identity). In turn, the athlete may experience negative emotions, such as anger, sadness, and tension. All in all, however, the control systems and identity theory models proposed by Burke and Stets (2009) is mechanistic, not allowing for the complex, nature, and fluid nature of identities to be explored. Likewise, this model appears to be overly reductionist, assuming that identity can be reduced to an observable component of someone.

Psychological Theories and Models of Identity Development

In this section, I outline various theories of identity development. First, I review the basic tenets of the self-concept as well as how it has been relevant in the sport psychology literature. Then, foundational theories in mainstream psychology, including Erikson's (1963) theory of psychosocial development and Marcia's (1966, 1980) theory of ego identity status and development. Next, I provide an overview social identity theory (Tajfel & Turner, 1979, 1986), a framework that has great potential to influence my dissertation project, and discuss its implications. Self-categorization theory (Turner, 1982), a related framework, is also discussed. Finally, several critical theories that are undergirded by postmodernism and feminism are discussed, including Layton's (1998) description of gender identit(ies), Butler's (1990a, 1990b) queer theory, Collins' (2008) thoughts on Black feminism and identit(ies), and Crenshaw's (1989) intersectional approach to understanding identit(ies).

The multidimensional and hierarchical self-concept. Self-concept is a construct related to identity that has been used to predict and explain human behavior. *Self-concept* refers to "…a person's perceptions of him- or herself…formed through experience and interpretations of one's

environment" (Marsh & Shavelson, 1985, p. 107). Marsh and Shavelson outlined six fundamental premises of the self-concept. First, the self-concept is multifaceted with the ability to store large amounts of information about themselves. Furthermore, these categorizations used by individuals to organize information are typically shared a particular group. Second, it is hierarchically organized from general to more specific perceptions (e.g., general self-concept, physical self-concept, physical appearance and physical ability). Third, general self-concept is stable; however, certain categorizations become less stable as they become more specific. Fourth, individuals' self-concepts become more multifaceted as they progress from infancy to adulthood. Fifth, the self-concept entails both descriptive ("I am a confident runner") and evaluative dimensions ("I ran a good race"). Sixth, it can be differentiated from other constructs such as running identity or running performance.

Marsh and Redmayne (1994) further expanded on the more specific physical self-concept. They posited that the physical self-concept comprised six dimensions: endurance, balance, flexibility, strength, appearance, and general physical ability. Nonetheless, these factors were derived from a sample of 13-14 year old adolescent girls; thus, it is unclear how representative this is of the general population. Interestingly, there were significant correlations between the scores on each of these physical self-concept dimensions, as assessed by the Sutherland and Marsh (1982) instrument, and physical fitness test scores (i.e., endurance, balance, flexibility, static strength, explosive strength/power). For example, endurance self-concept was strongly correlated with endurance fitness (r = .643). Likewise, strength self-concept was correlated with static strength test scores (r = .442). In another study, Marsh, Perry, Horsely, and Roche (1995) sought to compare the self-concepts of elite athletes and nonathletes. As predicted, athletes possessed significantly higher physical ability self-concepts than

nonathletes; however, they did not differ in terms of physical appearance self-concept. Athletes also had significantly higher social self-concepts, including same sex relationships, opposite sex relationships, parent relationships. Interestingly, athletes scored significantly lower than nonathletes on religion and honesty/trustworthiness self-concepts.

Erikson's theory of psychosocial development. Erikson's (1963) theory of psychosocial development is one of the foundational theories of identity development in the field of psychology. In particular, his stages of psychosocial development are one of the more popular frameworks for understanding psychological challenges throughout the lifespan. Like Freud, a notable influence of his work, Erikson posited that people typically transition through various life stages, each comprising challenges that must be mastered in order to ensure healthy identity development, or else these issues may reappear at a later period in life. However, Erikson believed that Freud's stages of psychosexual development failed to account for identity development beyond adolescence. In other words, humans continue to face obstacles and grow after adolescence. In total, Erikson's theory contains eight stages. Each stage contains both syntonic (positive) and dystonic (negative) aspects that represent potential outcomes depending on how the crisis is resolved (or not resolved) at a particular time in life. The first four stages are remarkably similar to Freud's stages of psychosexual development, while Erikson primarily contributed to the final four stages.

In the first stage (*oral-sensory*), infants are highly dependent on their parents, especially the mother, for basic needs. If infants possess a warm and affectionate relationship with the parents, they develop healthy feelings of trust. On the contrary, if they are not adequately provided care, they experience mistrust, which affect their ability to form reciprocal relationships later in life. In the second stage (*muscular-anal*), children (age two to four years) build

confidence and autonomy by engaging in a variety of tasks and learning new skills. Children who successfully manage this stage are able to carry themselves in a prideful manner and typically have caring parents. On the other hand, children with more restrictive or critical parents typically experience feelings of shame and doubt when they struggle to master new tasks. In the third stage (*locomotor-genital*), children from four to five years of age continue to gain mastery over their environment. What distinguishes this phase from the previous one is that children also develop more thought and planning behind these tasks. Accordingly, children begin to ask why things are the way are. In turn, they gain awareness of why they (and other people) do the things they do. Development of gender identity and other social roles are also prevalent during this stage. Other scholars (e.g., Butler 1990; Layton, 1998) have greatly expanded in the area of gender. These associated theories are discussed in greater detail below. For the purposes of Erikson’s framework, however, the focus is on children’s increasing sense of initiative, which flourishes if their parents and teachers encourage exploratory behaviors. However, if their parents, teachers, or other people in authority question or deride these behaviors, they develop feelings of guilt. In the fourth stage (*latency*), children between the ages of six and 12 develop even more complex skills, such as reading and writing. They continue to acquire a better understanding of cause and effect relationships. Erikson (1963) noted that the early years in elementary school are critical for building a child’s self-confidence. Akin to the previous stage, if children are encouraged to try new activities (e.g., drawing pictures, solving math problems) and are subsequently praised for their accomplishments, they develop a sense of industry. If their parents and teachers ridicule them for attempting these activities, they develop feelings of inferiority.

In the fifth stage (*adolescence*), teenagers (age 13-18 years) becomes more cognizant of how they are perceived by others. In the later years of this stage, they establish a sexual identity and begin to craft potential career roles as they prepare for adulthood. As adolescents are tasked with more responsibilities, they also continue to develop more cogent moral beliefs. Those who are successful in adolescence develop a secure identity, while those who attempt to avoid responsibilities exhibit role confusion. During the sixth stage (*young adulthood*), the individual (ages 19 to 39) seeks a companion after shoring up their identity in the previous stage. Those who are able to make long-term reciprocal commitments to others achieve intimacy. Individuals who do not form a lasting companionship due to fear of rejection or other reasons experience isolation. In the seventh stage (*middle adulthood*), there is a fundamental shift from focus on the self to others. As adults (ages 40 to 65) continue (or begin) parenting, their focus is on providing for the next generation. Additionally, they must begin to care for their aging parents later in this stage. Those who feel productive to society experience generativity, while those who are more self-centered experience stagnation. In the eighth and final stage (*late adulthood*), the individual (age 65 and beyond) deals with retirement and a decrease in the pace of one's life. If the older adult is able to look back and feel content with their life accomplishments, (s)he experiences ego integrity. If the individual does not believe (s)he has lived a happy and productive life, (s)he experiences despair. In fact, on a societal level, Erikson (1963) viewed these life stages as a cyclical rather than linear as in Freud's psychosexual stages. In other words, he posited that the older generation laid the foundation for the next generation.

While this is a seminal theory within the areas of identity and development, there are some notable critiques worth mentioning. First, Erikson's (1963) model appears to reflect a typical life of a white middle-class individual during the time this theory was proposed.

Accordingly, Erikson published this theory during the post-World War II/Cold War era, when the nuclear family was synonymous with the values of middle-class American during this time. Consistent with these taken for granted gender norms that are associated with the nuclear family ideology, there is an emphasis on the mother as the primary caretaker in the first few stages. Second, as with any stage model, a common critique is that not all individuals proceed through these same stages (e.g., Brewer, 1994). In fact, some may skip stages, and some may revert back to previous stages; although, Erikson does acknowledge that some of these unresolved issues can surface later in life. Third, it presumes that people who are unable to find a mate and have kids suffer from identity disturbances, which is surely not the case. Nonetheless, this is a good starting point for attempting to understand the development of athletic identity. Its emphasis on mastering tasks during the early stages, in particular, makes it very relevant to sport. Furthermore, the adolescence and early adulthood stages are applicable to athletic identity foreclosure, as well as the idea of collegiate athletes (not) being able to live balanced lives (academically, emotionally, socially, intellectually, athletically, etc.).

Marcia's theory of identity status and development. Marcia (1993) further contributed to the theoretical development of identity in mainstream psychology by suggesting that identity entails structural, phenomenological, and behavioral aspects. The structural aspect refers to the positive and/or negative consequences of identity development or lack thereof. Erikson (1963) highlighted this dimension through his posited eight stages of psychosocial development. The phenomenological aspect refers to individuals' subjective experiences of possessing or not possessing a sense of identity. The behavioral aspect refers to observable interactions that can be attributed to identity formation or identity style. Individuals' commitment to their ideology and occupation are common general ways of gauging identity (Marcia, 1993).

Marcia’s (1966) theory of ego identity development focused on the phenomenological aspect of identity. Specifically, he posited that identity development did not result from solely identity resolution or confusion, as in the case of Erikson’s (1963) stages of psychosocial development, but from exploratory behavior and commitment to personally relevant areas of life, such as their career, religion, or ideology. Depending on how well individuals perform this, four different identities could result: identity diffusion, identity foreclosure, identity moratorium, and identity achievement. *Identity diffusion* refers to individuals who neither engage in exploratory behavior, nor make any commitments to life. In contrast, individuals experiencing *identity foreclosure* are not engaging in exploratory, but have made a firm, exclusive commitment to a particular domain, such as sport. Typically, this decision is motivated by parental or societal approval (see also Pearson & Petitpas, 1990; Petitpas, 1978). For example, an NCAA Division I runner may exhibit a singular focus to their sport in order to win the approval of coaches and teammates as well as himself as an athlete (i.e., positive self-concept). In turn, he may neglect exploration of post-collegiate career opportunities or disregard relationships with friends who are not athletes. On the other hand, individuals in a state of *identity moratorium* are actively exploring multiple options, but have not made any firm commitments. For instance, a senior collegiate runner who is approaching retirement from her sport may begin to identify less with the running role and explore other career and social options beyond graduation. Finally, the term *identity achievement* is reserved for individuals who have explored numerous options and beliefs and ultimately have chosen a particular path that brings comfort and fulfillment to him/her. It is still possible for collegiate athletes to accomplish this status. For example, a collegiate runner is highly invested in the sport, but has made this choice due to one’s own pleasure rather than mere

approval from significant others. Also, the runner who exhibits an *identity achievement* ego status will also likely be balanced in other identities (e.g., academic, social, career, social).

Additionally, Marcia (1993) later distinguished between identity *formation* and *construction*. He wrote:

> identity begins to be *constructed* when the individual begins to make decisions about who to be, with which group to affiliate, what beliefs to adopt, what interpersonal values to espouse, and what occupational direction to pursue. Most, though not all, individuals "have" an identity in the original Eriksonian sense. Only some, however, have a *self-constructed* identity that is based upon superimposition of a decision-making process on the given or conferred identity. (p. 7)

In summary, while Erikson's (1963) stages of psychosocial development refer more to identity construction, the phenomenological aspects of Marcia's (1966) theory of identity development emphasize the social construction, or self-directed aspect, of identity. Marcia (1993) added, "…people who construct their identities, modifying or rejecting some elements… know not only who they are, they know how they became that, and that they had a hand in the becoming" (p. 8). Consequently, according to Marcia, not all people socially construct their identities; rather, it would appear that those who achieve *identity achievement* (i.e., those who have made a commitment to a role having explored various roles) accomplish this. On the other hand, individuals who do not accomplish both of these tasks concurrently are accepting conferred identities. This framework also bears relevance for athletic/running identit(ies) given that these are more freely chosen and less conferred than other identities, such as gender, race, ethnicity, and sexual orientation. Furthermore, there is an abundance of research in sport psychology that has addressed identity foreclosure and career exploration in athletes (e.g., Brown et al., 2000;

Murphy, Petitpas, & Brewer, 1996; Pearson & Petitpas, 1990; Petitpas & France, 2010) and, specifically, in runners (Horton & Mack, 2000).

Social identity theory.

Key concepts. According to Tajfel and Turner (1979), *social identity* entails "those aspects of an individual's self-image that derive from the social categories to which he [sic] perceives as belonging" (p. 16). Social identity is predominantly influenced by group memberships. Jenkins (2008) also called attention to the differences (although tenuous) between *groups* and *categories*: "…a group is an actually existing concrete point of reference for its members, while a category is collectively defined classification of identity, part of local knowledge" (p. 112). According to Jenkins (2008), Tajfel was unsatisfied with previous identity frameworks, which were based on individualism, as was much of the general psychology literature at the time. Further, Tajfel sought a more cogent psychological explanation for the existence of prejudice and conflict. Accordingly, Tajfel and Turner proposed a social identity theory (SIT).

SIT is based on three tenets. First, people strive for a positive social identity, which is influenced by a drive for a positive self-concept. People simultaneously strive for both a positive self-concept and positive social identities (collective self). Second, a positive social identity is achieved through favorable comparisons between the in-group and out-group(s). Accordingly, this can occur through positive appraisals of the in-group and/or negative appraisals of the out-group. Third, when social identity is unfavorable, individuals will either leave the group or make their group more positively distinct (Tajfel & Turner, 1979, 1986).

In contrast to social identities, Tajfel and Turner (1986) conceptualized a personal identity as a mere internalization of collective identifications. However, they posited that social

identities were more likely to have an influence on individual behavior. While the meanings and salience of group membership vary across situations, Tajfel and Turner claimed that group membership in and of itself is was a strong enough pre-requisite to discriminate against out-group members. Furthermore, society is organized by culturally constructed categories, which confer inequalities in power and resources. In turn, these categories give rise to reference groups, who are both privileged and oppressed to varying degrees. Subsequently, these social categorizations give rise to social identities, which influence positive or negative self-evaluations.

Additionally, self-esteem is contingent on group memberships and social identities (Tajfel & Turner, 1986). Specifically, there is a positive relationship between degree of positive perceptions about one’s social groups and self-esteem, whereby people who evaluate their groups positively have greater self-esteem than who evaluate their group membership in a negative manner. Although relatively strong relationships have been found to exist between personal self-esteem and social self-esteem (Crocker, Luhtanen, Blaine, & Broadnax, 1994; Luhtanen & Crocker, 1992), the direction of this relationship remains unclear. Nonetheless, in an individual’s quest to maintain a positive self-concept, people strive to enhance in-group distinctiveness and exacerbate external difference (Tajfel & Turner, 1986). Such similarity increases one’s self-esteem; however, as a downside, this also gives rise to discriminatory behaviors. The latter is influenced by subscribing to stereotypical categorizations, particularly when making in-group and out-group comparisons. However, as mentioned, these identities are not static. Indeed, Tajfel and Turner (1986) were still careful to point out that how people self-categorize themselves and perform accordingly is still contingent on social and cultural contexts.

Implications. The following is a brief overview of the implications of SIT since the inception of this theory. First, SIT has been used to explain the well-known phenomenon of *in-group bias*, whereby members believe that their own group (and its products) are superior to other groups (and theirs), even in situations where there are no seemingly obvious causes (Mullen, Brown, & Smith, 1992). Additionally, differentiation between groups is often maximized at the expense of in-group gain. Nonetheless, members tend to feel better about themselves (i.e., increase a sense of collective self) after engaging in out-group discriminatory behaviors (Rubin & Hewstone, 1998). Additionally, Brown (2000) argued that SIT provided a more accurate lens for understanding stereotypes. As opposed to the traditional view that stereotypes are irrational distortions that need to be corrected, stereotypes can be understand as reliable guides to judgment and action from the in-group's perspective. Moreover, because of social processes, stereotypes may be more easily altered than previously believed. These two arguments may hold some relevance for understanding how stereotypes are formed (and potentially deconstructed) within distance running. Lastly, despite the widespread use of SIT over the past 30 years, there is no clear theoretical basis for why some social identities become more salient than others (Hogg, 2001).

Why should we care about social identities? Broadly speaking, identity can account for some forms of motivation and behavior (Jenkins, 2008). Social groups can certainly mobilize individuals. Although not explicitly a postmodern theory, social identity theory does acknowledge that identity is a performance (Butler, 1990a), rather than something essential that someone has. Nonetheless, there are other factors, as human behavior is very complex. Jenkins (2008) wrote:

> identity does not, and cannot, make people do anything; it is, rather, people who make and do identity, for their own reasons and purposes. So, instead of "identity", we should only talk about ongoing and open-ended processes of "identification." (p. 9)

In line with the principles of social constructionism, groups are not objective entities but rather are real if people believe them to be; thus, people construct their own realities via group formation. In turn, who people think they are is intertwined with who they think other people are. Jenkins (2008) added:

> Categorization… also makes an important contribution to the distribution of resources and penalties, and is central to both conflict and conflict avoidance strategies: part of the experience of being a group member is categorization by others and its attendant consequences. It is very real. (p. 12)

While being critical of positivist and post-positivist notions of identity and acknowledging that it cannot linearly predict behavior, Jenkins noted that it would be impossible to have the field of psychology without discussions of "identity", or discussing how people classify themselves and others.

Self-categorization theory. Turner and colleagues (Turner, 1982; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) proposed a more general self-categorization theory (SCT) to explain intragroup and intergroup processes. This theory focuses on the nature, antecedents, and consequences of the psychological process of social identity develop and self-categorization (Turner et al., 1987). Like SIT, Turner and colleagues asserted that there are multiple selves, or multiple identities, in contrast to earlier positivist conceptualizations of a singular identity (e.g., Erikson, 1963; Marcia, 1966, 1980). Accordingly, the self is conceptualized at multiple levels, including personal, group, and human identifications. Specifically, Turner (1980) described

human identity as a superordinate category and *personal identity* as a subordinate category. *Group identity* is located between these two categories. Due to their similarities, SIT and SCT are both used interchangeably, and in fact, SIT has become the more common framework and often subsumes SCT.

Nonetheless, in contrast to SIT, a fundamental assumption of SCT is that social structures are conceptualized as hierarchical arrangements in relation to their level of inclusiveness (Turner, 1982; Turner et al., 1986). For example, at the most general level, an individual may define himself as a human in relation to other species. As a human, he may define himself as a college student. In relation to other college student, he identifies as a runner. As a track and field runner may define himself as 5000 meter specialist in relation to his teammate who focused on the 800 meter event. As noted in these examples, the superseding level of identity influences subsequent intergroup comparisons. In other words, while humans strive for group affiliation, they are also motivated to have a unique identity, which entails more specific identification with increasing similarities among a group.

Lynne Layton: Postmodern gender theory. Layton (1998) utilized postmodern, feminist, and relational psychoanalytic theories to discuss gender identity and its intersections with class and sexual orientation. Throughout this text, she often draws upon popular culture examples to support her assertions. As evidenced by her postmodern influences, Layton is critical of “naturalness” and “universal truths” that privilege some groups and oppress others. The best example of this is the male/female gender binary that the United States and other societies take for granted. Other binaries include heterosexuality/homosexuality and masculinity/femininity. Layton argued that the presentation of these constructs as discrete categories has helped ensure hegemonic norms, namely compulsory heterosexuality and male

dominance. At the core of her argument is that (gender) identities are subjective, multiple, partial, and fragmented.

Most traditional psychoanalytic theories are founded on assumptions that the nuclear family is the optimal space for children to develop and that anything outside this box is abnormal (e.g., Freud, 1930). Because of these implied heterosexist assumptions, it has often been critiqued as an unhelpful framework for clients who are not straight, middle-class, white males or straight females, serving to reinforce hegemonic ideologies in a straight white middle-class dominant culture (Chodorow, 1978, 1995). Despite common critiques of psychoanalytic theories being predominantly Eurocentric, Layton (1998) attempted to reconcile these differences in her discussion of self, gender, agency, and relationship. In line with Chodorow (1995), Layton critiques clinical psychologists and clinicians for not considering the ways that culture constructs gender. Likewise, she asserted that postmodern scholars have paid little attention to how gender is experienced on the psychological level. Accordingly, she argued that “the cultural is psychologically constructed, and the psychological is cultural” (Layton, 1998, p. 10).

As previously mentioned, identities are often fragmented and contradictory. According to Lacanian psychoanalytic theories (and as reviewed by Layton, 1998), the ego originates from coping with these multiple identities by turning to a “mirror stage,” where the baby denies the fragmentation and turns to a homogenous, coherent self. Lacanian theorists refer to these as narcissistic fantasies, which suppress the subject’s heterogeneity. The cure to this narcissistic condition is to promote awareness of the existential condition of lack (i.e., acceptance of heterogeneity). This is challenging given that individuals who outwardly exhibit these fluid, fragmented identities are not bestowed the same love and acceptance as those who embrace

homogeneity. Likewise, Layton (1998) critiques traditional psychoanalytic free association because it maintains the status quo by imposing a cohesive identitarian logic on the client.

One of the most critical tensions between relational and postmodern theories concerns the issue of whether people have “core” identities. Layton (1998) noted that many relational feminists believe that most children develop a nominal gender identity (i.e., either male or female) by 18 months and that this identity is essential to their development. However, few psychoanalytic theorists and some clinical psychologists question this notion, suggesting that this nominal gender identity is not inherent but culturally imposed. Accordingly, she advocated for parents letting children decipher their identity. While a fluid gender identity is something that postmodernists admire, it is usually not something palatable to clients who come in seeking a solution (i.e., core identity transformation or congruence) that will grant them the love and respect of others. Thus, there is a great deal of tension between how gender is discussed on the broader or postmodern level and how individuals experience it psychologically (Layton, 1998). In other words, the difficulties in removing oneself from rigid and hegemonic binaries cannot be underestimated.

Nonetheless, Layton (1998) argued that the disparities between relational psychoanalytic and postmodern notions of identity may be less than what is commonly believed. According to the feminist relational view, a “core” identity does not necessarily mean an essential true self nor does it profess to be immune to cultural construction. Consequently, Layton acknowledged that gender and other identities are culturally constructed in a world that is largely coherent and stable.

Layton (1998) conceptualized narcissism as the inability to experience self and other as separate. Pathological narcissism stems from difficulties in an individual negotiating dependence

and independence, as well as connection and differentiation. Layton extends previous relational analytic theories which center on familial sources of developmental traumas to include sexism, racism, classism, and homophobia. For instance, the gendered division of labor, and more broadly, gendered expectations of behavior, create these narcissistic wounds. In other ways, the ways males and females alike are constricted to socially appropriate ways of being. Love is given and withheld by parents (and society in general) based on how well individuals conform to these standards of accepted behavior.

For males, these wounds are typically created by a severe differentiation between self and other. According to Chodorow (1978), a baby (regardless of assignment at birth) develops the need for relatedness, particularly in the relationship with the mother. When the mother is the main primary care taker, the child's initial self-representation will be "proto-feminine." She then argues that a boy establishes male gender identity by "dis-identifying" from the mother. Ultimately, the relationship between mother and son is severed prematurely, whereby males are forced to become independent at the cost of a healthy amount of dependency (Pollack, 1995). Relatedness is seen as too feminine, which males must distance themselves from it. Both the mother and father help facilitate this break, resulting in hegemonic masculinity, which is co-constructed with or against femininity. Simply, it is a rejection of femininity. Males increase their self-esteem and perform their autonomy by emotionally distancing themselves from others and establishing themselves in a dominant role, particularly in relation to women.

For females, developmental traumas typically occur when there is a lack of differentiation between the self and other. Accordingly, females are taught to become overly dependent at the expense of independence. Per Chodorow's (1978) theory, the mother-son relationship differs greatly from the mother-daughter relationship, whereby mothers keep their daughters

"enmeshed." Likewise, fathers do not allow their daughters to exercise their autonomy and agency in the same way that males do. Love is given to females who are often submissive and withhold their needs. The female's sense of self is based on the relationships maintained with others, and consequently, has more permeable boundaries.

To summarize in clinical terms, normative masculinity resembles phallic narcissism, where only the self is experienced, and normative femininity resembles self-effacing narcissism, where only the other is perceived as a subject. For example, women crave intimate relationships, which cannot be adequately returned from men. As Layton (1998) contends, "normative masculinity emerges as pure assertion, omnipotence, individualism…normative feminism emerges as self-effacing and as drawing subjectivity only from attracting and being loved by an idealized other" (p. 43). Ultimately, this taken for granted system facilitates compulsory heterosexuality. Ironically, though, if we accept the gender binary as mainstream, it creates a situation where both males and females are unsatisfied, as the culturally imposed splitting of ways of being produces these fantasies that another person will "complete" them (Benjamin, 1994). While these social and cultural forces facilitate the adoption of these fragmented gender identities, Layton noted that individuals have the ability to resist engaging in this narcissistic behavior that constrains society.

Butler: Gender performances and queer theory. The work of Butler profoundly influenced many of Layton's ideas. Like Layton, Butler (1990a, 1990b) was critical of earlier feminist movements which tended to portray women as a monolithic group with identical interests. Accordingly, by subscribing to the gender binary, she argued some of these feminists were actually limiting their options instead of expanding their potential. In fact, Butler (2004) stated that a more egalitarian society can be facilitated by the "undoing" of gender, which

oppresses all individuals. As a postmodern and queer theorist, Butler (1990a) construed gender identity as a performance. Butler (1990a) also noted that these performances reflect one's identit(ies) in particular situations. Accordingly, many queer and postmodern theorists reject the notion of a "core identity." Examples of gender performances include the way people speak, walk, play, dress, and conduct other activities. Often, these are behaviors that occur in a seemingly natural manner with little reflection on how they were learned; however, Butler questions these performances as "natural," instead asserting that these are learned performances. She argued that repeated displays of hegemonic gender performances reproduce hegemonic norms. Butler (1990b) wrote:

> …the act that one performs is… an act that has been going on before one arrived on the scene. Hence, gender is an act which has been rehearsed, much as a script survives the particular actors who make use of it, but which requires individual actors in order to be actualized and reproduced as reality once again. (p. 272)

Therefore, in agreement with Layton, Butler (1990a, 1990b) also advocated for people to behave in ways that disrupt (rather than support) the gender binary in order to empower all individuals.

Crenshaw: Intersectional identity. Emerging from women's studies, the intersectional theories examine interlocking systems of oppression and multiple axes of inequality (Berger & Guidroz, 2009). Rather than isolating and examining each axis of oppression, or identity, separately, intersectional scholars have called for more holistic understanding of individuals who experience more than one aspect of oppression (e.g., black females, lesbian, lower-class gays, etc.). Typically, the race-gender-class matrix is used to describe intersectionality; however, it can and has been expanded to include ethnicity, nationality, age, sexuality, religion, and other elements of one's identity. Its beginnings can be traced back to the legal field, where Crenshaw

(1989) is recognized as having coined the term “intersectionality”. When defending African American women over an employment lawsuit, she found that she had to argue her case from the vantage point of her client either being oppressed as a woman or oppressed as an African American, not as an African-American woman. Laws did not recognize the “double oppression” faced by many women at that time. On a broader level, intersectionality also grew out of the social movements of the 1960s, which Crenshaw critiqued for engaging in singular identity politics (although acknowledging that these are critical first steps in raising awareness in regards to a particular oppressed population). African American women found that early feminist movements (led by white middle-class women) did not suit their social and political interests. In particular, hooks (1981) loathed the comparison of the plights between women’s groups and black groups. She argued that the implication was that all blacks were men and that all women were white. Crenshaw (1991) added:

> The failure of feminism to interrogate race means that resistance strategies of feminism will often replicate and reinforce the subordination of people of color, and the failure of antiracism to interrogate patriarchy means that antiracism will frequently reproduce the subordination of women. (p. 1252)

In agreement, Yuval-Davis (2009) argued that these mutual exclusive categories can serve to reinforce hegemonic norms which serve to create and maintain hierarchical relationships and determine who has economic, political, and cultural capital. Instead, utilizing an intersectional approach accounts for the lived experiences of individuals from nontraditionally constructed groups (McCall, 2007). In fact, “the deconstruction of master categories is understood as part and parcel of the deconstruction of inequality itself” (McCall, 2007, p. 1777).

Yuval-Davis (2009) discussed two main ways that intersectionality can be conceptualized: additive (fragmentation) and collective models. The additive paradigm holds that the various axes of oppression can be viewed as a simple combination (or sum) of the amount of oppression of each level. For example, there are differences in how someone is oppressed as a woman, African American, or a member of the working-class. However, the argument against this approach is that someone who is oppressed in one area is likely to be enmeshed in other forms of oppression. For example, an African American woman is likely to be a member of the working-class. Ironically, however, by automatically assuming that people from similar identity groups share homogenous, people miss the complex intersections among each various identities. Therefore, the argument is that this view of intersectional is overly simplistic, and more importantly, fails to do anything radically different than the model of identity politics in earlier social movements. Accordingly, Yuval-Davis argued that fragmentation of identities occurs by failing to recognize the more fluid and dynamic nature of identities. Those who advocate for collective models claim to stay truer to the lived experiences of marginalized individuals and to shed light on these more unique and fluid identities.

Collins: Black feminism. Collins is also concerned with intersecting oppressions, particularly race, gender, class, and sexuality. Like Layton and Crenshaw, she is also critical of earlier social movements that were solely focused on single axes of oppression (Collins, 2008). Nonetheless, she centers her analysis on the experience of black women, a population who has traditionally been marginalized in society and social science research. Similar to postmodern theorists like Butler, she is also critical of traditional, scientific, and (post-)positivist ways of conducting research, noting that these methodologies tend to inhibit social reform and reproduce

hegemonic norms. Furthermore, she called attentions to the ways that race and gender identities influence knowledge (how we know what we know).

In view of these concerns, Collins (2008) advocated for a black feminist epistemology, which is comprised of four main tenets. First, alternative epistemologies are centered on the lived experiences of individuals, rather than an assumed neutral, objective position in the social world. Second, knowledge is advanced through dialogue rather than adversarial debate. Furthermore, she calls for researchers to insert themselves into the discussion (i.e., using the first person), rather than assuming an impartial stance (i.e., using third person speech). Third, knowledge is value-laden and centered on an ethic of caring; thus, she rejects the binary of intellect and emotion. Fourth, she calls on researchers to take personal responsibility and reflect on how different ways of knowing (i.e., epistemologies) can advance or hinder social justice. Collins (2008) also noted that different forms of writing (i.e., academic scholarship, books, stories, and poetry) can produce a shared identity. Nonetheless, she also pointed out that there is a tension between shared collective challenges and unique individual experiences. Accordingly, she challenged people to critically interrogate how each identity contributed to the overall self, as well as how certain identities are privileged at the expense of others. She has utilized this approach to examine African American women’s experiences of being marginalized as victims of violence, (Collins, 1998), in academic settings (Collins, 1986), and as US citizens (Collins, 2001).

Summary of Identity Theories/Models

The following is a summary of the similarities and differences among the identity models that were discussed. As noted, with the exception of symbolic interactionism, a theory that emerged from sociology, the focus of this section was on psychological perspectives of identity.

Symbolic interactionism and other sociological theories of identity are based on the following assumptions: (a) the self develops from interaction; (b) the self is located in social structures; (c) social life is organized by the self; and (d) there are multiples selves (Jones & Abes, 2013). In contrast, many of the aforementioned psychological models are focused on the individual and the role of agency in identity development, including Erikson's (1963) stages of psychosocial development, Marcia's (1966) theory of ego identity status, and social identity theory (Tajfel & Turner, 1986).

Overall, while they emphasize different components of identity, Erikson and Marcia appear to have fundamental similarities regarding this construct (Waterman, 1988). Ontologically, both theories are undergirded in positivism in which identity is described as a singular, unitary construct. Additionally, in both theories, religious beliefs, political ideology, vocational choice, sex-role attitudes, and spousal/parenting roles are proposed to have a significant influence in shaping identity development. Further, both theories represent stage models, whereby individuals progress from a vague identity to a clearly defined identity with related goals, values, and beliefs. Regarding the differences in emphasis, Erikson (1963) conveyed that identity comprised inner coherence, continuity over time, and self-presentation in his model of psychosocial development (as cited in Waterman, 1988). On the other hand, Marcia (1980) described identity as a self-structure that is capable of development. In both theories, however, successful identity development hinges on becoming more independent and simultaneously deriving less of one's self-worth from external sources (e.g., parents, peers). For instance, in the second, third, and fourth stages of psychosocial development, children achieve healthy identity development gain autonomy, initiative, and industry, respectively. Additionally, in ego identity status theory, those who experience identity foreclosure have prematurely

committed to a role without exploring other identities, often due to pressures from parents or other individuals (Marcia, 1966). Finally, both Erikson and Marcia have been subject to much criticism with regard to cultural sensitivity. In particular, Waterman (1988) noted that the identity statuses described in Marcia's framework are derived from North American cultures. For example, other cultures may allow for greater exploration of multiple roles. Although Erikson's theory has not received as much criticism in this regard, it is derived from his clinical experiences with clients; hence, it is quite possible that ethnocentrism is present here, as well. Similarly, Erikson has been critiqued for generalizing his staged to both men and women even though identity formation in women has generally been shown to be more complex (Waterman, 1988).

In contrast, SIT (Tajfel & Turner, 1986) and SCT (Turner, 1982) appear to be undergirded by post-positivism. Accordingly, in SIT, it is posited that an individual has multiple selves, or identities (Tajfel & Turner, 1986). Further, both of these theories portray identity and its related constructs in probability terms rather than absolute truths. In contrast to Erikson and Marcia's conceptualizations, identit(ies) are socially constructed in SIT and SCT. For example, prototypical members (i.e., those with more power and influence) shape how a group identity is constructed (Hogg & Terry, 2000). Additionally, these socially constructed identities are dynamic and capable of changing over time. As previously mentioned, the key contribution of SCT (and the most salient difference between these two theories) is that humans are not just motivated to make intergroup comparisons based on the same level of categories; rather, this comparison is relative to the higher level (i.e., more general) of the self. In other words, a group of humans who identify similarly on one level of the self will strive for more specific identifications.

Furthermore, Layton (1998), Butler (1990a, 1990b), Crenshaw (1989) and Collins (2008) each emphasize the social construction of identity. This is particularly true of Butler, who posited that gender identity is purely a social construction enacted by "performances," thus rejecting the notion of a "core" identity. Butler's (1990a, 1990b) work was undergirded by postmodernism, asserting that identities are multiple, fragmented, and partial. Further, her work emerged as a response to earlier feminist movements, which tended to treat women as a monolithic group. Crenshaw (1989) and Collins' (2008) intersectional theories were also devised for similar reasons. Specifically, they advocated that individuals are subject to interlocking forms of oppression. Instead of treating each form of oppression as separate entities (e.g., woman, African-American), they noted that it was important to recognize the complex ways that these axes of power intersect and contribute to the experiences of marginalized individuals. In agreement with other postmodernists such as Butler, Collins (1990) asserted that objectively-framed truths obfuscate oppression related gender, race, and class. Nonetheless, while embracing many of the tenets of postmodernism. Layton (1998) noted that these theories (which were primarily sociological) failed to account for the role of the individual in identity formation. Consequently, her theories combine postmodernism and psychoanalysis, which emphasizes the role of society in identity development in addition to how individual agency can impact identity development.

Identity in Sport

Before describing running identity, it is imperative to address the athletic identity scholarship in the sport psychology literature; thus, a brief introduction is provided. (The changes and disruptions in identity during athletic injury, retirement, and forced termination are discussed in greater detail below in a separate section.) Then, I review a model of sport

subculture identity and socialization. Although it is situated within sociology, I assert that there are several elements that are fundamentally psychological, and thus, of interest to my dissertation project. Finally, I propose a conceptualization of running identity and highlight why this population is unique from other athletes, thus providing a role to further assess and explore this construct.

Athletic identity. Athletic identity is the degree to which one identifies with the athlete role (Brewer, Van Raalte, & Linder, 1993). Drawing on previous research in general psychology regarding the multidimensional nature of self-concept (Markus, 1977; Pearlin, 1983), Brewer, Van Raalte, and Linder noted that athletic identity can be conceptualized on a continuum from a cognitive structure (in the narrowest sense) to a social role (in the broadest sense). As a cognitive structure, or self-schema, an identity facilitates interpretation and organization of self-related information. On the other end, the social role, or occupational self-image aspects implies that significant others (i.e., family, friends, teammates, media) strongly influence one's identification with the athlete role. Accordingly, Sadalla, Linder, and Jenkins (1988) contended that individuals make conscious decisions to engage in a particular sport or activity based on self-presentation concerns (i.e., social statements).The cognitive structure and social role dimensions do not represent dichotomous, opposing viewpoints; rather, identities contain both personal and social dimensions.

Athletic identity has been shown to predict various types of behaviors and outcomes, both positive and negative. One benefit is a strong sense of self, or a salient self-identity. For example, sport can provide opportunities for social interaction and development of one's self-confidence. Second, a salient athletic identity is positively related to performance (Danish, 1983). This makes

sense given that athletes often must eliminate other forms of activity (or identities) in order to devote their time and resources to being successful at elite levels of sport.

However, a strong athletic identity can have several drawbacks, particularly when athletes neglect other areas of their lives to fulfill the athlete role. An exclusive focus on athletics can have negative ramifications when athletes encounter major events that disrupt their athletic identity, such as sustaining a serious injury, retiring from sport, or forced termination (e.g., being cut from a team). For example, athletes who make little distinction between their athletic identity and other identities are likely to experience an injury as a traumatic event and may be at an increased risk of depression (Brewer, Van Raalte, & Linder, 1993; Allen-Collinson & Hockey, 2007.) Brewer, Van Raalte, and Linder also suggested that an exclusive athletic identity may be associated with a greater risk of overtraining, which in turn, is strongly related to injury occurrences. Likewise, Brown, Glastetter-Fender, and Shelton (2000) found that athletic identity negatively predicted career decision-making self-efficacy in collegiate student-athletes. Accordingly, an exclusive focus on sport may hinder athletes from exploring other identities. In other words, these athletes may be subject to *identity foreclosure*, whereby athletes' singular focus on sport negatively impacts their development in other areas of their lives (e.g., academic, personal, social, spiritual, career; Petitpas & France, 2010). Additionally, in male athletes, a strong athletic identity has also been shown to predict conformity to masculine norms (e.g., hazing, violence, low help-seeking attitudes; Steinfeldt & Steinfeldt, 2012); hence, this construct may have implications for moral identity and development. Within running, athletic identity has also been shown to be positively correlated with disordered eating and obligatory running (Gapin & Petruzzello, 2011).

Sport subcultures. Donnelly and Young (1988) posited that the process of socialization into subcultures is an integral aspect of identity formation. These ideas are influenced by symbolic interactionism theorists (e.g., Mead, 1934; Goffman, 1959; Stryker, 1980). Accordingly, while these ideas emerged from sport sociology, I believe they make many assertions that are profoundly psychology. In this framework, they discussed three overarching themes that were common to all sport and leisure subcultures. First, the presentation of “insider” information (e.g., characteristics of the subculture and behaviors of its members) is only accessible to the participant observer. The second theme pertains to typical subcultural careers and career contingencies. Third, each subculture has appropriate subcultural identity and demeanor.

Subsequently, Donnelly and Young (1988) outlined a four-stage contingency model to explain the development of individuals’ subcultural identities: (a) presocialization, (b) selection and recruitment, (c) socialization, and (d) acceptance/ostracism. First, in the *presocialization* stage, the individual acquires information about a specific subculture prior to participation. This information may be gained through direct (e.g., peers, family members) or indirect contact (e.g., media coverage) with members of a particular subculture. Often, this knowledge is highly stereotyped and based on misconceptions during this phase. As a result, some individuals are confronted with traumatic role-transitions that are essential to performing an accurate subcultural identity (Donnelly & Young, 1988). Accordingly, these authors contended that athletes are, in a sense, being controlled extraneously as they are forced to modify their roles to conform to this new identity. During this process, novice athletes may identify with a new subculture more than what is actually experienced on the psychological level. For example, male collegiate runners are taught that it is not “cool” to wear “long shorts” (i.e., those that go below one’s knees or even

come close to that level) even though US society as a whole would typically scorn males for wearing "short shorts."

Then, in the *selection and recruitment* stage, the individual has an opportunity to be initiated into the subculture whether by being recruited or by actively seeking out membership (Donnelly & Young, 1988). The likelihood that an individual seeks involvement or is recruited is contingent on a number of factors, including motivation, opportunity, interest, proximity, life circumstances, and even chance. Indeed, Donnelly and Young's potential contributions to sport psychology can be witnessed in this part of their model.

Next, in the *socialization* stage, members undergo training in the subculture, learning the values and perspectives of the group. The individual begins to identify with the politics and symbols of the group. In fact, individuals will often perform rules in various situations that they perceive to be expected of them, a process called *anticipatory socialization*. This occurs when members identify cues (i.e., symbols) that are relevant to a particular subculture. Through this ongoing process, the individual discovers and modifies previous misconceptions about the group. Ultimately, as the individual gains a greater understanding of the collective self, he or she acquires a new self-concept. For example, through participating in multiples races, runners learn acceptable pre-race rituals (e.g., stretching routines, strides).

Finally, in the *acceptance/ostracism* stage, the individual exhibits confirmation of this identity. This is demonstrated by "appropriate job and/or skill requirements, appropriate roles and identities under specific circumstances, successful socialization procedures, and general resemblance of values between the actor and the larger group" (Donnelly & Young, 1988, p. 225). The individual may even have to participate in activities that are viewed negatively yet condoned within the subculture. However, if the individual is not able to demonstrate these

requirements and/or if role conflicts develop, he or she is ostracized or banned from the group. The stinginess of these policing procedures varies across subcultures. In more formal sport subcultures, an individual may present an identity that is convincing to that particular group without losing an aspect of the self; however, the ongoing social process of identity confirmation typically guarantees that individuals will not damage the subculture or its individual members. Regardless, the members must negotiate tensions between sport and career subcultures, as well as other identities. For example, male runners often feel tension between wanting to add muscle mass in order to conform to society's expectation of males bodies, yet also remaining lean in order to perform well and please others in the running subculture (i.e., teammate, coaches, fans).

Most stage models are critiqued on the grounds that participants do not go through the same stages in the same order nor does the process occur in a linear fashion since individuals can go back and forth between stages (e.g., Brewer, 1994). This holds true for this model, as well. However, Donnelly and Young (1988) were careful to state that these are not static positions. In fact, *socialization* is an ongoing stage, and the *acceptance/ostracism* stage is likely to be repeated. Additionally, the amount of diversity within subcultures varies; however, there are certain situations that allow little deviation from subcultural norms for safety reasons. For example, cyclists must trust other bikers to ride in a straight line while at high speeds; rock climbers must trust their partners will remain calm and composed; hockey players need to trust their teammates to come to their defense if a cheap is taken against them. Moreover, some insider knowledge is vital to the integrity and survival of the subcultural knowledge. For instance, body builders should not inform "outsiders" about the prevalence of steroids or homosexual hustling (Klein, 1986). A prime example of more secretive activities in collegiate running may be "beer mile" (and other alcohol-related) races, which are only accessible to

“insiders” within running subcultures (excluding coaches and administrators). Careful planning is often taken to avoid outsiders and other individuals who do not understand such rituals, and in turn, may threaten the status of cherished activities associated with college running subcultures.

Running Identity. Drawing on Brewer, Van Raalte, and Linder’s (1993) conceptualization of athletic identity, running identity can be defined as the extent to which an individual identified with the running role. The aforementioned literature helps informs running identity and how it can be measured. Nonetheless, there are unique aspects of running identity that merits its assessment and investigation.

First, several authors (e.g., Chan & Grossman, 1988; Coverley Veale, 1987; Furst & Germone, 1993; Morgan, 1979; Pierce, 1994; Sachs, 1981; Thaxton, 1982) have indicated that runners are more susceptible to exercise addiction. The term *obligatory runner* has been used to describe those with exercise addition in this particular population (Coen & Ogles, 1993). While there are numerous physiological and psychological benefits of running, it appears that withdrawal from running (for example, as a result of injury) can produce exacerbated mood disturbances, including anger, depression, and confusion (Chan & Grossman, 1988; Sachs, 1981). As a result, when faced with a serious injury, runners often must manage both the downsides of exercise withdrawal, which is often more severe in runners (Morgan, 1979), as well as a reduced athletic identity, which is characteristic of most high-performing athletes. Additionally, a scale that assesses running identity can help determine the relationship between running identity and obligatory running. On a related note, future research could also examine approximately what proportion of runners at various levels (e.g., high school, college, professional, non-professional) can be classified as obligatory runners.

Second, runners have an increased of anorexia nervosa, particularly females and those who run higher mileage (i.e., $\geq$ 40 miles per week; Wheeler et al., 1986). In fact, cross-country and track and field ranked second and fourth respectively for both women and men in a survey that assessed eating disorder prevalence in NCAA Division I sports (Dick, 1991). Thus, stronger relationships between running identity and eating disorders may be identified that otherwise may not be observed between general athletic identity and eating disorders. As a result, individuals can be identified as at-risk for developing anorexia or another eating disorder. Third, and on a related note, distance runners take pride in their leanness, albeit still toned bodies (Allen-Collinson & Hockey, 2007; Busanich, McGannon, & Schinke, 2015). For male runners, in particular, this differs from most other sports, such as football and basketball, who take pride in large musculature. In other words, larger, muscular bodies are typically engrained with one's athletic identity and masculinity; however, smaller, leaner bodies often exhibit a significant portion of their running identities. Further, given their commitment to running, male runners appear to be less conscious of gender norms regarding masculine embodiment; however, further studies on this area are needed.

Fourth, two studies that examined changes in athletic identity and included only runners in their sample (Horton & Mack, 2000; Ronkainen et al., 2016) provided exceptions to common trends regarding athletic identity in other studies that were reviewed. For example, Horton and Mack (2000) found that athletic identity in runners is not necessarily associated with negative outcomes. Specifically, they found that marathon runners (varying in ages and ability levels) with high levels of athletic identity were more likely to perform better, demonstrate more commitment to running, and have a more expanded social network. Interestingly, individuals with high athletic identity were likely to experience both positive (e.g., high body image, self-

confidence) and negative consequences of running (e.g., financial difficulties, increased susceptibility to illness, and decreased occupational performance). Furthermore, there were no significant differences between low-athletic identity and high-athletic identity regarding the relative importance of other roles (e.g., family, romantic partner). Therefore, the authors concluded that marathon runners can have a high athletic identity without neglecting other aspects of their life; however, these findings are tentative given that the authors did not control for social desirability effects (e.g., providing desirable responses with regard to occupational performance, self-confidence). Additionally, although the high-athletic identity group had an average AIMS score that was similar to that of college athletes (see Brewer, Van Raalte, & Linder, 1993), the authors did not mention if any of these runners ran professionally, which requires more time commitment. Moreover, since little equipment is required for running, it may be that running is simply an activity that can be balanced in conjunction with other roles. Otherwise, it is unclear why these findings would be different in runners. Additionally, Ronkainen et al. (2016) found that elite distance runners remained connected with running while still reaping many intrinsic and extrinsic benefits, such as camaraderie. Further, although they were no longer competing at an elite level, they still embraced a strong athletic identity and enjoyed competition; thus, a strong athletic identity was not found to be a detriment in their post-professional careers. All in all, it is interesting that the results of both of these studies (Horton & Mack, 2000; Ronkainen et al., 2016) suggested that athletic identity was not a predictor of identity foreclosure and other negative outcomes. Consequently, a more comprehensive scale that specifically assesses running identity may be needed.

Praxis

Moving forward, the previous literature I have reviewed on identity development, identity negotiations, and athletic/running identity helps inform my praxis as a scholar, educator, and practitioner (i.e., the integration of theory, research, and practice, particularly in promoting social justice). In view of the cultural turn in sport psychology, Ryba and Wright (2005) wrote:

> sport psychology as a cultural studies praxis moves away from looking at the athlete in isolation as a whole, singular, unified individual in the way orthodox sport psychology tended to do. Instead, the athlete is considered to be a subject of multiple discourses and various identifications, a member of numerous social and cultural groups, and a part of sport as an institution immersed in a particular sociocultural and historical context. (p. 204)

Accordingly, they noted that sport psychology is not just a singular discipline but is informed by other disciplines within sports studies (e.g., sport sociology, cultural studies, sport philosophy, sport history) as it becomes more focused on issues of difference and social justice. As a young scholar, I echo these views that sport psychology professionals should not only help individuals reach their potential as performers in the athletic subculture, but also their roles in the larger culture.

In agreement with Fisher and colleagues' (2003, 2005) "athlete as citizen" model, I believe my role would be to help athletes not just become better runners, but also help them think more critically about political and global issues, as well as how social and cultural forces shape their lives in both oppressive and privileged ways. As a result, by moving away from self-absorption that is predominant in collegiate athletes, athletes can enhance their agency, which serves their interests not just as a college student-athlete, but in their future endeavors, as well.

To be clear, my aim would not be to downplay the prominence of their running identities, especially since my running identity was salient throughout college. Rather, as someone who has ideally built rapport with athletes, I want to encourage athletes to think about their lives beyond running. Indeed, Fisher et al. (2009) noted that athletic identity is malleable (i.e., not the same in all contexts) and that mental skills can be transferred to other areas of life. Nonetheless, getting athletes to be more politically aware is a hard task given the time that is required to be both a student and an athlete. However, by giving attention to other identities (e.g., career), runners may experience less distress and adjustment issues when their athletic careers eventually conclude. It is hoped that runners will be more empowered to realize and avoid maladaptive behaviors that can result from strongly identifying as a runner (e.g., overtraining through an injury, engaging in disordered eating).

Although U.S. NCAA Division I cross-country is predominantly dominated by Caucasians (National Collegiate Athletic Association, 2015), it is also important to be cognizant of the various cultural forces (e.g., race, gender, class, sexual orientation, religion) that have influenced their constructed identities. Acknowledging athletes' sociocultural backgrounds in order to build rapport and, thus, provide more effective sport psychology services, is my goal. For example, many African American athletes experience unique stressors in comparison to Caucasian athletes, such as a lack of campus activities representing the interests of Black students, culture differences, and other students' racial stereotypes (Coakley, 2007; Eitzen, 2000). Additionally, African American athletes are often demonized for expressions of individuality and are often accused of "show boating" (Peters & Williams, 2009). Likewise, guises of color-blindness tend to have a negative impact on the athlete-sport psychology

consultant relationship (Butryn, 2002). As a sport psychology professional, I can help not only athletes but also contribute to a more socially just society.

Changes in Athletic Identity During Injury, Retirement, and Forced Termination

Athletic identity refers to the extent to which a person identifies with the athlete role (Brewer, Van Raalte, & Linder, 1993). An individual with a salient athletic identity self-identifies as an athlete (i.e., personal identity), values their athletic role exclusively over other roles (i.e., exclusivity), and is typically viewed by others as an athlete (i.e., social identity). Athletic identity has been shown to be a positive predictor of performance (Brewer, Van Raalte, & Linder, 1993). There are also many potential downsides to having a salient athletic identity, or “Achilles’ heel” as noted by Brewer, Van Raalte, and Linder. For example, athletes who identify strongly with the athletic role are more likely to overtrain and sustain injuries (Brewer, 1993; Brewer, Van Raalte, & Linder, 1993). Further, a strong athletic identity may also be a barrier to proper psychological adjustment to injury. Likewise, athletes who exclusively invest their time and energy into sport are more likely to exhibit impaired psychological functioning when transitioning during retirement or forced termination (Pearson & Petitpas, 1990).

In this section, I review the impact of these events (i.e., injury, retirement, and forced termination) on athletic identity. In each section, I first outline the major theories and models pertaining to the respective process. I emphasize the role of athletic identity in each model and make comparisons between the various frameworks. Then, I specifically review the literature addressing the changes in athletic identity for each event. Finally, I discuss how this information contributes to the development of a running identity scale.

Injury

Major Theories and Models of Psychological Responses to Sport Injury.

Grief response models. Grief has been described as a normal reaction to a distressing situation (Lindemann, 1944). Other researchers have emphasized the experience of loss. For instance, Karl (1987) defined grief as "both an experience of loss and the process of recovering from that loss" (p. 641). With regard to the sport injury context, Mankad and Gordon (2010) stated:

> …grief can refer to an athlete's perceived loss, such as a figurative separation from an injured body part. For highly competitive athletes, a physically fit and functioning body is essential to their life as an athlete and the primary means by which they derive their identity. Therefore, when injured, athletes may need to adjust to a variety of losses associated with their condition, such as strength, balance, range of motion, and, very important, independence (p. 329).

Some researchers (e.g., Astle, 1986; Pedersen, 1986) argued that athletes exhibit similar responses to injury as other forms of loss, such as losing a loved one or being diagnosed with a serious illness. Peretz (1970) identified four categories of loss: (a) loss of a significant loved or valued person; (b) loss of some aspect of the self; (c) loss of external objects; and (d) developmental loss (e.g., decreased strength or range of motion with increasing age). Peretz noted that one incident can transcend multiple forms of loss. For example, a professional athlete who sustains a spinal cord injury can experience a loss of athletic identity (i.e., some aspects of the self) and money (i.e., external loss).

Kübler-Ross' five-stage model of the grief process, which was derived from over 200 individuals with terminal illnesses, is one of the most widely known frameworks in health and

clinical psychology. She posited that individuals who are experiencing loss go through the following stages: (a) denial, (b) anger, (c) bargaining, (d) depression, and (e) acceptance. First, in the *denial* stage, individuals neglect the realities of their loss and believe the problem will correct itself. For example, athletes may ignore pains and other symptoms of injury, believing that they are still completely healthy. Second, in the *anger* stage, the reality of loss begins to set in, and they may blame others. For example, an injured athlete may blame him/herself for overtraining, or (s)he may lash out at significant others. Third, in the *bargaining* stage, an individual proposes a positive alternative to avoid thinking about or experiencing the negative aspects of the loss. For example, an injured athlete may bargain with an athletic trainer for less time off or may plead with a higher power to be a better person if they recover soon. Fourth, in the *depression* stage, as the reality continues to set in, the individual experiences a period of sadness. For instance, an injured athlete may become socially withdrawn as (s)he experiences depression and a host of other negative emotions. Fifth, in the *acceptance* stage, the individual has fully accepted the reality of loss, whether they ultimately respond in an adaptive or maladaptive manner. For example, an injured athlete who demonstrates acceptance may be more proactive in seeking treatment and attending rehabilitation sessions.

Karl (1987) proposed a similar, yet more concise, three-phase approach to understanding grief. First, individuals experience *shock* (e.g., feelings of disbelief and hope) in response to loss. Second, individuals attempt to regain equilibrium by *coping* with the loss. He argued that individuals typically respond either by avoiding the stressor (i.e., avoidance coping) or by employing a problem-solving approach (i.e., problem-focused coping). Third, in the final phase, the individual achieves some sort of *resolution*, where (s)he has assimilated the reality of his/her loss. Karl's (1987) model is strikingly similar to that of Pedersen (1986), who was one of the

first sport psychology researchers to propose a stage model of understanding the psychological responses to injury. Drawing upon Kübler-Ross' (1969) model, he posited that athletes generally experience three phases: (a) *shock and denial*, (b) *preoccupation*, and (c) *reorganization*.

On the whole, the applicability of Kübler-Ross' (1969) model of the grief process to the injury and rehabilitation context has been questioned. One of the primary criticisms is that athletes may not experience all five stages in the same, predictable order and that individuals may oscillate between various stages (Brewer, 1994). However, Evans and Hardy (1995) noted that this model was not intended to be absolute and narrow in scope. Despite disagreements regarding the number and order of stages, many sport psychology researchers (e.g., Astle, 1986; Gordon & Lindgren, 1990; Hardy, Richman, & Rosenfeld, 1991; Pedersen, 1986) stated that this model is a valuable starting point for understanding the psychological responses to injury. For instance, Gordon and Lindgren (1990) found evidence of denial, anger, depression, and acceptance in a case study with an elite fast bowler. Also, Gordon, Milios, and Grove (1991) found that physiotherapists reported signs of denial and bargaining; anger and depression were less common and more likely to be a poor sign of psychological adjustment to injury. On the other hand, Udry, Gould, Bridges, and Beck (1997) found no evidence of bargaining and only minimal support for the denial stage. Further, these authors questioned the use of the term *denial*, asserting that most athletes do not deny the existence of their injuries. At best, however, while athletes have been shown to exhibit many of these responses, they are also contingent on various personal and situational factors (Brewer, 1994; Brewer, Andersen, & Van Raalte, 2002; Wiese-Bjornstal et al., 1998). In other words, stage models fail to account for various individual differences.

Few sport psychology researchers have directly utilized these grief response models when examining the role of athletic identity during the injury process. Nonetheless, Kübler-Ross' (1969) five-stage model does provide some insight regarding the more notable responses that occurs as a result of injury and the subsequent loss of athletic identity. In fact, loss of athletic identity may be the catalyst for these stages of grief (Astle, 1986). Partial support exists for this model in relation to athletic identity. For instance, Brewer (1993) found that those who identified more strongly with the athlete role were likely to show greater levels of depression during injury. These findings may indicate that injury is a greater loss for those who have more salient athletic identities. More recently, Zavattaro (2014) employed Kübler-Ross' stages of grief framework to explore self-identity formation and projection during injury. Using autoethnography methodology, she found evidence for the five stages of grief, which resulted from her diminished athletic identity while recovering from a torn ACL. For example, she bargained with herself to allow her quadriceps muscle to start working again during rehabilitation. She also reported depressed moods due to her diminished physical abilities (e.g., going from working out six days per week to sitting with hand weights). However, a more novel finding from this study was that fear of experiencing the grief process again prevented her from returning to play despite being physically healthy. In other words, she not only reported a fear of re-injury, but also a fear of experiencing the same cycle of traumatic psychological responses again. In fact, she was more afraid of the potential psychological setbacks than the physical ones. All in all, however, the changes (disruptions) in athletic identity are not as centralized in these grief response models as other models of psychological responses to sport injury.

Cognitive Appraisal Model. Concluding that the aforementioned five-stage model of grief and loss had little empirical support in the sport injury and rehabilitation context, Brewer

(1994) proposed a cognitive appraisal model (Figure 1). While stage models of grief and loss originated in the clinical and health psychology disciplines, this model is rooted in the stress and coping research (e.g., Lazarus & Folkman, 1984) whereby an injury is perceived as a stressor. Accordingly, this model is centered on the impact of how an athlete interprets the injury (i.e., the cognitive appraisal). Additionally, there are various personal and situational factors that influence injured athletes' cognitive appraisals and the overall recovery process. *Personal factors* are stable, dispositional characteristics (e.g., self-esteem, locus of control, state anxiety); *situational factors* are more unstable and dynamic aspects of the athletes' social environment (e.g., social support network, recovery progress, time of the season). From this model, one could infer that the interpretation of the injury (i.e., cognitive appraisal) has a profound impact on the psychological responses to injury rather than its mere occurrence. Accordingly, the initial cognitive appraisal impacts injured athlete's emotional responses (e.g., anger, depression, relief) which, in turn, influence the behavioral responses (e.g., adherence to rehabilitation).

Integrated model of psychological response to sport injury. Brewer's (1994) cognitive appraisal model laid the groundwork for the Wiese-Bjornstal and colleagues' (1998) integrated model of psychological response to sport injury (Figure 2). These authors asserted that the cognitive appraisal and grief models were not mutually exclusive; hence, they devised a model that highlighted the role of athletes' cognitive appraisals, yet still included experiences of grief and loss as an emotional response. To date, this is considered to be the most comprehensive and accepted model that addresses the psychological responses to sport injury (Walker & Heaney, 2013).

Like Brewer's (1994) cognitive appraisal model, Wiese-Bjornstal and colleagues identified a myriad of personal and situational factors that can impact injured athletes' cognitive

appraisals. *Personal factors* pertain to the injury (e.g., type, severity, perceived cause, and recovery status) and individual differences, including psychological (e.g., athletic identity, personality, motivational orientation, self-perceptions), demographic (e.g., age, gender, socioeconomic status, prior sport experience), and physical (e.g., use of ergogenic aids, physical health status, disordered eating). *Situational factors* entail sport (e.g., type, level of competition, scholarship status), social (e.g., teammate influences, coach influences, family dynamics, social support network), and environmental parameters (e.g., rehabilitation environment, access to rehabilitation). These various factors influence the *cognitive appraisals,* which entail beliefs and attributions, sense of loss or relief, goal adjustment, and cognitive coping. In turn, these influence the *emotional responses* such as tension, anger, depression, grief, fear of unknown, and various forms of emotional coping. Subsequently, the emotional responses can affect *behavioral responses,* including adherence to rehabilitation, use/disuse of social support, use of psychological strategies, and behavioral coping. Wiese-Bjornstal and colleagues also expanded on the earlier cognitive appraisal model by suggesting that these responses could also function in the reverse direction as seen by the bidirectional arrows. In other words, the behavioral responses can also impact the emotional responses, which could influence the cognitive appraisals; although, this is less common as depicted by the wider arrows in the clockwise direction. The cognitive appraisals, emotional responses, and behavioral responses are then proposed to affect both the physical and psychosocial recovery outcomes. Overall, the relationship among the cognitive appraisals, emotional responses, and behavioral responses is known as the cyclical (or dynamic) core. The *dynamic core* represents a three-dimensional spiral that progresses upwards towards full recovery or regresses downward away from full recovery depending on how athletes cognitively, emotionally, and behaviorally process their injuries.

Sport injury literature has provided evidence for athletic identity (i.e., a personal factor) as an influence on the cognitive appraisal and other psychological responses to injury. In interviews with 10 injured NCAA Division III athletes, Tracey (2003) found that participants demonstrated a high level of athletic identity and commitment to sport. In turn, many athletes reported difficulties adjusting to their injury since they perceived a significant portion of their lives was temporarily being taken away. Specifically, athletes perceived a loss of fitness, reduced independence, and uncertainties over one's place on the team, which challenged their identities as athletes. Likewise, in a series of four studies, Brewer (1993) found that athletic identity was a strong predictor of depression, assessed by the Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, & Linder, 1993) and the Beck Depression Inventory (BDI; Beck, 1967) and the Depression Scale of the Profile of Mood States (POMS-D; McNair, Lorr, & Droppleman, 1971), respectively. Additionally, Brewer, Linder and Phelps (1995) found that low perceived social support for rehabilitation and low perceived control over rehabilitation was associated with poor emotional adjustment to injury in a sample of 121 patients at a sports medicine clinic with relatively high athletic identities. However, their athletic identities, as assessed by the AIMS (Brewer, Van Raalte, & Linder, 1993) were simply used as a way to describe the sample rather than used as a variable. Finally, in a study entailing consistent runners' reactions to injury, Chan and Grossman (1988) found that injured runners demonstrated greater overall psychological distress, higher mood disturbance, increased body awareness, and lower self-esteem in comparison to a group of non-injured consistent runners. While athletic identity was not directly measured, the authors inferred that running was a salient aspect of their self-identities. Further, although running can result in many psychological and physiological benefits, psychological issues can occur when this activity is abruptly withdrawn.

However, in a later study, athletic identity was not significantly associated with mood disturbance in a sample of 30 injured athletes who were recruited from various sports medicine, physical therapy, and orthopedic centers (Green & Weinberg, 2001). Further, high athletic identity, low perceived social support, and low self-perceived adequacy of coping skills did not predict mood disturbance. Nonetheless, this sample comprised athletes with a wide array of athletic identity scores in comparison to previous studies with more homogenous samples (e.g., Brewer, 1993; Brewer et al., 1995); hence, this may have explained these inconsistent findings. Moreover, Green and Weinberg's (2001) results may have lacked statistical power given the small sample size of 30 participants. Overall, while there are multiple personal and situational factors involved, athletic identity certainly appears to have a profound influence on how athletes cognitively appraise an injury. Athletes with salient and exclusive athletic identities may struggle to cope with this identity-disrupting event, particularly without any other sources of self-worth. As a result, they may be more likely to experience anger, depression, and other mood disturbances as outlined in the grief models.

In another investigation, Rees, Mitchell, Evans, and Hardy (2010) concluded that while athletes with a high athletic identity experience more emotional distress in response to injury, they typically also have large social support networks (mainly within sport) to help them cope throughout rehabilitation. However, the authors confounded performance level (i.e., high-performing vs. low-performing athletes) with athletic identity. In others, the authors used performance level in order to draw conclusions about their athletic identity, which was not directly assessed. In a sample of 91 injured athletes, Brewer et al. (2007) also found that individuals high in athletic identity and low in optimism exhibited sharper declines in negative moods (e.g., anger, depression) and pain throughout recovery. Athletes with a strong athletic

identity experienced higher levels of negative moods at the onset of injury compared to participants with lower athletic identity and higher optimism scores. Furthermore, individuals who scored low on optimism and low on athletic identity did not demonstrate the same decline throughout recovery. The authors concluded that although negative cognitive appraisals and emotional responses are typically prominent during the earlier phases of injury for individuals with a salient athletic identity, this strong identification with the athlete role may also facilitate emotional resilience throughout rehabilitation regardless of one's degree of optimism.

Additionally, there has been a great deal of research on athletic identity in individuals with spinal cord injury (SCI). Athletes with SCI have scored higher on measures of athletic identity than able-bodied adults (Tasiemski, Kennedy, Gardner, & Blaikley, 2004). In the same study, athletic identity, as measured by the AIMS (Brewer, Van Raalte, & Linder, 1993), was not associated with depression, anxiety, or life satisfaction. Studies that have comprised longitudinal designs with regard to changes in athletic identity are discussed below. Regardless of whether it has a positive or negative effect, athletic identity has been shown to be a relevant personal factor that can influence the psychological responses to sport injury (for a more recent review of other factors in the model, see Walker, Thatcher, & Lavallee, 2007; Wiese-Bjornstal, 2014).

Biopsychosocial model of sport injury. As implied, the biopsychosocial model of sport injury (Brewer, 2002; Figure 3) accounts for biological factors in the psychological response to injury. Specifically, *biological factors* (e.g., nutrition, sleep, immune functioning) both influence and are influenced by *psychological factors* (e.g., personality, cognition, affect, and behavior). Likewise, *social/contextual factors* (e.g., social network, life stress, rehabilitation environment) influence and are influenced by psychological factors. Similar to the integrated model (Wiese-Bjornstal et al., 1998), Brewer identified various *injury characteristics* (e.g., type, severity,

history) and *sociodemographic factors* (e.g., age, gender, race, ethnicity, socioeconomic status) that can have influence the biological, psychological, and social/contextual factors. Taken together, the biological, psychological, and social/contextual factors can impact both the *intermediate biopsychological outcomes* (e.g., range of motion, strength, pain, rate of recovery) and the *sport injury rehabilitation outcomes* (e.g., functional performance, quality of life, readiness to return to sport). Finally, the intermediate biopsychological outcomes and the sport injury rehabilitation outcomes can also influence each other.

In comparison to the integrated model of psychological response to sport injury (Wiese-Bjornstal et al., 1998), athletic identity is not explicitly mentioned in the biopsychosocial model of sport injury; although, it is presumably subsumed as a psychological factor. As a result, many findings that support the connection between athletic identity and the psychological responses to sport injury are also true of this model, namely the link between the *psychological factors* and *sport injury rehabilitation outcomes*. Additionally, this model accounts for the connection between *psychological factors* and *social/contextual factors*. As mentioned previously, athletic identity can influence the composition and depth of one's social support network (Green & Weinberg, 2001; Rees et al., 2010). However, there is a dearth of research addressing the relationship between athletic identity and *biological factors*. Likewise, the relationship between athletic identity and *biopsychological outcomes* is ambiguous. One related finding is that athletes who have a high athletic identity are more likely to play through pain as well as prematurely return to play (Roos, Ornell, Gardsell, Lohmander, & Lindstrand, 1995). Moreover, significant alterations in range of motion, instability, and pain can also influence athletic identity by signaling to the athlete that a change is their lifestyle is warranted. Similarly, when injured athletes experience decrements in range of motion, endurance, laxity, and other biopsychological

factors, they may question their athletic identities. In accordance with this model (Brewer et al., 2002), a strong athletic identity (psychological factor) may also help an athlete become more resilient and manage pain during rehabilitation (intermediate biopsychological outcome). For example, as described above, athletic identity can contribute to emotional resilience during rehabilitation (Green & Weinberg, 2000). Perhaps, individuals who derive their self-worth from their sport performances show a greater drive to complete their rehabilitation exercises and quickly return to play.

Athletic identity and rehabilitation adherence. In addition to the aforementioned frameworks that outline the psychological responses to injury, Brewer et al. (2002) provided a schematic representation of the hypothesized relationships among psychological factors, rehabilitation adherence, and rehabilitation outcome (Figure 4). In brief, they posited that rehabilitation adherence can mediate the relationship between psychological factors and rehabilitation outcome. *Psychological factors* include self-motivation, social support, athletic identity, and psychological distress. These can influence both rehabilitation adherence and rehabilitation outcome. *Rehabilitation adherence* has been assessed by appointment attendance, practitioner ratings, and completion of home exercises and cryotherapy. As mentioned previously, rehabilitation adherence can impact *rehabilitation outcomes*, such as functional ability, subjective symptoms, and joint/ligamentous laxity. In summary, adherence to rehabilitation is a significant behavioral response which can have a profound impact on both physical recovery and psychological adjustment to injury.

There is scant research on the relationship between athletic identity and adherence to rehabilitation. Brewer et al. (2003) found partial support for the role of athletic identity in the aforementioned schematic representation of psychological factors, rehabilitation adherence, and

rehabilitation outcomes. In a sample of 61 individuals with acute ACL tears, they found a significant positive relationship between athletic identity and home exercise completion, but only for younger participants (primarily adolescents). Likewise, there was a significant positive relationship between athletic identity and home cryotherapy completion in younger participants, but not older participants. The authors concluded that the interaction between age and athletic identity may have been observed since identification with the athletic role is typically more exclusive in adolescence. Further, most of the younger participants were likely living with parents, who may have played an instrumental role in ensuring their adherence to rehabilitation exercises and cryotherapy as opposed to independently adhering to these exercises on their own accord. Further, as mentioned previously, Green and Weinberg (2000) suggested that individuals with a high athletic identity may be more emotionally resilient during rehabilitation; thus, one would expect that individuals with a high athletic identity may be more motivated to adhere to rehabilitation and return to sport in a timely manner. Additionally, Podlog et al. (2013) found that athletic identity and self-presentation concerns were positive predictors of rehabilitation overadherence. As a result, it is possible that overadherence was not accounted for in earlier studies (Brewer et al., 2003; Green & Weinberg, 2000). All in all, one would expect a positive relationship between athletic/running identity and rehabilitation adherence, which would seemingly lead to a successful return to sport. On the other hand, individuals who identify strongly with the athlete role are also at a greater risk of overadhering to rehabilitation exercises, which could subsequently lead to a premature return to sport and greater chance of re-injury. Nonetheless, these findings are tentative at best given the sparse research in this area; thus, further inquiry into the relationship between athletic identity and rehabilitation adherence is needed.

Changes in athletic identity during injury. In comparison to the research on retirement and career transitions in athletes (discussed below), there are fewer studies that have documented the change in athletic identity during injury. Typically, individuals strive to maintain a positive self-concept by devaluing potentially threatening aspects of the self (Markus & Wurf, 1987; Sedikides, 2007). For example, athletes who have poor seasons are more likely to divest their athletic identities in order to distance themselves from their perceived failure in sport (Brewer, Selby, Linder, & Petitpas, 1999). Accordingly, Brewer et al. (2010) postulated that decreases in athletic identity are also common during injury in order to preserve one's self-esteem in response to not being able to fully participate in practice or competition for a prolonged period of time. Decreases in athletic identity would also be expected given that athletes temporarily (or permanently) lose some of their physical abilities. Brewer et al. (2010) confirmed this hypothesis in a sample of 108 physically active people who were scheduled for ACL reconstructive surgery. Using the AIMS at four different phases (pre-operation, six months post-operation, 12 months post-operation, and 24 months post-operation), they found that athletic identity decreased over time with the sharpest decline occurring between six and 12 months post-operation (i.e., the return to play phase for most athletes with this injury). Interestingly, athletic identity did not return to pre-operation levels and continued to decline, even at 24 months post-operation; however, the authors did not provide any explanations regarding this finding. For instance, there may have been other factors at play (e.g., perceived success of recovery, place on team) that facilitated lower post-injury athletic identity.

Nonetheless, other sport psychology researchers have found contradictory findings. For example, in their case studies of injured NCAA Division I female athletes, Madrigal and Gill (2014) found that two of the three athletes maintained the same levels of athletic identity at pre-

injury (baseline) and the return to play phase; however, participants did not complete the AIMS at other phases (onset of injury, midway through rehabilitation). Moreover, the small sample size obviously hampered the generalizability of these findings. Additionally, Hawkins, Coffee, and Soundy (2014) examined the changes in athletic identity in athletes with SCI. Remarkably, they found that while they were cognizant of changes of physical limitations, the perceived loss of identity was buffered by an athletic identity that was retained by joining a wheelchair badminton club. Although a strong athletic identity may be considered a precursor for poor psychological adjustment to injury (Brewer, 1993; Brewer et al., 2010), these authors concluded that maintaining a strong athletic identity could help athletes adjust to SCI. In turn, healthy adjustment to SCI can also help facilitate a strong athletic identity. Consequently, the type of injury can certainly have an impact on the changes in athletic identity as well as its impact on the psychological responses to injury.

Research in cultural sport psychology and sport sociology has identified embodiment as a central factor in examining the changes in athletic identity. Embodiment and disrupted running identity was discussed in a previous section; hence, only a brief account is provided here. In their autoethnography of managing identity disruption as a result of knee injuries, Allen-Collinson and Hockey (2007) found that they tried to retain some of their running identity my maintaining a slender body, particularly since gaining weight was a concern during the recovery process. Comments about their lean bodies from significant others also helped reify their running identities. Additionally, Sparkes and Smith (2002) found that several male athletes who sustained spinal cord injuries critically reflected on previous taken for granted notions of masculinity (i.e., playing a contact sport). Further, these authors asserted that an exclusive athletic identity combined with acceptance of hegemonic masculinity inhibits athletes with SCI from fully

accepting their injuries and exploring other identities, or narratively reconstruct their sense of self.

Retirement

Major theories and models of retirement and career transitions of athletes.

Grief response models. Similar to the sport injury literature, Kübler-Ross' (1969) five-stage model of the grief process has been applied to the research on retirement from sport. However, Taylor and Ogilvie (1993) noted that both the factors that lead to these traumatic psychological responses and the factors that allow individuals to successfully cope at each stage was lacking in this model. Also, as previously mentioned with regard to the sport injury literature (e.g., Brewer, 1994), this model was derived from non-athlete populations, and not all athletes retiring from sport have experienced each stage in the same order. Nonetheless, there is ample evidence for athletes exhibiting depression and acceptance when managing athletic identity loss during retirement (Alferman & Gross, 1997; Grove, Lavallee, & Gordon, 1997; Lally, 2007). Additionally, athletes have been shown to demonstrate anger during retirement, particularly when unexpected events occur that lead to their exit from sport (Fortunato & Marchant, 1999; Kerr & Dacyshyn, 2000). On the other hand, there has been little empirical support for the denial and bargaining stages. Overall, however, in comparison to the sport injury literature, fewer researchers have used this framework to examine athletes' experiences of retirement from sport.

Developmental model of transition. In the early research on career transitions of athletes, Schlossberg's (1981) developmental model of transition (Figure 5) was one of the most widely used frameworks. In this model, retirement is conceptualized as a transition rather than a singular event. Specifically, she stated that transitions occur when "an event or non-event results in a change in assumptions about oneself and the world and thus requires a corresponding change in

one's behavior and relationships" (Schlossberg, 1981, p. 5). Some of the more prominent antecedents to retirement include: (a) a change in physical context (e.g., moving to a new city); (b) taking on a new social role (e.g., getting a new job); and (c) physiological changes (e.g., puberty, injury). According to the model, the individual's perception of the transition, characteristics of the individual, and characteristics of the pre- and post-transition environments influence how (s)he adapts to the transition. An individual's *perception of the particular situation* includes information such as role change (gain or loss), affect (positive or negative), source of transition (internal or external), timing (on-time or off-time), onset (gradual or sudden), and duration (permanent, temporary, or uncertain). Generally, Schlossberg hypothesized that transitions from internal sources (e.g., voluntary retirement) are easier to adapt to in comparison to transitions that are forced upon them (e.g., retirement due to career-ending injury). Further, she also posited that positive adaptations are more likely to occur when transitions are perceived to be "on-time," gradual, and certain (i.e., permanent for desired transitions or temporary for undesired transitions). The subsequent portion of the model comprises *characteristics of the individual* that are said to influence how an individual adapts to a transition. These include gender, age, state of health, socioeconomic status, and psychosocial competence. Next, *characteristics of pre- and post-transition environments* entail internal support systems (e.g., intimate relationships, family unit, friend network), institutional support, and physical setting. Ultimately, *adaptation* is dependent on: (a) the balance of one's resources and deficits; and (b) differences in one's assumptions about the self and the environment (e.g., support networks) before and after the transition. Given the vast overlap with Taylor and Ogilvie's (1994) conceptual model of adaptation to retirement, the role of athletic identity is discussed below.

Conceptual model of adaptation to retirement. Drawing upon the theoretical work of Schlossberg (1981) as well as the earlier research on athletic retirement (e.g., Allison & Meyer, 1988; Baille & Danish, 1992; Coakley, 1986; Ogilvie & Howe, 1986; Werthner & Orlick, 1986) Taylor and Ogilvie (1994) proposed a comprehensive model of retirement that was specific to athletes (Figure 6). First, they outlined multiple *causes of retirement*, including age, deselection, injury, and free choice. In turns, this impacts both factors related to adaptation to retirement and available resources. *Factors related to adaptation* include self-identity, social identity, developmental experiences, perceptions of control, and tertiary contributors. Examples of *available resources* are coping skills, social support, and pre-retirement planning. Together, these two factors also influence each other as well as the *quality of adaptation to retirement*. Taylor and Ogilvie posited that an athlete can either experience a *healthy career transition* or a *retirement crisis* in which psychopathology, substance abuse, occupational problems, and/or family/social problems may be present. Finally, there are various cognitive, emotional, behavioral, and social *interventions* that can be used to abate an athlete’s retirement crisis. Overall, this is a model that provides a comprehensive understanding of the factors related to athletes’ experiences of retirement; however, it is important to note that athletes will not necessarily have a retirement crisis or a healthy transition in a dichotomous manner. For example, an athlete may be able to explore other career options and form social networks in healthy manner, yet may still dwell on not meeting sport goals and suffer from depression.

Of particular interest in this model is the impact of athletic identity in adjusting to retirement from sport. In fact, it has generally been emphasized more in models of retirement and transition from sport than models of psychological response to sport injury. Although the role of athletic identity is most prominently highlighted under *factors related to adaptation to*

retirement, athletic identity may have an indirect influence on *causes of athletic retirement*. For example, Taylor and Ogilvie (1994) noted that chronological age is often a key factor in an athlete's decision to retire. Specifically, for many athletes, as they get older, they shift their focus away from themselves and towards others (e.g., family and friends), suggesting that the mutual exclusivity of an athlete's role decreases in these instances (Svoboda & Vanek, 1982). Indeed, athletic identity has been shown to decrease with age after adolescence (Brewer, 1993; Brewer, Van Raalte, & Linder, 1993). Additionally, an individual may develop other priorities around the needs of others versus themselves, thus decreasing their athletic identities before ultimately retiring.

In this model, however, athletic identity and other self-identities are highlighted as factors that could affect how an athlete copes with transition during retirement. Much of the research in this area is centered on *identity foreclosure*, which occurs when individuals prematurely commit to a role, occupation, and/or ideology, typically at an early age due to parental influences (Petitpas, 1978). Individuals with a salient and exclusive athletic identity derive most of their self-worth from their performances in sport; hence, their self-esteem is at risk when they become disengaged during sport (Pearson & Petitpas, 1990; Wariner & Lavallee, 2008). Likewise, these athletes are typically more "unidimensional" and their self-concepts are not very complex beyond their sport, which could also result in psychological and emotional difficulties transitioning into the non-sport world (Cecic Erpic et al., 2004; Grove et al.,1997; Martin et al., 1997; Sparkes, 1998). Accordingly, both high athletic identity and high identity foreclosure have been linked to low career maturity (Murphy, Petitpas, & Brewer, 1996) and poor coping skills during career transitions (Crook & Robertson, 1991). Similarly, Grove et al. (1997) found that athletic identity was significantly correlated with the degree of psychological adjustment needed

during retirement and the time taken to make that transition adjustment. Also, in a sample of 85 former elite Slovene athletes, Cecic Erpic et al. (2004) found that athletic identity was a strong predictor of the severity and number of psychological difficulties as well as difficulties organizing post-sports career life. Accordingly, athletes who reduce their athletic identities as they approach retirement have been shown to cope better with retirement (Lavallee, Gordon, & Grove, 1997). Some individuals may also retain a portion of their athletic identities by remaining involved in sport through coaching, broadcasting, or sport administration (Petitpas, 2009). In a comparison of coaches and non-coaches who were all former athletes, coaches reported a smaller discrepancy between their current athletic identity and athletic identity at the time of retirement (Shachar, Brewer, Cornelius, & Petitpas, 2004). The coaches group also exhibited a stronger tendency towards identity foreclosure and less engagement in exploration of other career possibilities. Consequently, going directly into coaching may not be an ideal way of coping with retirement for some individuals. Nonetheless, recent research appears to suggest that a strong athletic identity is not necessarily problematic for an athlete's post-retirement life. For example, through interviews with 19 Finnish elite distance runners, Ronkainen et al. (2016) found that athletes stayed involved with running due to camaraderie and competition (although they were not competing at the same high levels as they previously were). Participants also stated that they were able to intrinsically reconnect with the joys of running when the internal and external pressures of professional running dissipated. The authors also asserted that there are multiple meanings of athletic identity (i.e., multiple athletic identities) dependent on social and cultural forces.

Similarly, athletes' social identities, another critical factor in Taylor and Ogilvie's (1994) conceptual model, are also altered during retirement. According to Petitpas (2009), elite-level

and highly visible athletes, in particular, may develop a strong sense of entitlement, believing that the sport system will take care of them for the rest of their lives. Often forgetting about the time and effort it took to work their way up to the top, they may be less willing to start at the bottom of another career trajectory. As a result, they may believe that the sport system has abandoned them. Additionally, athletes with an exclusive athletic identity often may feel the need to reclaim the self-worth associated with their social identities as athletes (Taylor & Ogilvie, 1994). On the other hand, athletes with a more diverse social identity that encapsulates family, friendship, educational, and occupational components are more likely to adapt better to retirement (Werthner & Orlick, 1986). Thus, as implied in the conceptual model, an athlete's self-identity and social identity can both impact the availability of resources to cope with transition. Consequently, pre-retirement planning can assist in expanding an athlete's self-identity (Pearson & Petitpas, 1990; Petitpas, 2009; Taylor & Ogilvie, 1994). Likewise, it is important for significant individuals in athletes' lives (i.e., friends, family, former teammates) to allow the athlete to be released from that role (Pearson & Petitpas, 1990; Webb et al., 1998). These findings and recommendations also support Schlossberg's (1981) developmental model, where she highlights the importance of pre-transition and post-transition environments.

Perception of control is another factor that has been studied closely in conjunction with athletic identity. In a sample of 93 retired athletes, Webb et al. (1998) found that those who reported low levels of perceived control had lower life satisfaction scores, more retirement difficulties, and greater uncertainty about the future. Further, for athletes who sustained a career-ending injury, lacking control was positively correlated with athletic identity; although, this was not the case for those who retired due to deselection or free choice. These findings illustrate the complex relationships among various factors in this model. Whether or not it is mediated by

athletic identity, a low perception of control has unequivocally been associated with poor psychological adjustment to retirement (Cecic Erpic, Wylleman, & Zupancic, 2004; Werthner & Orlick, 1986).

As mentioned previously, factors related to adaptation to retirement, namely athletic identity and social identity can also influence available resources, which both influence quality of adaptation to retirement. For example, although pre-retirement planning may be available to athletes, individuals with strong and exclusive athletic identities are less likely to utilize these resources (Pearson & Petitpas, 1990; Petitpas, 2009; Werthner & Orlick, 1986; Wylleman, De Knop, Menkehorst, Theeboom, & Annerel, 1993). Adler and Adler (1991) also found that college basketball players engaged in role engulfment as a result of becoming seduced by fame and the possibilities for their sport as a lucrative career. In turn, they neglected other roles and identities, which led to transition difficulties during retirement. Moreover, many high-performing athletes are often enmeshed within dense, social networks (e.g., teammates, coaches, athletic trainers, sport administrators) that can influence athletes' decisions about role investment and other development issues (Nixon, 1992; Pearson & Petitpas, 1990; Remer, Tongate, & Watson, 1978). Within this network, athletes are often exposed to a homogeneous array of opinions, which often restrict athletes from exploring other roles and careers, which in turn, can lead to post-career difficulties. Additionally, given that a fair amount of their social support network members are within sport (e.g., coaches, teammates, athletic trainers, sports medicine personnel), athletes may experience loneliness and boredom after retiring (Petitpas, 2009). Likewise, athletes are accustomed to regimented schedules; thus, retired athletes may not know how to cope with uncertainty about their future. These findings illustrate that athletic identity can both directly and

indirectly (via other factors such as social support network, pre-retirement planning, etc.) impact their adaptation to retirement.

Changes in athletic identity during retirement. On average, athletic identity tends to peak during adolescence (i.e., the high school years) before gradually declining over time (Brewer, 1993; Brewer, Van Raalte, & Linder, 1993; Webb et al., 2004). Accordingly, Wiechman and Williams (1997) found that athletic identity increased each year in high school; however, expectations of playing collegiately and/or professionally was a greater predictor of athletic identity. Moreover, in this sample of high school athletes, males had higher AIMS scores than females, perhaps due to more limited opportunities for professional women's sports. In the context of Erikson's (1959) psychosocial stages of identity development, adolescents strive for industry; thus, it is common for high-school athletes to privilege their athletic commitments over their academic responsibilities, particularly if they have been encouraged to be active in sport from a young age. During the college years, individuals more critically interrogate and search for their personal identity, which entails active exploration of various roles, identities, and possibilities for adult life (Erikson, 1959). However, due to the time commitment and exclusive nature of their athletic identities, college athletes often avoid these pursuits (Adler & Adler, 1991; Pearson & Petitpas, 1990). In turn, individuals who have maintained a strong and salient athletic identity experience confusion during the end of their sport careers (Kerr & Dacyshyn, 2000; Petitpas, 2009). Having identified with the athlete role for a significant portion of their lives, athletes struggle to answer the question "Who am I?" and search for other sources of self-worth as they transition out of sport. Given that they no longer perform their athletic roles, athletic identity typically decreases. However, another reason is the aforementioned hypothesis that people self-consciously act in a biased manner to maintain a positive self-concept (Markus

& Wurf, 1987; Sedikides, 2007). Consequently, given that athletes have been shown to divest their athletic identity during a poor season (Brewer et al., 1999) or a long-term injury (Brewer et al., 2010), it would be expected that athletes would decrease their athletic identities as they approach retirement and explore other social, career, or academic roles.

Multiple researchers have documented the changes in athletic identity during transitions out of sport. Martin, Fogarty, and Albion (2014) examined changes in athletic identity over a four-year period in three groups, comprising athletes who: (a) had recently retired at onset of the study; (b) were intending to retire within the next three years; and (c) who had no plans to retire. They found that athletic identity decreased in all three groups; although, the biggest changes occurred for the group that had recently retired. Interestingly, the retirement group also reported a significant increase in life satisfaction. Lavallee et al. (1997) also found that athletic identity decreased after retirement in 18 former elite athletes. In turn, these changes were associated with recovery from distressful reactions to retirement.

Some researchers have also used qualitative methods to gain more insight and thick description regarding the changes in athletic identity during retirement. Lally (2007) interviewed six former collegiate athletes at three phases (i.e., one month after beginning final season, one month after retiring, and one year after retiring) and generally found a decrease in athletic identity as they approached retirement and transitioned into life after sport. In fact, multiple participants in this study reported that by their third or fourth years in college, they realized that they would not compete professionally; thus, they proactively withdrew their identities from their sport and explored other areas of their life (for example, a swimmer got involved with road races and triathlons) in order to psychologically prepare themselves for retirement. After retiring, although they experienced some feelings of sadness, there was generally no “identity crisis” as

the participants had expected. Finally, one year post-retirement, athletes continued transitioning into new roles (e.g., student, businessman). Thus, athletes proactively prepared for retirement by reducing their athletic identities, which appeared to help them transition into their new roles. In interviews with former elite female gymnasts, Kerr and Dacylshyn (2000) found that most participants identified exclusively with the athlete role. As a result, they initially experienced feelings of disorientation, frustration, and void upon retiring from their sport, which one participant (and the authors) referred to as "Nowhere Land." Ultimately, however, some of the retired gymnasts in this study were able to establish a new sense of the self and become oriented toward other roles. Participants also indicated that taking time to reflect and deconstruct one's sport experiences (e.g., questioning decisions to play through pain and injury, becoming aware of disordered eating habits) was essential to healing psychological wounds and achieving re-orientation of the self.

Forced Termination

In this section, I review the literature on athletic identity with regard to transitions that athletes face as a result of forced termination, particularly season-ending injuries and deselection (i.e., not making the team). In an earlier study, it was discovered that 95% of professional soccer players were forced to retire against their will (Mihovilovic, 1968). While this figure may be high in comparison to other contexts (i.e., type of sport, level of competition), forced termination is a common occurrence. Moreover, several sport psychology researchers (e.g., Pearson & Petitpas, 1990; Petitpas, 2009; Taylor & Ogilvie, 1994; Webb et al., 1998) have asserted that athletes who unexpectedly exit from sports are at a significantly greater risk of poor psychological adjustment to retirement than those who exit by free choice. Athletes with a high athletic identity who were forced to retire from their sport are also more likely to obsess over

their sport (Petitpas, 2009).They are not afforded the opportunity to psychologically and practically prepare for their retirement in comparison to athletes do who voluntarily retire from their sport. Likewise, they may experience feelings of depression, wondering if all the time invested into sport was worth it. Athletes may also feel a diminished sense of control from having one's athletic identity undermined (Werthner & Orlick, 1986). Consequently, it is important to critically examine athletes' experiences of dealing with these transitions.

Relevant models. There are no additional theoretical frameworks that are solely specific to forced termination in sport; rather, these issues can be integrated into previous models. For example, in the case of career-ending injuries, the integrated model of psychological responses to sport injury (Wiese-Bjornstal et al., 1998) accounts for relevant personal factors (i.e., type of injury, perceived recovery, athletic identity) that can influence the perception (i.e., cognitive appraisal) of these injuries as well as the subsequent emotional and behavioral responses. Further, the cyclical core in this model takes into account both the physical (e.g., ability to perform daily activities of living) and psychosocial recovery outcomes (e.g., overcoming depression, exploring other career options) in athletes who are forced to retire due to a career-ending injury.

Nonetheless, because models of retirement specifically address both the causes and retirement as well as the specific factors that contribute to positive adaptation, these may be more helpful in describing and explaining athletes' experiences of forced termination. For example, Schlossberg's (1981) developmental model of transition accounts for several factors that are paramount to forced termination, including role change (loss), onset (gradual or sudden), and duration (permanent, temporary, or uncertain). In addition to the perception of the particular transition, the characteristics of the individual, namely athletic identity with respect to this

discussion, is also a key factor in determining how an athletes copes with forced termination. Nonetheless, Taylor and Ogilvie's (1994) conceptual model of athletic retirement appears to a relevant and helpful framework when attempting to understand athletic identity and forced termination. As discussed previously, the model accounts for specific events that cause a transition, some of which can be directly related to forced termination (i.e., injury, deselection). Additionally, these are intertwined with factors related to adaptation, namely athletic identity (which is subsumed under self-identity and social identity). Consequently, although each of the sport injury and retirement models can be applied to forced termination in some capacity, I discuss the relevant research primarily within the context of Taylor and Ogilvie's (1994) conceptual model of athletic retirement.

Injury. In cases where an athlete sustains a career-ending injury athletes are even more vulnerable to short- and long-term psychological distress. Kleiber and Brock (1992) found that collegiate athletes who were exclusively invested in sport versus academic and career roles exhibited lower self-esteem and life satisfaction five to 10 years after sustaining a career-ending injury. Similarly, in a narrative case study, an elite equestrian rider struggled to regain a sense of identity after being forced to retire due to a serious illness (Sparkes, 1998). As Sparkes noted, the exclusive focus on the glorified self (i.e., fame and personal pride associated with her athletic accomplishments) created challenges. In fact, two years after retiring, this former elite athlete still reported feeling betrayed by her physical body and unable to incorporate new identities, exhibiting what Sparkes (1998) called a "fragmented self." Although some researchers have contended that the detriments of retirement from sport may be overblown and that it is simply just one of many transitions throughout the lifespan (Allison & Meyer, 1988; Baillie & Danish,

1992), these findings suggest that a salient, exclusive athletic identity in conjunction with forced termination can be associated with long-term negative consequences.

Additionally, Webb et al. (1998) examined the relationships between athletic identity and multiple variables (e.g., life satisfaction, retirement difficulties, feelings of uncertainty about the future, self-value, belief that one has little control over outcomes) in three groups: athletes who retired due to injury, athletes who retired due to deselection, and athletes who retired voluntarily. They found a significant positive relationship between athletic identity and uncertainty about the future in athletes who were forced to retire due to injury. Interestingly, this relationship was not significant in athletes who retired due to deselection or to free choice. Similarly, they found that the relationship between self-value and uncertainty about the future was only significant for the group of athletes who sustained career-ending injuries. Likewise, athletic identity was a predictor of perceived lack of control for these athletes who were forced to retire due to injury. Given that retirement due to injury is more sudden than retirement due to deselection, the aforementioned retirement models (Schlossberg, 1981; Taylor & Ogilvie, 1994) would predict more difficulties with adaptation. These findings also make sense given that athletes typically experience diminished controllability, predictability, and familiarity in response to a traumatic event (Taylor & Taylor, 1997). Additionally, Webb et al. (1998) found that the injury group demonstrated the strongest relationship between athletic identity and life satisfaction, which was negative. However, the authors noted that this was not significant, citing the lack of statistical power with the small sample size of injured athletes (n = 28) and/or the difficulties of assessing global life satisfaction, a construct that can be biased by temporary mood states.

Deselection. Similarly, athletes who are forced to retire due to deselection (i.e., not making the team) are likely to experience more difficulties when transitioning out of sport than

those who retired by free choice. Athletes who demonstrate the greatest deficits between their sport aspirations and athletic abilities are at greater risk for coping poorly with transition out of sport (Petitpas, 2009). While athletes who are forced to retire due to serious injuries may experience lower feelings of perceived control and predictability than those who retire voluntarily or due to deselection, some scholars (Pearson & Petitpas, 1990; Webb et al., 1998) have postulated that athletes who are cut from teams may experience substantial losses in self-esteem. As mentioned, individuals with salient, exclusive athletic identities derive the bulk of their self-worth from their performances in sport; thus, athletes who are forced to retire as a result of poor performance (i.e., deselection) may be at a greater risk of self-esteem issues, especially if they cling to a strong athletic identity.

Conversely, athletes who divest their athletic identity after deselection may show greater psychological adjustment. This was evident in a study where Grove, Fish, and Eklund (2004) assessed changes in athletic identity from pre-selection, to immediate post-selection, and finally to 14 days after selection in a sample of 47 female high school athletes. Although athletic identity levels were initially the same for both selected and non-selected athletes, athletic identity decreased over time for the non-selected participants with the greatest decline being observed from pre-selection to immediate post-selection. A likely explanation was that the non-selected athletes distanced themselves from their athletic identities in order to protect their self-concept (Markus & Wurf, 1987; Sedikides, 2007). Likewise, Australian football (soccer) players reported a sharp decline in their athletic identities upon involuntary retirement (Fortunato & Marchant, 1999). Furthermore, deselected athletes felt abandoned and isolated, stating that there were limited social support networks from athletic clubs. Also, despite receiving social support from family members and friends, they believed that they were unable to empathize with the

challenges they were facing. This illustrates how the public dimension of athletic identity can serve as a barrier to successfully coping with retirement. Together, these findings provide support for Taylor and Ogilvie's (1994) conceptual model of athletic retirement by illustrating how deselection can directly influence a myriad of factors related to adaptation to retirement and available sources, which interactively influence the quality of adaptation. In another study, however, there was no relationship between athletic identity and self-value for athletes who retired due to deselection (Webb et al., 1998). Nonetheless, for these deselected athletes, Webb and colleagues found that athletic identity was most strongly correlated with feelings of uncertainty about the future in comparison to injury and free choice groups. As mentioned above, this study lacked statistical power due to a relatively small sample of athletes who retired due to deselection (n = 40); hence, these findings are tentative at best.

Summary. To summarize, involuntary retirement, which typically results from a career-ending injury or deselection, and strong athletic identities are collectively risk factors for poor psychological adjustment to retirement. In line with Schlossberg's (1981) model, the sudden onset, which is more common with career-ending injuries, appears to tax an individual's resources. Career-ending injuries are also associated with greater uncertainty about the future and low feelings of control (Webb et al., 1998). Per Taylor and Ogilvie's (1994) conceptual model of adaptation to retirement, injury and deselection are also disruptive to an individual's athletic identity. A serious injury obviously impairs one's physical abilities in sport; while, deselection provides negative feedback about one's abilities. In turn, such events can lead to decreases in self-esteem. Although these athletes are typically prevented from planning for a smooth transition out of sport in comparison to athletes who voluntarily retire, intentionally decreasing one's athletic identity appears to still have a protective effect in regards to one's self-

concept (Brewer et al., 2010; Grove et al., 2004). Withdrawal from the athlete role can also allow for exploration of other career, social, and/or academic roles (Petitpas, 2009).

In this section, I explored the major theories and models in sport psychology relating to the psychological responses to sport injury, retirement, and forced termination, particularly focusing on the role of athletic identity in each of these events. Generally, when athletes possess a salient and exclusive athletic identity, they are at a greater risk of poor psychological adjustment during injury (Brewer, 1993; Madrigal & Gill, 2014; Roos et al., 1995) or retirement (Cecic Erpic et al., 2004; Crook & Robertson, 1991; Grove et al., 1997; Lavallee et al., 1997; Murphy et al., 1996; Wariner & Lavallee, 2008). Nonetheless, there has been some counter-evidence, which suggests that a strong athletic identity may either assist an athlete in coping with these identity-disrupting events (Ronkainen et al., 2016; Tasiemski et al., 2004) or have no effect on how an athlete adapts (Green & Weinberg, 2000). Therefore, while it would be generally expected that runners would cope with identity-disrupting events (i.e., injury, retirement, forced termination) in a similar manner, a strong athletic or running identity may actually be beneficial depending on various factors (Horton & Mack, 2000; Ronkainen et al., 2016). Further research is needed to address the unique experience of runners.

Scale Development: Confirmatory Factor Analysis

In this section, I explain how I will further validate the RIS by using a confirmatory factor analysis (CFA). Using similar procedures as the current study (e.g., convenience sampling, completion of the RIS, AIMS, and PPAIS), I will recruit a sample of high-level runners to complete the RIS. While collegiate runners will be included, I will aim to include a balance of serious club runners, professional runners, and other high-level runners as well. This section focuses primarily on CFA.

The purpose of CFA is to evaluate the psychometric properties of a new measure, or the factor loadings that were discovered in the EFA (Harrington, 2009). The CFA will be conducted on high-level runners (e.g., serious, collegiate, or professional) so that the sample can resemble the EFA as closely as possible. The CFA will be conducted in accordance with the steps outlined by Furr and Bacharach (2013): (1) specification of a measurement model; (2) statistical computations based on the model; (3) interpretation of the output; and (4) model modification and reanalysis if necessary.

First, using SPSS software, a figure will be created to depict the model that arose from the data in the EFA. In order to achieve this, the three factors that are hypothesized to reflect the construct of running identity will be identified: *running performance*, *running exclusivity*, and *running self-identity*. Additionally, the specific links between items and factors as well as between factors will be specified.

Second, once the model is specified, the following values will be calculated via Amos software: actual variances and covariances, parameter estimates, implied variances and covariances, and indices of good fit (Furr & Bacharach, 2013). Initially, the actual variance of each item and the actual covariance between each pairs of items will be calculated. Then, these values will be used to estimate various parameters such as the factor loadings of each item (item-factor parameters). Also, parameters that describe the estimated connections among various factors will be calculated (factor-factor parameters). For each parameter, an inferential statistic will also be calculated, indicating the degree of significance with the associated null hypothesis being that the estimated parameter is 0 in the population. Next, these estimated parameter values will be used to compute implied item variances and covariances. Typically, if the specified model is good, there will be matches between the actual and implied variances and covariances

(Furr & Bacharach, 2013). Finally, using SPSS software, indices of goodness, which describe the adequacy of the hypothesized model, will be calculated. Additionally, indices of modification, which can describe how the model can be improves, will be evaluated. Accordingly, the model will be subject to reformulation until arriving at a model of good fit.

In the third overall step of CFA, these aforementioned values will be interpreted. The most common fit indices are chi-square values (χ^2), the standardized root mean square residual (SRMR), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), and the root mean square of approximation (RMSA; Furr & Bacharach, 2013). Large statistically significant chi-square values typically indicate poor fits; however, a large sample size, which is a necessary assumption of CFA, typically produces significant chi-square values. Because of this paradox, these other aforementioned other indices will be examined. Hu and Bentler (1999) provided the following benchmarks: $\leq .08$ for the SRMR, $\leq .06$ for the RMSA, and $\geq .95$ for both the TLI and the CFI. If the values generally indicate poor fit, then the modification indices will be examined. If the values generally indicate good fit, then the parameter estimates will be evaluated in order to determine the psychometric properties of the scale (Furr & Bacharach, 2013). In other words, while fit indices provide an overall summary of the adequacy of the proposed model, the parameter estimates describe how well each items loads on a particular factor or on the scale overall.

Accordingly, in the fourth step (if necessary), items that do not load adequately may be removed from the scale in order to improve the psychometric properties of the instrument (Furr & Bacharach, 2013). As a result, the aforementioned analyses will be conducted on the revised model. Ideally, this should not occur more than twice, particularly given that this is based on a previous EFA. However, if several modifications need to be made, this may indicate that the

final solution from the EFA (i.e., the current study) may need to be revisited (Furr & Bacharach, 2013).

Section 3: Extended Discussion

In this section, a more thorough interpretation of the results is provided. In particular, some of the less significant findings briefly mentioned in the manuscript section are further discussed here. First, the similarities and differences between the RIS and AIMS (Brewer, Van Raalte, & Linder, 1993) are scrutinized more closely. Then, an explanation for the lack of sociological and cultural items in the RIS is offered. Finally, the relationships between running identity and demographic variables as well as the group comparisons that were only briefly interpreted in Section 1 are discussed in greater detail.

Comparing and Contrasting the RIS and AIMS

As previously mentioned, all 10 items from the AIMS (Brewer, Van Raalte, & Linder, 1993) were adapted for the RIS. Generally, the words “athlete” and “sport” from the AIMS were changed to “runner” and “running,” respectively, for the RIS. Ultimately, six items remained in the final solution of 11 items. These items and their comparisons with the RIS are highlighted in section one; whereas, this section primarily focuses on the four items that were not included in the RIS. Prior to beginning that discussion, however, it is interesting to note that item 28 (“I feel bad about myself when I do poorly in a race”) was initially eliminated during the Delphi process. This may have been because this item from the AIMS was adapted somewhat differently than the rest. Specifically, the item, “I feel bad about myself when I perform poorly in sport” was not changed to “I feel bad about myself when I perform poorly in running” as the aforementioned rules would dictate because “race” was deemed more specific and appropriate rather than “running” in general. This may have contributed to Delphi respondents not rating this item highly; however, none of the reviewers explicitly mentioned this. In the pre-test, former collegiate runners conveyed that this item was essential to include in the RIS; therefore, it was

added back into the pool. As previously indicated, it also remained after the EFA, loading on the *running performance* factor at .667. While we assert that the Delphi technique enhanced the rigor of the current study, it is also worth emphasizing the importance of utilizing multiple methods and sources for developing and refining the items when developing a scale. Creating a survey is an iterative process (Colton & Covert, 2007).

The four items adapted from the AIMS that were eliminated during the EFA included Item 3 ("Most of my friends are runners."), Item 6 ("I need to participate in running to feel good about myself."), Item 7 ("Other people see me mainly as a runner."), and Item 9 ("I would be very depressed if I could not compete in running."). Items 3 and 7 referred to social identity aspects of being a runner. In fact, these two items in the AIMS have previously been found to load on a *social identity* factor (Martin et al., 1997). Nonetheless, these items were missing from the EFA in the current study for running. Interestingly, these were the last two items to be eliminated before arriving at a final solution. Prior to this step, both items loaded on the *running self-identity* factor. Conceptually, this was unclear; however, a further analysis of the communalities revealed that their values were < .4, which suggested that it may represent an additional factor that needs to be explored (Costello & Osborne, 2005). Consequently, researchers who explore future iterations of this scale should attempt to include more items that assess social running identity. Likewise, these items simply may not have been representative of running identity. The social aspects of running identity are discussed below. As a result of eliminating these two items, an increase in the proportion of variance explained was observed, providing further justification for this decision.

Additionally, Item 6 ("I need to participate in running to feel good about myself.") was removed during the EFA due to cross-loading. Interestingly, in multiple factor analyses of the

AIMS (e.g., Brewer, Boin et al., 1993; Martin et al., 1997; Proios, 2012b), the associated item from the AIMS ("I need to participate in sport to feel good about myself.") has not been found to load on any factor, except when a unidimensional scale was revealed in its original development (Brewer, Van Raalte, & Linder, 1993). This suggests that Item 6 may not be a psychometrically sound item. Conceptually, this item did not resonate with any of the three factors that were produced in the current study as well.

Finally, Item 9 ("I would be very depressed if I could not compete in running due to injury.") was not present in the final solution. Its associated item in the AIMS is phrased, "I would be very depressed if I was injured and could not compete in sport." As seen, this item was adapted differently. In the first version, the item was adapted as "I would be very depressed I was injured and could not compete in cross-country or track." In the first round of the Delphi process, a reviewer suggested removing conjunctions, such as "and" and "or." This was also consistent with Colton and Covert's (2007) recommendations for writing clear and effective items. Furthermore, references to cross-country and track were removed to make it more generalized to running. As a result, this item was modified to "I would be very depressed if I could not compete in running due to injury." Later, in the pre-test, an individual suggested that the word "very" was redundant given that respondents would be rating the intensity of their agreement; thus, this word was omitted. Nonetheless, there is evidence to suggest that Item 9 may not have originally been a psychometrically sound item. Future iterations of this scale should include more items pertaining to injury in order to tap into the negative affect associated with the sudden withdrawal of running. Other items were created to assess how runners negotiate pain and the possibility of not being able to run (e.g., "I run when I have minor pain."); however, this may have been tapping into multiple constructs (e.g., negative affect, running addiction).

Consequently, Item 9 and other similar items may have represented thoughts and/or behaviors related to running identity but not necessarily inherent to running identity.

Lack of Sociological Items in the RIS

As previously mentioned, there very little items that tapped into the sociological aspects of running identity (e.g., Allen-Collinson, 2008; Allen-Collinson & Hockey, 2007; Hockey, 2005) in the final solution. In fact, most of these items were eliminated during the second round of the Delphi process. Prior to the Delphi process, there were 26 sociological items. After the first round, seven were eliminated, and 10 sociological items were added, netting a total of 29 items. Most of these eliminated items pertained to the *vocabularic* identifications of running identity (see Appendices C, E). Then, 24 items were eliminated in the second round, leaving only five items in the initial pool for the pretest and pilot test phases. While the sample of Delphi respondents included some sport sociology experts, they tended to agree with the sport psychology experts that the more sociological-oriented items were not suitable for the scale. Therefore, it appeared that some of these items were not generalizable across all experiences of identity. Furthermore, a number of reviewers noted that the items contained several cognitions, emotions, and behaviors that may have been *related* (but not *inherent*) to running identity. Similarly, some reviewers expressed the concern that a scale which comprehensively contained cognitions, emotions, and behaviors of a “typical” runner would have little utility when assessing relationships with other constructs in sport psychology and sport sociology. Of the five sociological items that survived the Delphi process into the pilot test, only one of these items remained: “Compliments from other runners about my times are important to me” (Item 10). This item pertained to the *associative* identification of running identity, or the degree to which one values attention from other runners. This is also closely related to Nasco and Webb’s (2006)

notion of public athletic identity, or an individual's perception of how he or she is perceived by others in the role of a runner.

Retrospectively, the lack of remaining sociological items was not surprising given that psychologists and sociologists define *identity* differently. For example, Jenkins (2008), a psychologist, defined it as the "human capacity – rooted in language – to know 'who's who' (and hence, 'what's what')… knowing who we are, knowing who others are, them knowing who are, us knowing who they think we are, and so on" (p. 5). In sport psychology, Brewer, Van Raalte, and Linder (1993) defined athletic identity as the extent to which one identifies with the athlete role. On the other hand, Burke (1991), a sociologist defined *identity* as a "set of meanings applied to the self in a social role or situation" (p. 837). Accordingly, sociological phenomena are typically more contextual than psychological constructs. As a result, it may be difficult to include the social and cultural aspects of running in a scale. In other words, the positivist underpinnings of psychological scale research may make it challenging to explore the sociocultural aspects of running. Consequently, sport researchers should be wary of using scales to explore identity from a sociological framework. Instead, they should employ methods that align with more appropriate paradigms, such as social constructivism or post-structuralism, depending on the specific research question. For example, Allen-Collinson and Hockey (2007) utilized an autoethnographic approach to explore running identity disruption during injury.

Demographic Variables: Group Comparisons and Relationships

In terms of gender, there were no significant differences in composite RIS scores or any of its three factors in the sample of high-level (i.e., serious, collegiate, and professional) runners. This was consistent with previous research (e.g., Brewer, Van Raalte, & Linder, 1993; Nasco & Webb, 2006) who found minimal gender differences in high-level athletes. Brewer, Van Raalte,

and Linder reported that males exhibited higher levels of athletic identity, but only in the non-athlete, recreational/fitness athlete, and intramural/local/regional athlete samples. Moreover, the sample sizes in these studies were generally small. This suggests that a greater emphasis on sport may be placed on males in U.S. society; however, for high-level athletes (including runners) who invest a lot of time into their sport, there appears to be no differences in running identity. At first glance, this finding appears to diverge from Busanich et al. (2012), who found that male and female runners described their running identities differently. However, Busanich et al. conceptualized running identity as a social construction grounded in post-structuralism. Accordingly, the male runners and female runners exhibited hegemonic masculinity and hegemonic femininity, respectively, in how they talked about food and their bodies in relation to their running identities. On the other hand, the current study was grounded in positivism in which identity was framed as more fixed, stable, and predictable over time (for a more in-depth review of paradigms and identity, see McGannon & Johnson, 2009).

In terms of academic classification, there were no significant differences in composite RIS scores or each of its factors in the current study. Likewise, there was no significant relationship between age and running identity. This was somewhat surprising given that athletic identity has been speculated to decrease throughout college, particularly as college athletes begin to think more about their careers and other roles as they approach graduation (Lally, 2007). Nonetheless, this difference may be explained by the fact that running is an activity that many people continue to do in varying degrees of competitiveness beyond college in comparison to other sports, where a more abrupt withdrawal may be more common. In other words, many collegiate runners continue to run after graduation; thus, in comparison to other athletes, they may not proactively divest their running identities as they approach the end of their

undergraduate academic tenure. Future researchers should quantitatively and qualitatively explore how collegiate runners change their running identity before and after their collegiate running careers.

Additionally, there were no significant differences among NCAA Division I, Division II, Division III, and NAIA runners for both running identity and athletic identity. This finding did not support the general notion that Division I athletes exhibit higher athletic identities. There are two possible explanations for this occurrence. First, cross-country and track and field are not highly-watched sports; therefore, there is less opportunity to develop a public athletic identity in comparison to high-revenue sports. In other words, the differences in viewership/spectatorship for cross-country or track and field between NCAA Division I and other athletic affiliations is not as vast as high-revenue sports, such as football or basketball. This might also explain why the RIS only contained one item that tapped into public running identity. Second, although NCAA Division I runners typically still outperform runners from other athletic affiliations, there may be more parity among Division I, Division II, Division III, and NAIA in cross-country and track and field than there is for other sports. As a result, there may be more variance in the degree to which one identifies with the runner role among each athletic affiliation. Nonetheless, these findings and interpretations are very tentative, and further research is needed to explore these phenomena.

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Appendices

Appendix A: Institutional Review Board Approval

THE UNIVERSITY of TENNESSEE UT
KNOXVILLE
Office of Research & Engagement
INSTITUTIONAL REVIEW BOARD (IRB)

1534 White Ave.
Knoxville, TN 37996-1529
865-974-7697
fax 865-974-7400

August 26, 2015

Matthew Philip Bejar,
UTK - Kinesiology Recreation & Sport Studies

Re: UTK IRB-15-02343-XP
Study Title: Development of the Collegiate Running Identity Scale

Dear Mr. Bejar:

The Administrative Section of the UTK Institutional Review Board (IRB) reviewed your **application** for the above referenced project. It determined that your application is eligible for **expedited** review under 45 CFR 46.110(b)(1), categories 5 and 7. The IRB has reviewed these materials and determined that they do comply with proper consideration for the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects. Therefore, this letter constitutes full approval by the IRB of your application (version 1.2) as submitted. Approval of this study will be valid from August 26, 2015 to August 25, 2016.

In the event that subjects are to be recruited using solicitation materials, such as brochures, posters, web-based advertisements, etc., these materials must receive prior approval of the IRB. Any revisions in the approved application must also be submitted to and approved by the IRB prior to implementation. In addition, you are responsible for reporting any unanticipated serious adverse events or other problems involving risks to subjects or others in the manner required by the local IRB policy.

Finally, **re-approval** of your project is required by the IRB in accord with the conditions specified above. You may not continue the research study beyond the time or other limits specified unless you obtain prior written approval of the IRB.

Sincerely,

Colleen P. Gilrane

Colleen P. Gilrane, PhD
Chair
UTK Institutional Review Board

THE UNIVERSITY of TENNESSEE UT
KNOXVILLE
Office of Research & Engagement
INSTITUTIONAL REVIEW BOARD (IRB)

1534 White Ave.
Knoxville, TN 37996-1529
865-974-7697
fax 865-974-7400

October 8, 2015

Matthew Philip Bejar
UTK - Kinesiology Recreation & Sport Studies

Re: UTK IRB-15-02343-XP
Study Title: Development of the Collegiate Running Identity Scale

Dear Mr. Bejar:

The Administrative Section of the UTK Institutional Review Board (IRB) reviewed your application for **revision** of your previously approved project, referenced above. Category 5: Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis)
Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

The IRB determined that your application is eligible for **expedited** review under 45 CFR 46.110(b)(2). The attached revisions were approved as complying with proper consideration of the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects. *Please note that while the text of your Consent Cover Statement is also allowable as a recruitment email, you must also include the Cover Statement in its entirety on Qualtrics, so that participants must make a proactive decision (i.e., click) to participate after having the opportunity to read it. Please use the Delphi Cover Statement version 1.0 that is dated and stamped IRB approved.* Approval does not alter the expiration date of this project, which is 08/25/2016.

In the event that subjects are to be recruited using solicitation materials, such as brochures, posters, web-based advertisements, etc., these materials must receive prior approval of the IRB. Any revisions in the approved application must also be submitted to and approved by the IRB prior to implementation. In addition, you are responsible for reporting any unanticipated serious adverse events or other problems involving risks to subjects or others in the manner required by the local IRB policy.

Finally, **re-approval** of your project is required by the IRB in accord with the conditions specified above. You may not continue the research study beyond the time or other limits specified unless you obtain prior written approval of the IRB.

Sincerely,

Colleen P. Gilrane

Colleen P. Gilrane, PhD
Chair

THE UNIVERSITY of TENNESSEE UT
KNOXVILLE
Office of Research & Engagement
INSTITUTIONAL REVIEW BOARD (IRB)

1534 White Ave.
Knoxville, TN 37996-1529
865-974-7697
fax 865-974-7400

October 13, 2015

Matthew Philip Bejar
UTK - Kinesiology Recreation & Sport Studies

Re: UTK IRB-15-02343-XP
Study Title: Development of the Collegiate Running Identity Scale

Dear Mr. Bejar:

The Administrative Section of the UTK Institutional Review Board (IRB) reviewed your application for **revision** of your previously approved project, referenced above.

The IRB determined that your application is eligible for **expedited** review under 45 CFR 46.110(b)(2), Category 5: Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis), and Category 7: Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. The attached revisions for modifications to the Collegiate Running Identity Scale (10.11.15 version 1.0) and the Delphi Cover Statement version 1.2, were approved as complying with proper consideration of the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects. Approval does not alter the expiration date of this project, which is 08/25/2016.

In the event that subjects are to be recruited using solicitation materials, such as brochures, posters, web-based advertisements, etc., these materials must receive prior approval of the IRB. Any revisions in the approved application must also be submitted to and approved by the IRB prior to implementation. In addition, you are responsible for reporting any unanticipated serious adverse events or other problems involving risks to subjects or others in the manner required by the local IRB policy.

Finally, **re-approval** of your project is required by the IRB in accord with the conditions specified above. You may not continue the research study beyond the time or other limits specified unless you obtain prior written approval of the IRB.

Sincerely,

Colleen P. Gilrane

Colleen P. Gilrane, PhD
Chair

THE UNIVERSITY OF TENNESSEE KNOXVILLE

January 22, 2016

Matthew Philip Bejar,
UTK - Kinesiology Recreation & Sport Studies

Re: UTK IRB-15-02343-XP
Study Title: Development of the Collegiate Running Identity Scale

Dear Matthew Bejar:

The UTK Institutional Review Board (IRB) reviewed your applications for **revision** of your previously approved project, referenced above. This letter contains the review outcome for three separate applications, submitted 1/16/16, 1/17/16 and 1/21/16.

The IRB determined that your application is eligible for **expedited** review under 45 CFR 46.110(b)(2). The following revisions were approved as complying with proper consideration of the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects:

- Add in-person survey administration option.
- Increase total participants to 932.
- Revise Collegiate Running Identity Scale (version 1.15.16) to add SIMS and PPAIS instruments, add demographics, add three open-ended items, and reduce total number of items.
- Add three open-ended questions
- Change survey administration time estimate to 15 minutes
- Change study timeline to four months
- Add Consent Form stages 2 and 3 in person (version 1.5) incorporating above changes
- Add Consent Form stages 2 and 3 online (version 1.2.5) incorporating above changes

Approval does not alter the expiration date of this project, which is 08/25/2016.

In the event that subjects are to be recruited using solicitation materials, such as brochures, posters, web-based advertisements, etc., these materials must receive prior approval of the IRB. Any revisions in the approved application must also be submitted to and approved by the IRB prior to implementation. In addition, you are responsible for reporting any unanticipated serious adverse events or other problems involving risks to subjects or others in the manner required by the local IRB policy.

Finally, **re-approval** of your project is required by the IRB in accord with the conditions specified above. You may not continue the research study beyond the time or other limits specified unless you obtain prior written approval of the IRB.

Sincerely,

Colleen P. Gilrane

Colleen P. Gilrane, Ph.D.
Chair

Institutional Review Board | Office of Research & Engagement
1534 White Avenue Knoxville, TN 37996-1529
865-974-7697 865-974-7400 fax irb.utk.edu

Appendix B: Modification of AIMS Items

The following table depicts the Athletic Identity Measurement Scale (AIMS; Brewer, Van Raalte, & Linder, 1993) and the associated items of the Running Identity Scale (RIS), illustrating which stems were modified in **bold**. Note: Item numbers and context represent their original order prior to the Delphi technique. Likewise, some items (6, 10) were modified after the Delphi technique and scale pretest.

AIMS	RIS
1. I consider myself an **athlete**.	1. I consider myself a **runner**.
2. I have many goals related to **my sport**.	2. I have many goals related to **running**.
3. Most of my friends are **athletes**.	3. Most of my friends are **runners**.
4. **Sport** is the most important part of my life.	4. **Running** is the most important part of my life.
5. I spend more time thinking about **my sport** than anything else.	5. I spend more time thinking about **running** than anything else.
6. I need to participate in **my sport** to feel good about myself.	6. I need to participate in **cross-country and track** to feel good about myself.
7. Other people see me mainly as an **athlete**.	7. Other people see me mainly as a **runner**.
8. I feel bad about myself when I do poorly in **sport**.	8. I feel bad about myself when I do poorly in **a race**.
9. **Sport** is the only important thing in my life.	9. **Running** is the only important thing in my life.
10. I would be very depressed if I were injured and could not compete in **sport**.	10. I would be very depressed if I were injured and could not compete in **cross-country or track.**

Appendix C: Items Reflecting Sociological Aspects of Running Identity

The items below reflect the sociological aspects of running identity. As seen, item 29 overlaps with both the materialistic and associative identifications. Additionally, items 2 and 7 that are modified from the AIMS overlap with the associative identification of running identity. Item numbers are based on their order prior to the Delphi process.

I. *Materialistic* identification (Allen-Collinson & Hockey, 2007; Hockey, 2005)

13. I enjoy being leaner than my non-running friends.
15. I frequently think about how my food choices will impact my running performance.
16. I often sacrifice certain foods for the sake of my running performance.
17. I often sacrifice alcohol for the sake of my running performance.
18. I get irritated when other collegiate runners wear long running shorts.
19. I never pay less than $100 (retail value) for training shoes.
20. I feel anxious if I do not wear a watch on my run.
21. I would be concerned about gaining weight if I was injured.
22. I tend to avoid trails that are frequented by recreational runners.
24. I prefer to run on soft, dirt trails.
25. I know someone is a real runner when I see him/her wearing tights.
26. I know I am a real runner when I am able to see my jawline.
28. I often wear dri-fit clothing (e.g., half tights) during my workouts.
29. Compliments from others runners about my lean body are important to me.

II. *Associative* identification (Allen-Collinson & Hockey, 2007; Hockey, 2005)

14. Compliments from other runners about my times are important to me.
23. Only runners can understand running-related injuries.
29. Compliments from others runners about my lean body are important to me.
30. People often ask me about my mile time.
31. People often ask me if I have ever run a marathon.
35. I get irritated when other college students don’t realize cross-country is a sport.

III. *Vocabularic* identification (Allen-Collinson & Hockey, 2007; Shipway et al., 2012)

11. I get irritated when I have to explain what a fartlek is to other people.
12. I tend to use a lot of terms (e.g., fartlek, tempo, splits) that non-runners don’t understand.
36. If someone were to use the word “rabbit,” the first thing that would come to mind would be running.
37. Regardless of how often it has happened to me, I know what it means to “bonk.”
38. Regardless of how often I have experienced this, I know what it means to “hit the wall.”
39. If people were having a conversation about LSD, it would not immediately cross my mind that they are having a conversation about a hallucinogen.
40. I often use the abbreviations PB and/or PR to talk about my best performances.

Appendix D: Cover Page/Informed Consent Statement (Delphi Process)

Introduction: You have been invited to provide feedback on a new scale, the *Collegiate Running Identity Scale* (RIS). You are being asked to assist in this endeavor because you have conducted research on running in the sport psychology and/or sport sociology literature in the past. Additionally, you may have had prior experiences as a runner or are currently still a runner. The overall purpose of this study is to develop an instrument that assesses collegiate running identity.

Information about Participants' Involvement in the Study: It is projected that 10-15 experts will participate in the Delphi process (Hsu & Sandford, 2007). You will be asked to provide feedback in four phases:

- In the first phase, you will view a preliminary list of items that have been generated to assess collegiate running identity. You will have the opportunity to provide as much feedback on these items as you would like (e.g., items that you think should be omitted or modified, suggestions for additional items). As a result, a preliminary questionnaire will be created that incorporates the suggestions from you and other experts.
- In the second phase, you will have the opportunity to review this preliminary scale and rate how well each item assesses running identity on a 4-point Likert scale (1 = not at all applicable, 2 = barely applicable, 3 = fairly applicable, 4 = very applicable).
- In the third phase, you will see the mean and median ratings from the entire panel of experts. You will have the opportunity to qualitatively justify your opinions on those items that are significantly different from the group consensus, or you can revise your opinion.
- In the fourth phase, you will see other experts' anonymous qualitative feedbacks and rationale for each item and have one last opportunity to revise your opinion if you desire.

The time to complete each phase will vary by the individual, but it is estimated that each phase of this process should take 15 to 30 minutes to complete.

In each phase, you will be emailed a unique link to provide feedback online via Qualtrics. You will have <u>one week</u> to provide feedback in each phase.

Participants must be 18 years of age or older to participate.

Risks and Protections: There is minimal risk for harm or injury. However, if you experience any discomfort, you are free to withdraw from the study at any time with no penalty. Additionally, your feedback will remain anonymous to everyone, except me (i.e., the principal investigator). Additionally, any identifying information will be omitted when showing individuals' opinions to the entire panel of experts.

Benefits: Your feedback on this survey will help coaches, athletic trainers, career counselors, sport psychology professionals, and other individuals enhance the well-being of collegiate runners. For example, athletic trainers may be able to predict an athlete's susceptibility to overtraining and playing through injury. Also, counselors can identify runners who are at risk of foreclosing other roles (e.g., career exploration) in favor of running.

Confidentiality: Your responses will be anonymous to everyone, except me (i.e., the principal investigator). Further, any data that is printed off will be kept in a locked, secure file cabinet; although, this will not include any identifying information.

Contact Information: If you have any questions at any time about this study, you can contact the principal investigator, Mr. Matthew Bejar via email (mbejar@vols.utk.edu) or phone (865-974-8768) OR Dr. Leslee Fisher at lfisher2@utk.edu or 865-974-9973. If you have questions about your right as a participant, contact the IRB Chairperson in the Office of Research & Engagement at irbchair@utk.edu or 865-974-7697.

Participation: Your participation in the Delphi process is voluntary; you may decline to participate at any time without penalty. If you withdraw after beginning the process, your responses will not be saved. By beginning the survey, you are acknowledging that you: (a) have read the information on this page; (b) are at least 18 years of age; and (c) voluntarily consent to participate in the Delphi process.

Appendix E: Running Identity Scale Preliminary Items (Pre-Delphi Process)

Exerts reviewed the following items in Phase I of the Delphi process. **Bolded** items were omitted, and *italicized* items were modified as a result of the feedback in this phase.

1. I consider myself a runner.
2. I have many goals related to running.
3. Most of my friends are runners.
4. Running is the most important part of my life.
5. I spend more time thinking about running than anything else.
6. I need to participate in cross-country and track to feel good about myself.
7. Other people see me mainly as a runner.
8. I feel bad about myself when I do poorly in a race.
9. Running is the only important thing in my life.
10. I would be very depressed if I were injured and could not compete in cross-country or track.
11. I get irritated when I have to explain what a fartlek is to other people.
12. I tend to use a lot of terms (e.g., fartlek, tempo, splits) that non-runners don't understand.
13. I enjoy being leaner than my non-running friends.
14. Compliments from other runners about my times are important to me.
15. I frequently think about how my food choices will impact my running performance.
16. I often sacrifice certain foods for the sake of my running performance.
17. I often sacrifice social activities for the sake of my running performance.
18. I get irritated when other collegiate runners wear long running shorts.
19. I never pay less than $100 (retail value) for training shoes.
20. I feel anxious if I do not wear a watch on my run.
21. I would be concerned about gaining weight if I was injured.
22. I tend to avoid trails that are frequented by recreational runners.
23. Only runners can understand running-related injuries.
24. I prefer to run on soft, dirt trails.
25. I know someone is a real runner when I see him/her wearing tights.
26. I know I am a real runner when I am able to see my jawline.
27. When I wake up in the morning, the first thing I think about is my run.
28. I often wear dri-fit clothing (e.g., half tights) during my workouts.
29. Compliments from others runners about my lean body are important to me.
30. People often ask me about my mile time.
31. People often ask me if I have ever run a marathon.
32. My race performances have a big impact on my self-esteem.
33. I spend a lot of my time researching race results.
34. I spend a lot of my time on running websites.
35. I get irritated when other college students don’t realize cross-country is a sport.
36. If someone were to use the word “rabbit,” the first thing that would come to mind would be running.
37. Regardless of how often it has happened to me, I know what it means to “bonk.”
38. Regardless of how often I have experienced this, I know what it means to “hit the wall.”
39. If people were having a conversation about LSD, it would not immediately cross my mind that they are having a conversation about a hallucinogen.
40. I often use the abbreviations PB and/or PR to talk about my best performances.

Appendix F: Running Identity Scale Preliminary Items (Post-Delphi Round One)

The following is the resulting list of preliminary items that experts evaluated these items in Phases II, III, and IV. Items 34-53 were added as a result of the feedback.

1. I consider myself a runner.
2. I have many goals related to running.
3. Most of my friends are runners.
4. Running is the most important part of my life.
5. I spend more time thinking about running than anything else.
6. I need to participate in running to feel good about myself.
7. Other people see me mainly as a runner.
8. I feel bad about myself when I do poorly in a race.
9. Running is the only important thing in my life.
10. I would be very depressed if I could not compete in running due to injury.
11. I tend to use a lot of terms (e.g., fartlek, tempo, splits) that non-runners don't understand.
12. I enjoy being leaner than my non-running friends.
13. Compliments from other runners about my times are important to me.
14. I frequently think about how my food choices will impact my running performance.
15. I often sacrifice certain foods for the sake of my running performance.
16. I often sacrifice social activities for the sake of my running performance.
17. I get irritated when collegiate runners wear long running shorts.
18. I go through at least five pairs of training shoes per year.
19. I feel anxious if I do not wear a watch on my run.
20. I would be concerned about gaining weight if I was injured.
21. Only runners can relate to running-specific injuries.
22. I know I am a real runner when I am able to see my jawline.
23. When I wake up in the morning, the first thing I think about is my run.
24. I often wear dry-fit clothing during my workouts.
25. Compliments from others runners about my lean body are important to me.
26. People often ask me about my mile time.
27. People often ask me if I have ever run a marathon.
28. My race performances have a big impact on my self-esteem.
29. I spend a lot of my time researching race results.
30. I spend a lot of my time on running websites.
31. I get irritated when college students don’t realize cross-country is a sport.
32. If someone were to use the word “rabbit,” the first thing that would come to my mind would be running.
33. I often use the abbreviations PB or PR to talk about my best performances.
34. Running takes up a considerable amount of my daily thoughts.
35. Running gives me a sense of self-worth.
36. Running is one of the top priorities in my life.
37. The type of surface is a significant consideration when considering my training routes.
38. I often wear my watch so that the face is on the inside of my wrist.
39. I know someone is a real runner if they are wearing a GPS watch.
40. It is important to me that I run for the exact planned amount of time.
41. It is important to me that I run the exact planned distance.

42. I know someone is a real runner when I see him/her wearing split-shorts.
43. I get anxious if I have to take a day off from running.
44. Running a lot of mileage gives me a sense of self-worth.
45. Compliments from other runners and coaches about the number of miles I run are important to me.
46. My self-worth is tied to my personal best times.
47. I often compare my personal best times to those of other runners.
48. I feel excited when people ask me about my running times.
49. I know I am a real runner when I can see my ribs.
50. I have multiple types of shoes for different purposes (e.g., training, racing, and tempo shoes).
51. Most of my romantic partners have been runners.
52. I run even when I have minor pain.
53. I often dream about running.

Appendix G: Expert Ratings (Post-Delphi Process)

The following table represents the Delphi respondents' ratings of the preliminary items after Phase IV. In total, 27 items were rates in "consensus" (i.e., median of at least 3.25 and at least 70% of reviewers rating it "3" or above on a 4-point scale); these items are **bolded**.

Item	*M*	*Mdn*	*SD*	Reviewers' Justifications for not Revising Rating
1. I consider myself a runner.	4.00	4.00	0.00	
2. I have many goals related to running.	3.89	4.00	0.33	
3. Most of my friends are runners.	3.56	4.00	0.73	-People with a strong runner identity would be likely have most of their friends as runners, but the item does not measure how runners identify themselves.
4. Running is the most important part of my life.	3.89	4.00	0.33	
5. I spend more time thinking about running than anything else.	3.67	4.00	0.71	-People with a strong runner identity would be likely to endorse this item as descriptive, but the item does not assess how runners think of themselves.
6. I need to participate in running to feel good about myself.	3.56	4.00	1.01	-This item pertains to a property of runner identity, not to the identity itself. An apple may be red, but being red does not make it an apple.
7. Other people see me mainly as a runner.	3.44	4.00	0.73	-People with a strong runner identity would be likely have other people see them mainly as runners, but the item does not measure how runners identify themselves.
8. I feel bad about myself when I do poorly in a race.	3.22	3.00	0.97	-Feeling bad about oneself might be a likely consequence of maintaining a strong runner identity, but the item does not assess runner identity per se.
9. Running is the only important thing in my life.	3.56	4.00	0.53	
10. I would be very depressed if I could not compete in running due to injury.	3.67	4.00	1.00	-Feeling depressed might be a likely consequence of maintaining a strong runner identity, but the item does not assess runner identity per se.
11. I tend to use a lot of terms (e.g., fartlek, tempo, splits) that non-runners don't understand.	3.11	3.00	0.93	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se. -I just don't think this is realistic. A

				runner would need to be socially inept to think he/she could use these terms in general conversations. Therefore, to me this reflects someone who is odd not someone who has a strong runner identity.
12. I enjoy being leaner than my non-running friends.	2.56	3.00	0.73	-This item presupposes that respondents are leaner than their non-running friends. People can enjoy feeling lean without running being a part of their identity per se. -I think this reflects a social identity component (e.g., how I distinguish myself from the out-group of non-runners)
13. Compliments from other runners about my times are important to me.	3.56	4.00	0.73	-People with a strong runner identity would be more likely than others to value compliments about times, but the item does not assess identity per se.
14. I frequently think about how my food choices will impact my running.	3.44	4.00	0.73	-This cognition might be more likely among those with a strong runner identity, but the item does not assess identity per se.
15. I often sacrifice certain foods for the sake of my running performance.	3.22	3.00	0.97	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
16. I often sacrifice social activities for the sake of my running performance.	3.44	4.00	1.01	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
17. I get irritated when collegiate runners wear long running shorts.	2.11	2.00	0.60	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se. - I don’t really get too bothered by a runner wearing long shorts. Length of shorts is such an arbitrary thing. What constitutes long? 9” seam? I think this item isn’t too clear. -I agree they wear split shorts or half tights or full tights, but to say they "get irritated" does not seem like a common thing. I would like it better if it was reworded in a way that does not use that language. Something like "I can tell a serious runner from a recreational runner because they are wearing split shorts" or

				something like that, that identifies the split shorts as being "a runner" Yes some do get irritated but you are only touching a small % with that wording in my opinion.
18. I go through at least five pairs of training shoes per year.	2.44	2.00	0.88	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
19. I feel anxious if I do not wear a watch on my run.	3.00	3.00	1.12	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se.
20. I would be concerned about gaining weight if I was injured.	3.11	3.00	1.05	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se. -This is probably true of every single competitive distance runner in America. I don't think this separates anyone in terms of "running identity" Every competitive runner knows that if they are leaner they will be better. Also this seems to be more eating disorder related than running identity related and I do believe the two are different in the context of developing a scale for "running identity" or "Disorder Eating in Runners"
21. Only runners can relate to running-specific injuries.	3.11	3.00	1.05	-People with a strong runner identity would be likely to endorse this statement, but the item does not assess identity per se. -Athletes in all sports I have found can share their feelings and concerns about injuries.
22. I know I am a real runner when I am able to see my jawline.	1.78	2.00	0.44	-People with a strong runner identity would be likely to endorse this statement, but the item does not assess identity per se. -As a runner, I was more concerned with ab muscles showing than jawline. Most other runners were concerned with this too. Jawline isn’t a feature we focused on much.
23. When I wake up in the morning, the first thing I think about is my run.	3.44	4.00	0.88	-The first thing that people think about in the morning is not necessarily an indicator of their identity. Thoughts of this sort might be more likely to occur in

				those with a strong runner identity, but do not assess it directly.
24. I often wear dri-fit clothing during my workouts.	2.33	2.00	1.00	-Wearing dri-fit clothing while working out says nothing about a person's pattern of self-identification. -When I was in college, we had only cotton issued by the school. A lot of schools today don’t issue really premium gear (think NAIA, NCAA D3). This item might cause more noise then get at your objective. -I do not see specific clothing central to a running identity at all. Someone could be quite scruffy but still hugely invested in his/her running identity.
25. Compliments from others runners about my lean body are important to me.	2.67	3.00	0.87	-People with a strong runner identity would be more likely than others to value compliments about a lean body, but the item does not assess identity per se. -I think recognition from people who make up the group you are most concerned with means a great deal to someone who want to strongly identify with that group. Being seen as lean is code for being fit, dedicated, in shape and committed. And this is what can make a runner feel good about his/her running identity and as a result strengthen it.
26. People often ask me about my mile time.	3.11	3.00	0.93	-People might be more likely to ask those with strong runner identities about their mile time, but the item does not directly assess identity.
27. People often ask me if I have ever run a marathon.	3.22	3.00	0.97	-People might be more likely to ask those with strong runner identities if they have run a marathon, but the item does not directly assess identity.
28. My race performances have a big impact on my self-esteem.	3.67	4.00	0.71	-Self-esteem is not tantamount to self-identity. This statement might be more likely to be endorsed among those with a strong runner identity, but the item does not assess identity per se.
29. I spend a lot of my time researching race results.	3.33	4.00	1.00	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
30. I spend a lot of my time	3.22	3.00	0.97	-This behavior might be more likely

on running websites.				among those with a strong runner identity, but the item does not assess identity per se.
31. I get irritated when college students don't realize cross-country is a sport.	2.56	3.00	1.13	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se. -Most college students I knew had an awareness of cross country. This really never happened to me. -I just don't think this is realistic. A runner would need to be socially inept to think he/she could use these terms in general conversations. Therefore, to me this reflects someone who is odd not someone who has a strong runner identity. -I would say this bothers most competitive collegiate runners. They are passionate about their sport and want respect like any other person. My view on this may be skewed as I have worked with very high level collegiate runners to mid-level collegiate runners.
32. If someone were to use the word "rabbit," the first thing that would come to my mind would be running.	2.22	2.00	0.97	-This cognition might be more likely among those with a strong runner identity, but the item does not assess identity per se. -I could easily see dropping my rating down to a 3 or 2. If the conversation/survey were all about running, and the question was phrased in a running context, then rabbit would be perceived in terms of running. But if someone stopped me on the street and asked me what I think of when she/he says a rabbit, not sure running would necessarily be the first thing that comes to mind. -I just don't think this is realistic. A runner would need to be socially inept to think he/she could use these terms in general conversations. Therefore, to me this reflects someone who is odd not someone who has a strong runner identity. -I don't know to be honest, I was guessing

				on how people would respond to this. Rabbit or pacer is a very common term so I put a 4. This item could be removed and it wouldn't change anything for me as far as the scale goes.
33. I often use the abbreviations PB or PR to talk about my best performances.	3.11	3.00	1.05	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se. -I just don’t think this is realistic. A runner would need to be socially inept to think he/she could use these terms in general conversations. Therefore, to me this reflects someone who is odd not someone who has a strong runner identity.
34. Running takes up a considerable amount of my daily thoughts.	3.67	4.00	0.71	-This cognition might be more likely among those with a strong runner identity, but the item does not assess identity per se.
35. Running gives me a sense of self-worth.	3.78	4.00	0.67	-Self-worth is not tantamount to self-identity. This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se.
36. Running is one of the top priorities in my life.	3.89	4.00	0.33	
37. The type of surface is a significant consideration when considering my training routes.	3.11	3.00	0.93	-This cognition/behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
38. I often wear my watch so that the face is on the inside of my wrist.	2.33	2.00	1.00	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se. -I do not see specific clothing central to a running identity at all. Someone could be quite scruffy but still hugely invested in his/her running identity. -This is fairly common but I don't see it as much currently with the new GPS watches where you tap/slap them to start and stop them as that is more natural to

				wear the watch normal then. I would leave this on here personally as the GPS watches are still fairly new and even if the person taking the survey does not do this, they more than likely know someone who does or used to do it.
39. I know someone is a real runner if they are wearing a GPS watch.	2.22	2.00	0.83	-This cognition might be more likely among those with a strong runner identity, but the item does not assess identity per se. -I would keep this. If you have a GPS watch and are not a serious runner, that would be rare in my experiences, except maybe a serious hiker or something like that. They are very common and becoming more common especially with apps like Strava where you can share your workout with the world. You want to find some interesting stuff about running identity go study people who Strava their workouts...yikes OCD and ego to the max :-) not all of them but pretty common from what I have experienced.
40. It is important to me that I run for the exact planned amount of time.	3.00	3.00	1.00	-This cognition/behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
41. It is important to me that I run the exact planned distance.	3.00	3.00	1.00	-This cognition/behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
42. I know someone is a real runner when I see him/her wearing split-shorts.	2.56	3.00	0.88	-This cognition/behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se. -This refers to the one I mentioned above. This makes more sense to me than the "irritated" question above.
43. I get anxious if I have to take a day off from running.	3.56	4.00	1.01	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se.
44. Running a lot of mileage gives me a sense of self-worth.	3.44	4.00	0.88	-Self-worth is not tantamount to self-identity. This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se.

45. Compliments from other runners and coaches about the number of miles I run are important to me.	3.67	4.00	0.71	-People with a strong runner identity would be more likely than others to value compliments about mileage, but the item does not assess identity per se.
46. My self-worth is tied to my personal best times.	3.78	4.00	0.44	
47. I often compare my personal best times to those of other runners.	3.44	4.00	1.01	-This cognition/behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
48. I feel excited when people ask me about my running times.	3.44	4.00	1.01	-This feeling might be more likely among those with a strong runner identity, but the item does not assess identity per se.
49. I know I am a real runner when I can see my ribs.	2.56	3.00	0.73	-People with a strong runner identity would be likely to endorse this statement, but the item does not assess identity per se.
50. I have multiple types of shoes for different purposes (e.g., training, racing, and tempo shoes).	3.33	4.00	1.00	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
51. Most of my romantic partners have been runners.	3.00	3.00	1.00	-This behavior might be more likely among those with a strong runner identity, but the item does not assess identity per se.
52. I run even when I have minor pain.	3.44	4.00	1.01	-People with strong runner identity might be more likely than others to run while in pain, but the item does not directly assess identity.
53. I often dream about running.	3.33	4.00	1.00	-People with strong runner identity might be more likely than others to dream about running, but the item does not directly assess identity.

Appendix H: Feedback Items (Pretest)

The following are open-ended items that were included with the pretest survey. These questions are taken from Colton and Covert's (2007) guidelines for pretesting survey instruments.

The following are questions to consider when reviewing this scale:

1. Overall, what were your reactions to the scale?
2. Were the directions clear?
3. Were there any spelling or grammatical problems?
4. Were there any items that were difficult to interpret, or ones that could be interpreted in multiple ways?
5. Were the response alternatives clear?
6. Did you have issues with the format or the flow of items?
7. Do you think this would be too time-consuming or too brief?
8. Would you have any concerns about confidentiality or about how this questionnaire would be used?
9. What items do you think capture collegiate running identity?
10. What items do you think are irrelevant to collegiate running identity?
11. Do you have suggestions for additional items?
12. What other concerns or feedback do you have about this scale?

Appendix I: Pilot Test Survey

The purpose of this survey is to assess running identity (the extent to which one identifies with the running role) and athletic identity in collegiate runners.
Instructions: For the following questions, please circle the number which corresponds most closely to **your** personal thoughts, feelings, and experiences. For each item, indicate on a scale from (1) strongly disagree to (7) strongly agree for items 1-40 and from (1) strongly disagree to (5) strongly agree for items 41-50. Please circle only one response (number) per item.

	Strongly Disagree						Strongly Agree
1. I consider myself a runner.	1	2	3	4	5	6	7
2. I have many goals related to running.	1	2	3	4	5	6	7
3. Most of my friends are runners.	1	2	3	4	5	6	7
4. Running is the most important part of my life.	1	2	3	4	5	6	7
5. I spend more time thinking about running than anything else.	1	2	3	4	5	6	7
6. I need to participate in running to feel good about myself.	1	2	3	4	5	6	7
7. Other people see me mainly as a runner.	1	2	3	4	5	6	7
8. Running is the only important thing in my life.	1	2	3	4	5	6	7
9. I would be depressed if I could not compete in running due to injury.	1	2	3	4	5	6	7
10. Compliments from other runners about my times are important to me.	1	2	3	4	5	6	7
11. I frequently think about how my food choices will impact my running performance.	1	2	3	4	5	6	7
12. I often sacrifice social activities for the sake of my running performance.	1	2	3	4	5	6	7
13. When I wake up in the morning, the first thing I think about is my run.	1	2	3	4	5	6	7
14. My race performances have a big impact on my self-esteem.	1	2	3	4	5	6	7
15. I spend a lot of my time researching race results.	1	2	3	4	5	6	7
16. Running takes up a considerable amount of my daily thoughts.	1	2	3	4	5	6	7
17. Running gives me a sense of self-worth.	1	2	3	4	5	6	7
18. Running is one of the top priorities in my life.	1	2	3	4	5	6	7
19. I feel anxious if I have to take a day off from running.	1	2	3	4	5	6	7
20. Running a lot of miles gives me a sense of self-worth.	1	2	3	4	5	6	7
21. Compliments from other runners and coaches about my high mileage are important to me.	1	2	3	4	5	6	7
22. My self-worth is tied to my personal best times.	1	2	3	4	5	6	7

23. I often compare my personal best times to other runners' personal best times.	1	2	3	4	5	6	7
24. I feel excited when people ask me about my running times.	1	2	3	4	5	6	7
25. I have multiple types of shoes for different purposes (e.g., training, racing, and tempo shoes).	1	2	3	4	5	6	7
26. I often run when I have minor pain.	1	2	3	4	5	6	7
27. I often dream about running.	1	2	3	4	5	6	7
28. I feel bad about myself when I do poorly in a race.	1	2	3	4	5	6	7
29. I often run when I have serious pain.	1	2	3	4	5	6	7
30. Running gives me a sense of community.	1	2	3	4	5	6	7
31. I consider myself an athlete.	1	2	3	4	5	6	7
32. I have many goals related to sport.	1	2	3	4	5	6	7
33. Most of my friends are athletes.	1	2	3	4	5	6	7
34. Sport is the most important thing in my life.	1	2	3	4	5	6	7
35. I spend more time thinking about sport than anything else.	1	2	3	4	5	6	7
36. I need to participate in my sport to feel good about myself.	1	2	3	4	5	6	7
37. Other people see me mainly as an athlete.	1	2	3	4	5	6	7
38. I feel bad about myself when I do poorly in sport.	1	2	3	4	5	6	7
39. Sport is the only important thing in my life.	1	2	3	4	5	6	7
40. I would be very depressed if I were injured and could not compete in sport.	1	2	3	4	5	6	7

	Strongly Disagree				Strongly Agree
41. Athletics help me express my emotions and feelings.	1	2	3	4	5
42. It is very important for me to succeed at my sport.	1	2	3	4	5
43. My popularity with others is related to my athletic ability.	1	2	3	4	5
44. I obtain personal satisfaction from participating in athletics.	1	2	3	4	5
45. I only participate in sports because I am good at them.	1	2	3	4	5
46. I often fear people will not like me as much if I do not compete well.	1	2	3	4	5
47. My primary reason for competing in my sport is receiving awards and recognition.	1	2	3	4	5
48. Being an athlete is an important part of who I am.	1	2	3	4	5
49. I fear not receiving the recognition and attention I get from being an athlete when I retire.	1	2	3	4	5
50. I would feel a great sense of loss if I suddenly were unable to participate in my sport.	1	2	3	4	5

Open-Ended Responses:

1. What does running identity mean to you?

2. In your opinion, what aspects of running identity are unique from other sport identities?

3. Is there anything else you want to share about your running identity?

Demographics

Age: _______

Gender Identity: (Adapted from Human Rights Campaign, 2015)

Female	Genderqueer/Androgynous	Intersex
Male	Transgender	Transsexual
Cross-dresser	FTM (female-to-male)	MTF (male-to-female)

Other (please specify): ____________

Are you of Hispanic, Latino, or Spanish origin? (Adapted from U.S. Census Bureau, 2010)

No, not of Hispanic, Latino, or Spanish origin

Yes, Mexican, Mexican American, Chicano

Yes, Puerto Rican

Yes, Cuban

Yes, another Hispanic, Latino, or Spanish origin.

Please specify: ____

What is your racial identity? (Adapted from U.S. Census Bureau, 2010)

White

Black, African American, or Negro

American Indian or Alaska Native

Please specify name of tribe: ____

Asian Indian	Japanese	Native Hawaiian
Chinese	Korean	Guamanian or Chamorro
Filipino	Vietnamese	Samoan

Other Asian (please specify): _________________________________

Other Pacific Islander (please specify): ___________________________

Other (please specify): ____

College Athletic Classification:

NCAA Division I	NCAA Division II	NCAA Division III
NAIA	USCAA	NCCAA
ACCA	NJCAA	CCCAA
NWAC	Other: _____________	

Academic Classification: Freshman Sophomore Junior Senior Graduate

What category best describes your identity in relation to **running**?

Collegiate/Professional Runner Serious Runner

Recreational Runner Non-runner

How many years have you been competing for a cross-country and/or track and field team? (Include all years since elementary school, if applicable.) ________ years

What was your average weekly mileage in the past month? ________ miles I don't know

Aside from actual running, approximately how many hours per week do you invest in your sport (e.g., researching race results, strength training, pre-race rituals, etc.)? ______ hours

In the space below, please discuss your history of **running**-related injuries in as much detail as you can recall, including the type of injuries and approximate recovery time of each injury. Also indicate if you sustained the same injury multiple times.

Thank you for taking the time to complete this survey. This research will be used to assist coaches, athletic trainers, sport psychology professionals, and other practitioners improve the experiences of collegiate runners. If you have any questions or concerns about this research, please contact Mr. Matthew Bejar at mbejar@vols.utk.edu.

Appendix J: Recruitment Email (Pilot Test)

Hello Coach (last name),

My name is Matt Bejar, and I am a third-year PhD student in the Sport Psychology and Motor Behavior program at the University of Tennessee, Knoxville. For my dissertation project, I am conducting a study with the intention of developing a survey that assesses collegiate running identity. Although there is a scale that measures athletic identity, there is not an instrument that specifically assesses the nuances of running identity. By creating such a scale, sport psychology researchers should be able to conduct further studies where they can examine the relationship between running identity and other important constructs, such as identity foreclosure, disordered eating, and moral reasoning, to name a few. In turn, it is our hope that coaches, athletic trainers, career counselors, and other professionals can be better equipped to address the needs of collegiate runners and enhance their well-being.

Therefore, we would like you to forward this email and survey link to your distance runners. Participation is completely voluntary and all responses will be anonymous (i.e., IP addresses will not be tracked by the survey software).

We would greatly appreciate their participation. If they agree to participate in the study, the survey should take no more than ten minutes to complete.

<survey link>

Please do not hesitate to contact me at mbejar@vols.utk.edu or 865-974-8768 if you have any questions.

Thank you for your time!

Matthew P. Bejar, M.A.
PhD Student: Sport Psychology and Motor Behavior
Graduate Teaching Associate
Department of Kinesiology, Recreation, and Sport Studies
144 HPER Building
University of Tennessee
Knoxville, TN 37996-2700
(865) 974-8768 (GTA office phone number)
(865) 974-8981 (fax)

Appendix K: Cover Page/Informed Consent Statement (Pilot Test)

Introduction: You are invited to take part in a research study. The purpose of this study is to develop an instrument that assesses collegiate running identity.

Information about Participants' Involvement in the Study: You will be asked to complete an online survey with # items. It should take no more than 10 minutes to complete. Participants must be 18 years of age or older to participate.

Risks and Protections: There is minimal risk for harm or injury. However, if you experience any discomfort, you are free to withdraw from the study at any time with no penalty. Additionally, your responses will remain anonymous; that is, your IP address will not be tracked.

Benefits: Your participation in this survey will help coaches, athletic trainers, career counselors, sport psychology professionals, and other individuals enhance the well-being of collegiate runners. For example, athletic trainers may be able to predict an athlete's susceptibility to overtraining and playing through injury. Also, counselors can identify runners who are at risk of foreclosing other roles (e.g., career exploration) in favor of running.

Confidentiality: Your responses will be anonymous. Further, Any data that is printed off will be kept in a locked, secure file cabinet; although, this will not include any identifying information.

Contact Information: If you have any questions at any time about this study, you can contact the principal investigator, Mr. Matthew Bejar via email (mbejar@vols.utk.edu) or phone (865-974-8768) OR Dr. Leslee Fisher at lfisher2@utk.edu or 865-974-9973. If you have questions about your right as a participant, contact the IRB Chairperson in the Office of Research & Engagement at irbchair@utk.edu or 865-974-7697.

Participation: Your participation in this study is voluntary; you may decline to participate at any time without penalty. If you withdraw after beginning the survey, your responses will not be saved. By beginning the survey, you are acknowledging that you: (a) have read the information on this page; (b) are at least 18 years of age; and (c) voluntarily consent to participate in this research study.

Appendix L: Tables and Figures

Table 1

Initial Factor Loadings for RIS Items

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
1	--	--	.700	--	--	--	--
2	--	--	.600	--	--	--	--
3	--	--	.465	--	--	--	--
4	--	.714	.327	--	--	--	--
5	--	.792	--	--	--	--	--
6	.339	.416	--	.507	--	--	--
7	--	.397	.398	--	--	--	--
8	--	.575	--	--	--	--	--
9	.329	.347	--	.337	--	--	--
10	.677	--	--	--	--	--	--
11	--	--	--	--	.597	--	--
12	--	--	--	--	.652	--	--
13	--	.455	--	--	.416	--	--
14	.631	.321	--	--	--	--	--
15	--	.412	--	--	--	--	.511
16	--	.550	--	--	--	--	--
17	.376	.322	.329	.481	--	--	--
18	--	.438	.490	--	--	--	--
19	--	--	--	.557	--	--	--
20	--	--	--	.798	--	--	--
21	.530	--	--	.486	--	--	--
22	.656	--	--	--	--	--	--
23	.659	--	--	--	--	--	--
24	.518	--	--	--	--	--	--
25	--	--	.406	--	--	--	--
26	--	--	.451	--	--	.732	--
27	--	.335	--	--	--	--	.345
28	.553	--	--	--	--	--	--
29	--	--	--	--	--	.683	--
30	--	--	.535	--	--	--	--

Note. RIS = Running Identity Scale. This table represents the initial exploratory factor analysis with all preliminary items. Principal axis factoring with a varimax rotation was used at this stage. All loadings < .32 are suppressed. The Kaiser-Meyer-Olkin measure of sampling adequacy in this sample was .920 with 53.8% of the variance explained.

Table 2

RIS Items and Factor Loadings

Item Number	Item Text	Running Performance	Running Exclusivity	Running Self-Identity
14	My race performances have a big impact on my self-esteem.	.706	--	--
22	My self-worth is tied to my personal best times.	.695	--	--
10	Compliments from other runners about my times are important to me.	.691	--	--
23	I often compare my personal best times to other runners' personal best times	.677	--	--
28	I feel bad about myself when I do poorly in a race.	.667	--	--
5	I spend more time thinking about running than anything else.	--	.898	--
4	Running is the most important part of my life.	--	.730	--
8	Running is the only important thing in my life.	--	.629	--
16	Running takes up a considerable amount of my daily thoughts.	--	.519	--
2	I have many goals related to running.	--	--	.748
1	I consider myself a runner.	--	--	.638

Note. RIS = Running Identity Scale. Item number refers to the original order in the initial set of 30 items. Running performance, running exclusivity, and running self-identity represent the three factors with their respective loading for each item. Factor loadings < .32 are not listed. The Kaiser-Meyer-Olkin measure of sampling adequacy was .847 in this solution with 54.9% of the variance explained.

Table 3

RIS Item Communalities

Item Number	Initial	Extracted
14	.569	.642
22	.499	.582
10	.355	.425
23	.387	.460
28	.451	.482
5	.650	.826
4	.539	.601
8	.360	.426
16	.525	.516
2	.415	.661
1	.297	.422

Note. RIS = Running Identity Scale. Principal axis factoring was employed.

Table 4

RIS Factor Correlation Matrix

Factor	Running Performance	Running Exclusivity	Running Self-Identity
Running Performance	1.000	--	--
Running Exclusivity	.455*	1.000	--
Running Self-Identity	.306	.311	1.000

Note. RIS = Running Identity Scale.

* $r > .32$

Table 5

RIS Item Intercorrelation Matrix

Items	14	22	10	23	28	5	4	8	16	2	1
14	1.000	--	--	--	--	--	--	--	--	--	--
22	**.614**	1.000	--	--	--	--	--	--	--	--	--
10	**.490**	**.501**	1.000	--	--	--	--		--	--	--
23	**.464**	**.507**	**.452**	1.000	--	--	--	--	--	--	--
28	**.619**	**.471**	**.406**	**.481**	1.000	--	--	--	--	--	--
5	*.412*	*.373*	*.172*	*.219*	*.327*	1.000	--	--	--	--	--
4	*.369*	*.335*	*.146*	*.185*	*.221*	**.686**	1.000	--	--	--	--
8	*.321*	*.355*	*.236*	*.160*	*.241*	**.522**	**.482**	1.000	--	--	--
16	*.461*	*.420*	*.270*	*.346*	*.388*	**.667**	**.474**	**.381**	1.000	--	--
2	*.314*	*.258*	*.182*	*.278*	*.214*	*.380*	*.424*	*.129*	*.414*	1.000	--
1	*.256*	*.145*	*.125*	*.199*	*.214*	*.237*	*.255*	*.029*	*.227*	**.520**	1.000

Note. RIS = Running Identity Scale. Bolded correlations represent inter-factor correlations. Italicized correlations represent cross-factor correlations.

Table 6

RIS Correlations with AIMS and PPAIS

Scale/Factor	RIS Composite	Running Performance	Running Exclusivity	Running Self-Identity
AIMS Composite	.688**	.589**	.603**	.310**
- Self-Identity	.451**	.348**	.313**	.607**
- Social Identity	.464**	.359**	.430**	.293**
- Negative Affectivity	.614**	.667**	.389**	.189**
- Exclusivity	.520**	.358**	.609**	.096*
PPAIS Composite	.558**	.556**	.412**	.176**
- Public	.382**	.438**	.242**	.010
- Private	.518**	.439**	.312**	.671**

Note. RIS = Running Identity Scale. AIMS = Athletic Identity Measurement Scale. PPAIS = Public-Private Athletic Identity Scale. AIMS composite scores are based on the 10-item scale developed by Brewer, Van Raalte, & Linder (1993). The AIMS subscales (self-identity, social identity, negative affect, and exclusivity) are based on the four-factor structure proposed by Martin et al. (1997). The PPAIS and its two factors are based on Nasco and Webb’s (2006) development of the 10-item scale.

* $p < .05$

** $p < .01$

Table 7

RIS Composite and Factor Means and Standard Deviations

	Serious/Collegiate/ Professional Runners		Recreational Runners		Non-Runners	
	M	*SD*	*M*	*SD*	*M*	*SD*
RIS Composite (11 items; min 11, max 77)	51.35	10.43	25.36	10.75	14.96	4.48
Running Performance (5 items; min 5, max 35)	23.64	6.30	10.93	6.39	6.61	2.61
Running Exclusivity (4 items; min 4, max 28)	14.75	4.93	6.34	3.42	4.51	1.30
Running Self-Identity (2 items; min 2, max 14)	12.96	1.58	8.07	2.84	3.87	1.89

Note. RIS = Running Identity Scale. One-way ANOVAs and Bonferonni post hoc tests revealed significant differences between all three groups for RIS composite, running performance, running exclusivity, and running self-identity scores.

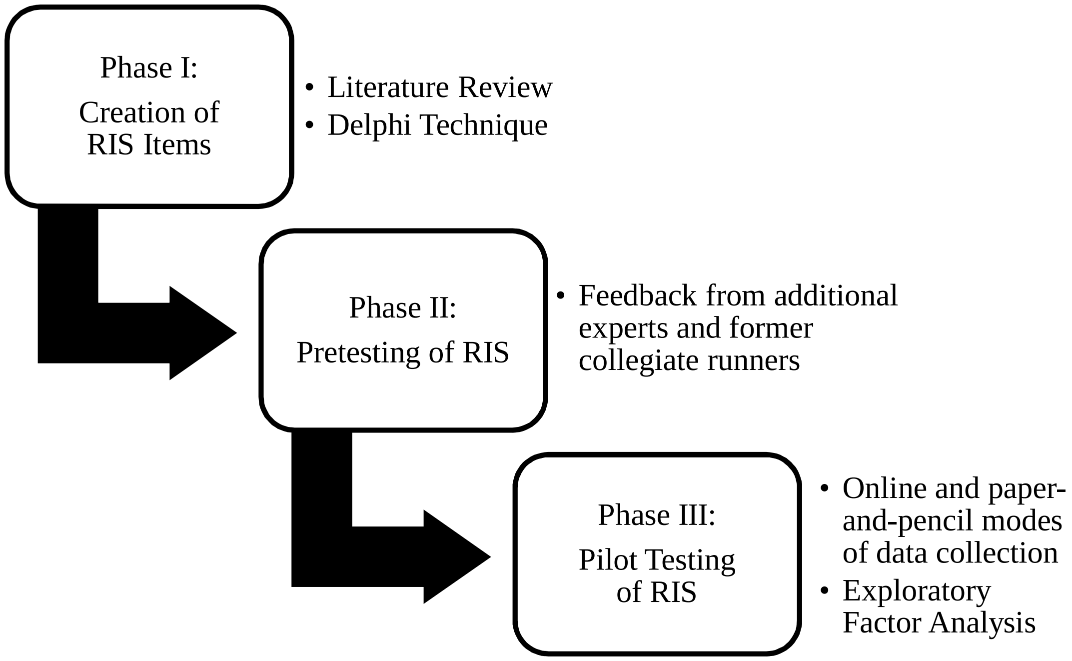

Figure 1. Phases of Running Identity Scale (RIS) development.

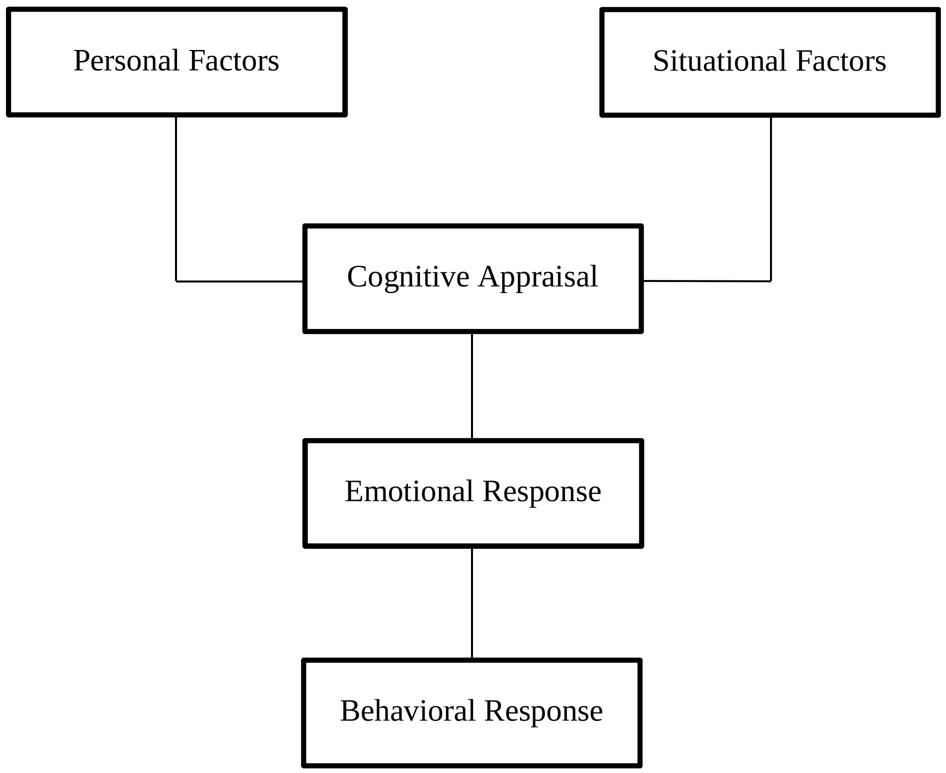

Figure 2. Cognitive appraisal model of psychological adjustment to athletic injury. Adapted from Brewer (1994).

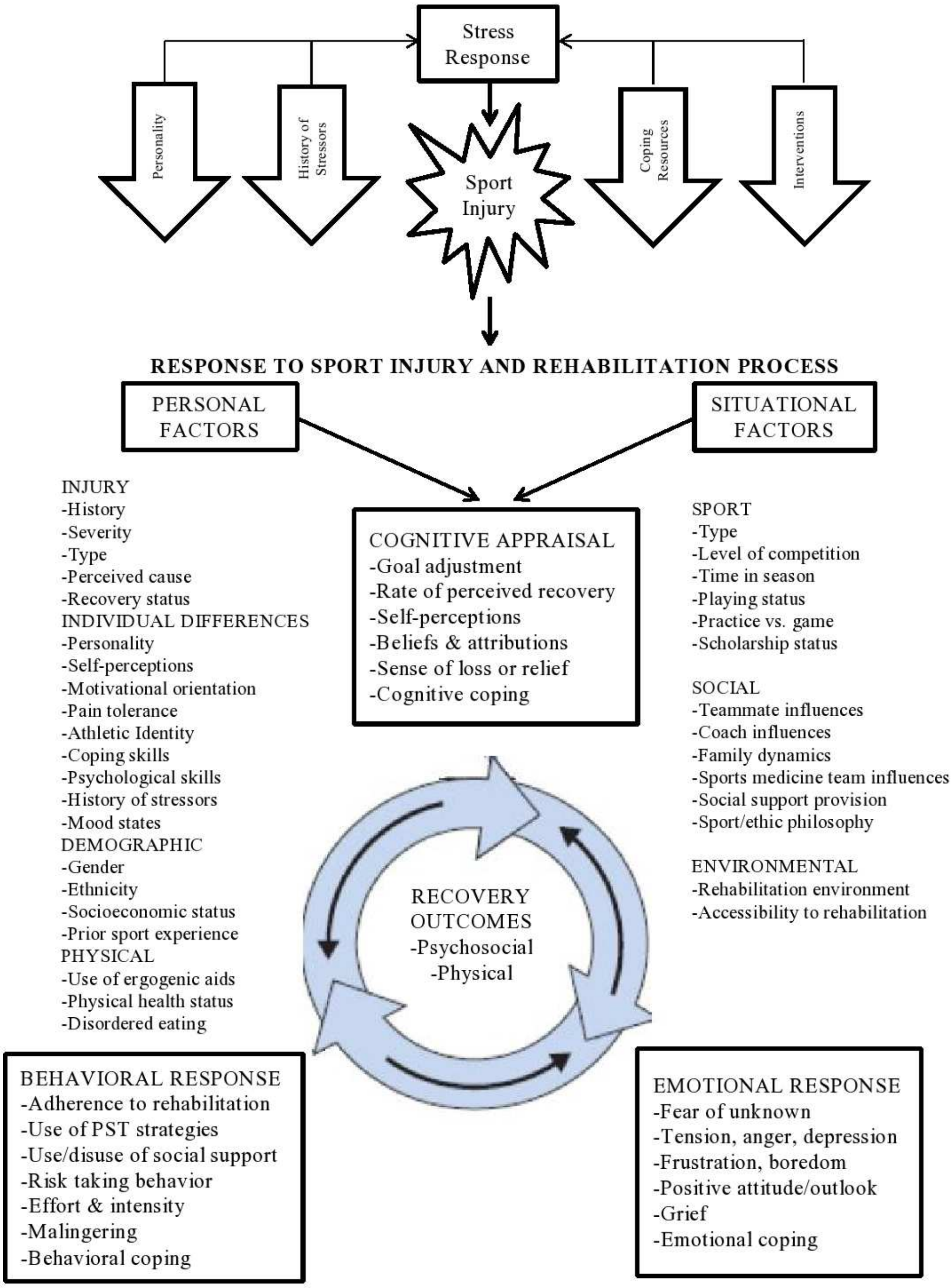

Figure 3. Integrated model of psychological response to sport injury (Wiese-Bjornstal et al., 1998).

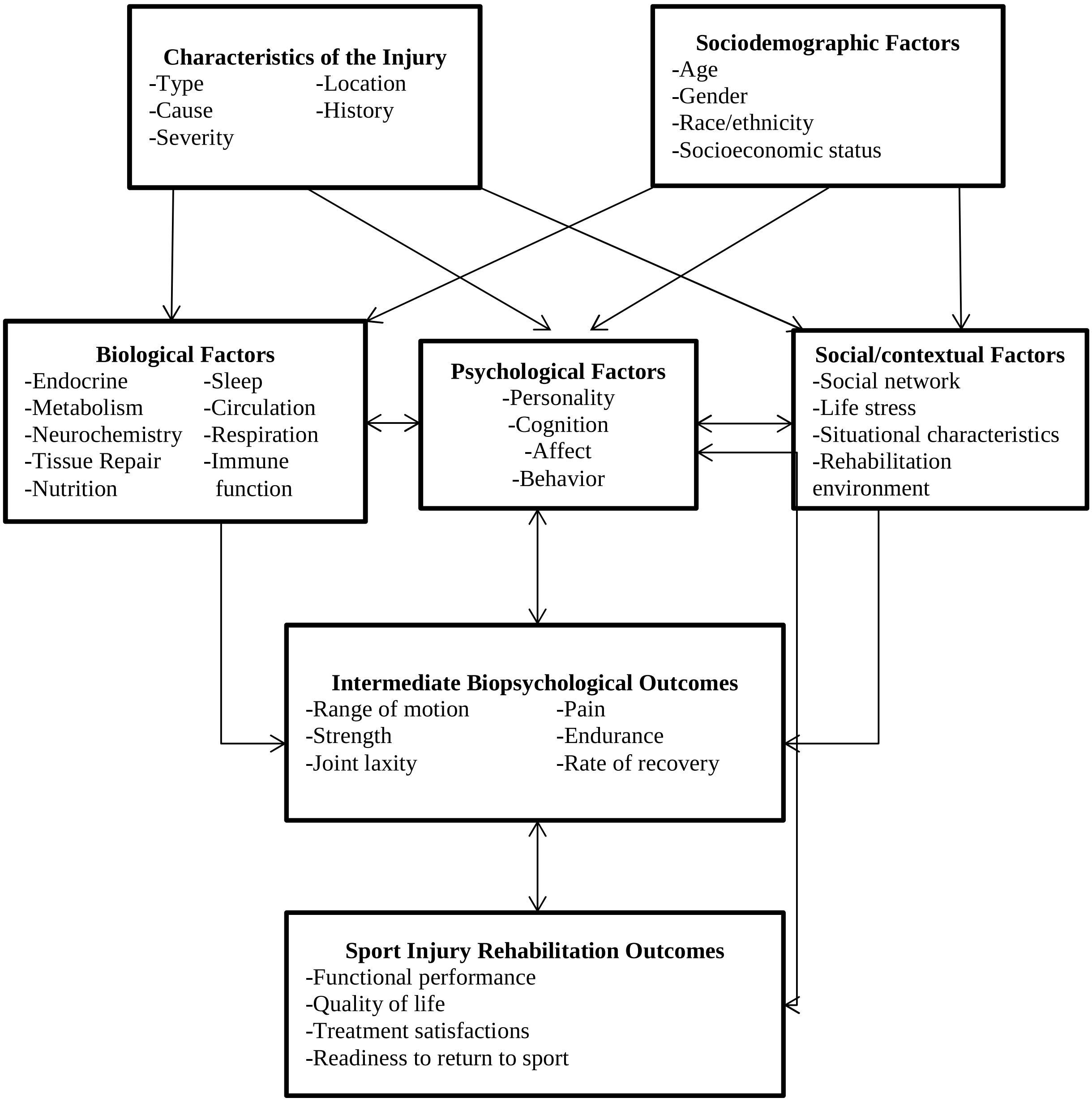

Figure 4. Biopsychosocial model of sport injury. Adapted from Brewer (2002).

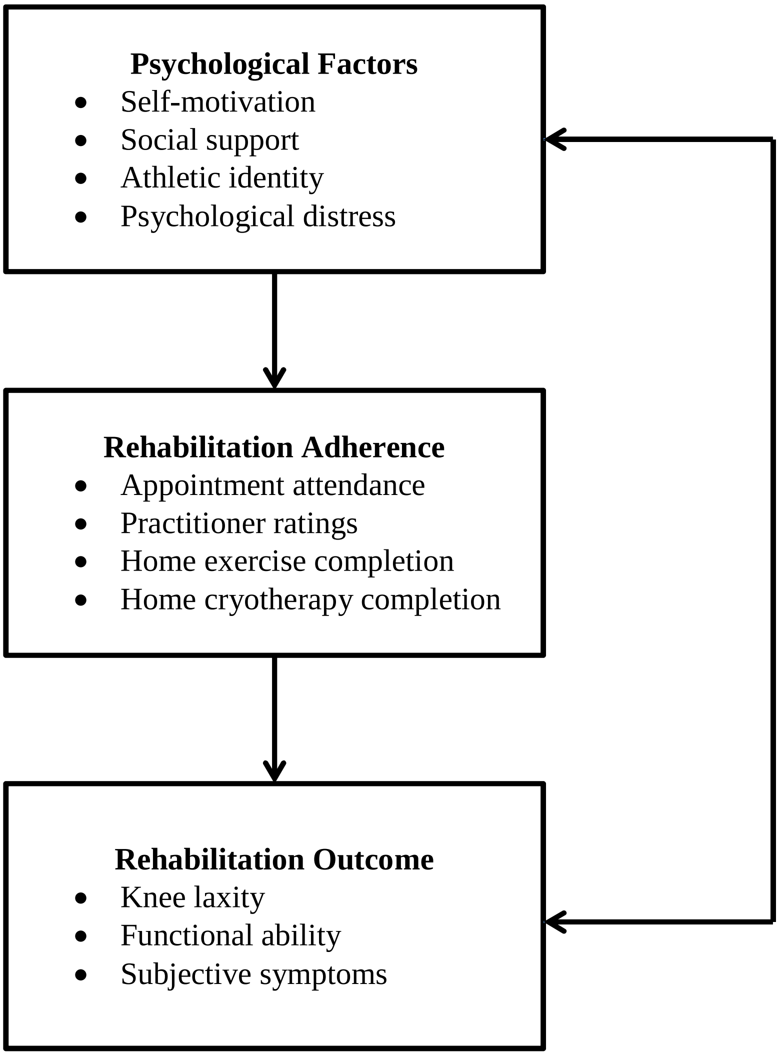

Figure 5. Schematic representation of hypothesized relationships among psychological factors, rehabilitation adherence, and rehabilitation outcome (Brewer et al., 2000). Adapted from Granquist and Brewer (2013)

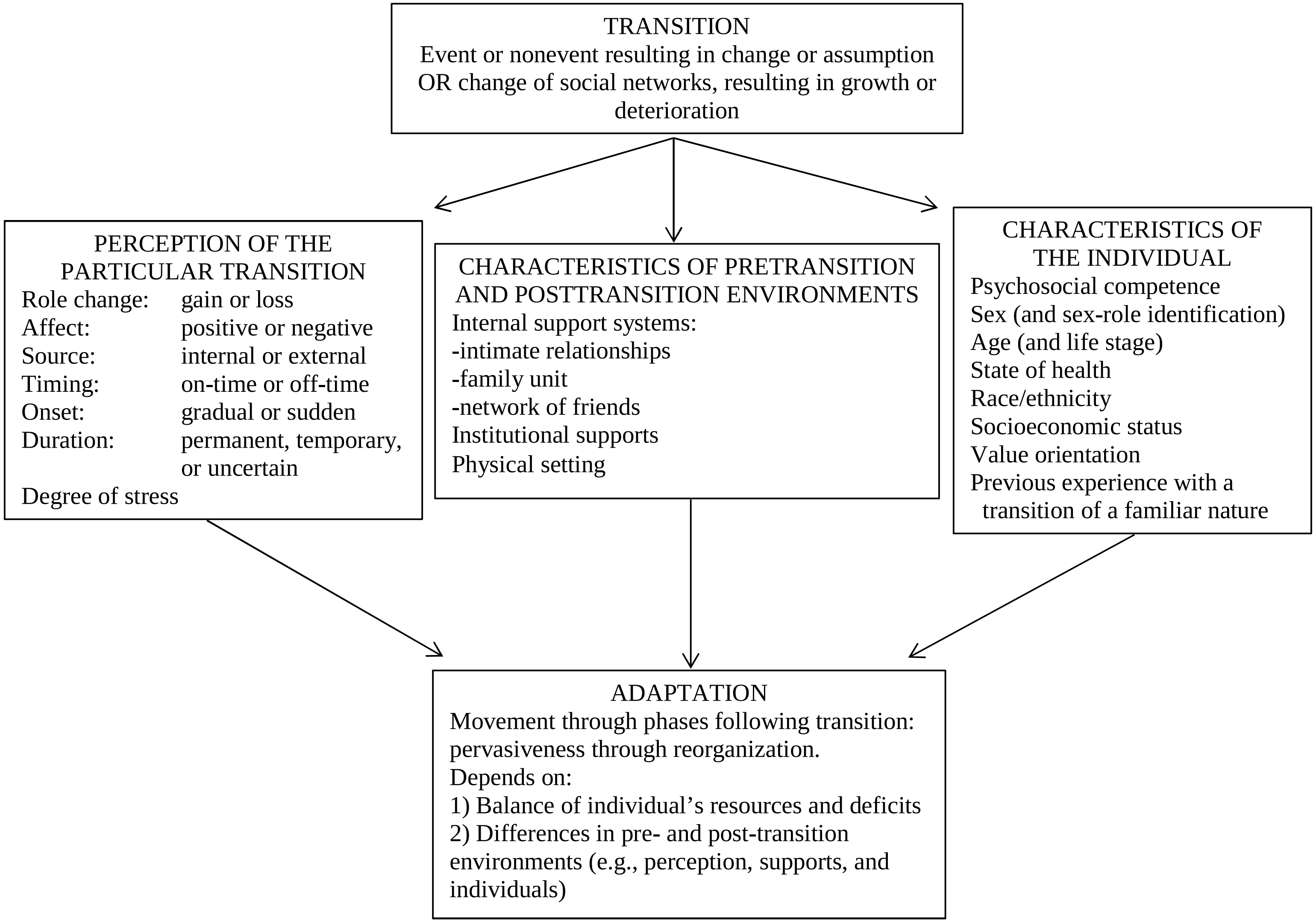

Figure 6. Developmental model of transition. Adapted from Schlossberg (1981).

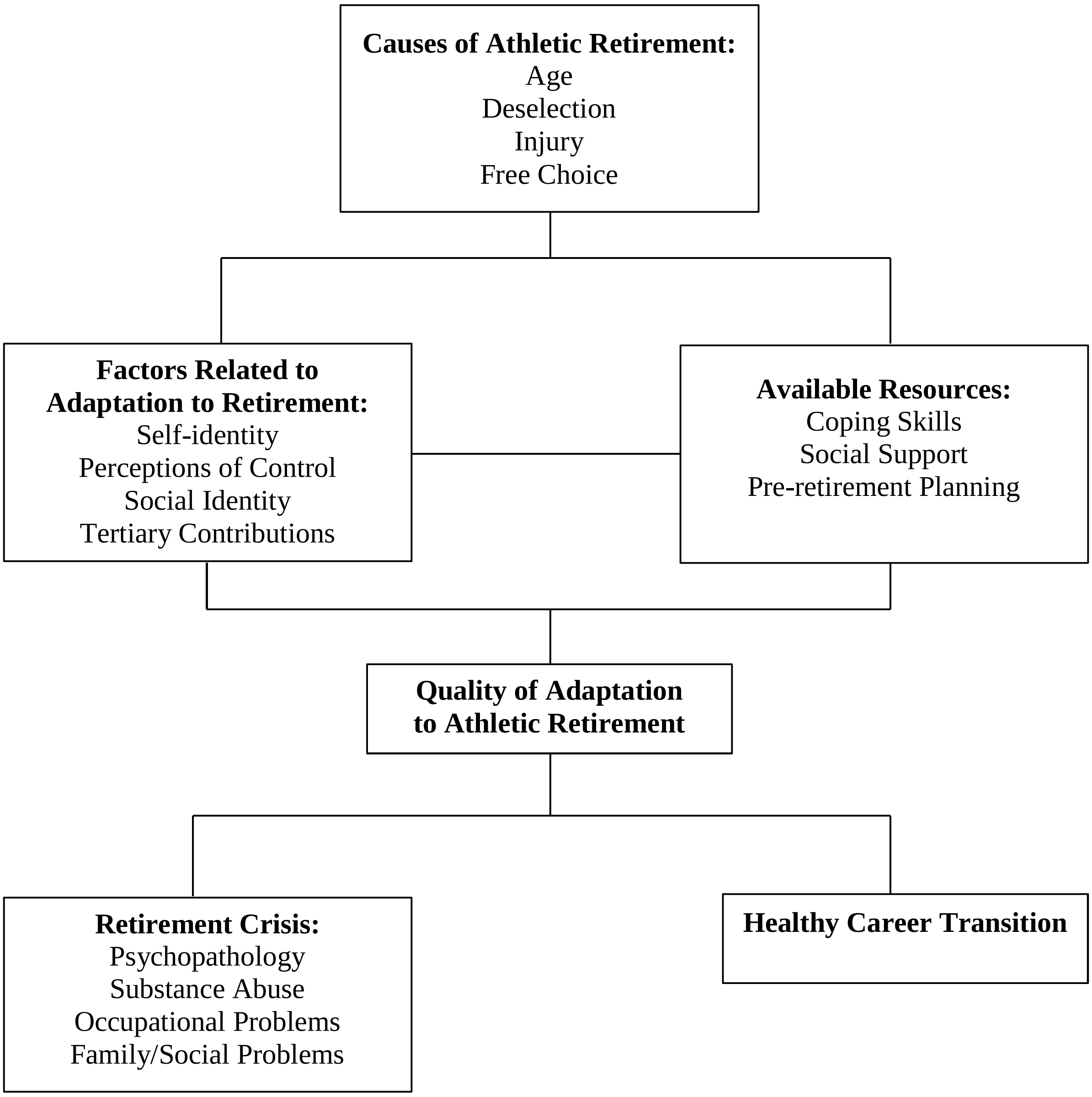

Figure 7. Conceptual model of adaptation to retirement among athletes. Adapted from Taylor and Ogilvie (1994).

Vita

Matthew P. Bejar was born in San Jose, California on September 1, 1987. He is the son of Philip Bejar and Leslie Bejar and has two younger siblings, Michael Bejar and Nicole Bejar. He is also the grandson of James Riley, Dorothy Riley, Joseph Bejar, Vicky Bejar, and the late Stella Bejar. Matthew attended Bellarmine College Preparatory for his secondary education and graduated in May 2006. He then earned a BS in Exercise Science and a BA in Psychology from Gonzaga University, graduating in May 2011. While at Bellarmine and Gonzaga, he participated in cross-country and track and field and was coached by Patrick McCrystle, Terry Ward, Kevin Swaim, and Pat Tyson. Next, he attended San José State University to obtain his MA in Kinesiology with a Concentration in Sport Studies under the supervision of Dr. Ted M. Butryn. He graduated in August 2013, and his thesis was entitled, “Experiences of Coping with Injury in Athletes from Low-to-Middle Socioeconomic Status Backgrounds.” Afterwards, he attended the University of Tennessee, Knoxville and earned a PhD in Kinesiology and Sport Studies with a Concentration in Kinesiology and a Specialization in Sport Psychology and Motor Behavior under the guidance of Dr. Leslee A. Fisher, graduating in May 2016.