

ATHLETIC TRAINERS AND SPORT PSYCHOLOGY:  
KNOWLEDGE, EXPERIENCE AND ATTITUDES

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Certified athletic trainers (ATCs) play a unique role in sport environments as the primary medical staff available to athletes. Thus, ATCs are well positioned to oversee athletes' physical and psychological well-being. Although sport psychologists (SPs) have been identified as a potential resource for ATCs, previous studies have reported a lack of collaboration between SPs and ATCs. This study aimed to (a) examine ATCs' views regarding professional roles for both ATCs and SPs, (b) explore ATCs' referral behaviors, (c) evaluate ATCs belief in the credibility of sport psychology across demographic (i.e., gender, age) and experiential variables (i.e., access to SPs), and (d) examine ATCs' involvement in sport psychology. Four hundred ninety-six ATCs (265 men, 231 women) completed and returned the questionnaire. ATCs viewed assisting in the psychological recovery of athletes as the most acceptable professional role for fellow ATCs; aiding in the psychological recovery of injured athletes and teach mental skills were identified by ATCs as the most appropriate roles for SPs. In considering an athlete experiencing interpersonal difficulties (e.g., relationship problems), a mixed design ANOVA revealed a ATC sex by referral option interaction; female and male ATCs indicated they would likely refer the athlete to a counselor/therapist, followed by a SP, however, female ATCs reported a greater likelihood of referring to a counselor/therapist than male ATCs whereas male ATCs indicated a greater likelihood of referring to a SP. Further, ATCs' regular access to SPs and completion of formal sport psychology coursework were identified as variables associated with greater belief in the credibility of sport psychology. These results suggest that access and previous experience with SPs remain significant variables associated with ATCs views about, and belief in, the work

of SPs. Implications for sport psychology professionals and recommendations for future research are discussed.

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## CHAPTER 1

### INTRODUCTION

Certified athletic trainers (ATCs) play a unique role in sports medicine teams due to their high level of direct contact with athletes. ATCs, in comparison to other sports medicine professionals (e.g., physicians, strength and conditioning coaches), regularly attend team practices and competitions, travel with athletes and coaches, administer preventive treatment, and oversee post-injury rehabilitation. Traditionally, the role of ATCs has focused on the treatment and rehabilitation of both acute and chronic neuromusculoskeletal and/or medical conditions in order to minimize or prevent impairments or limitations (National Athletic Trainers' Association; NATA, 2010). Although ATCs' academic and practical training emphasizes physical components of injury, their increased interaction with athletes leaves them well positioned to first recognize athletes' distress and health concerns, including those that are psychological in origin. Underscoring their importance within sport environments, athletes often cite ATCs as a significant source of social support following athletic injury and throughout the rehabilitation process (Bone & Fry, 2006; Clement & Shannon, 2011; Robbins & Rosenfeld, 2001).

#### Athletic Trainers' Psychological Education and Skill Use

Recognizing the unique role occupied by ATCs, the NATA has included the psychosocial strategies and referral (PIR) competency as one of eight educational/practical domains in which ATCs must demonstrate proficiency (NATA, 2011). Broadly, the PIR domain requires that ATCs demonstrate: (a) the ability to recognize clients/patients who exhibit abnormal social, emotional or mental behaviors, (b) the ability to intervene with said clients and make appropriate referrals to mental health professionals, and (c) appreciate, and utilize, interventions that

recognize the connections between mental health, injury and return to participation (NATA, 2011). Thus, to fulfill the requirements of this domain ATCs should be able describe and utilize psychological techniques (e.g., goal setting, relaxation) to facilitate clients' physical and psychological needs as well as establish (and maintain) a referral network of mental health professionals consisting of psychologists, psychiatrists, counselors and/or social workers. In developing such a network, it is essential that ATCs are be able to differentiate amongst these professions to make appropriate psychological referrals in the best interest of their clients.

Consistent with a greater emphasis on the role of ATCs in facilitating the psychological health of athletes, the majority of ATCs recognize the psychological consequences associated with physical injury (e.g., Arvinen-Barrow, Hemmings, Weigand, Becker, & Booth, 2007; Larson, Starkey, & Zaichkowsky, 1996) and believe it is important to treat both physical and psychological aspects of injury (Kamphoff et al., 2010). Yet, both entry-level and experienced ATCs feel underprepared to implement psychological strategies or complete psychological referrals in their work with athletes (Misasi, 1998; Misasi et al., 1996; Moulton, Molstad & Turner, 1997; Stiller-Ostrowski & Hamson-Utley, 2010; Stiller-Ostrowski & Ostrowski, 2009). ATCs' reported lack of preparedness may be due to the lack of educational and practical training experiences available to both athletic training students and practitioners (Hamson-Utley and Stiller-Ostrowski, 2011; Misasi et al., 1996).

Consistent with ATCs feeling unprepared to meet the psychological needs of their athletes, they report rarely utilizing psychological skills (e.g., relaxation, imagery) during rehabilitation (Hamson-Utley, Martin, & Walters, 2008; Kamphoff et al., 2010; Stiller-Ostrowski & Hampton-Utley, 2010; Wiese, Weiss, & Yukelson, 1991). Notably, Stiller-Ostrowski and Hampton-Utley (2010) found, in a sample of 1701 ATCs, that although 80.2% reported using



goal-setting in the treatment of athletic injury at least half of the time, the ATCs used other mental skills far less often – only 17.4% employed relaxation techniques to manage pain, and 9.5% used visualization scripts. Similarly, few ATCs refer to mental health professionals in their work with athletes (Hemmings & Povey, 2002, Larson et al., 1996). For example, in a sample of 482 ATCs, Larson et al. (1996) found that only 23.9% of ATCs surveyed reported making previous referrals to mental health professionals for counseling following injury; even fewer ATCs (9%) had a written or structured method for making referrals, a finding that is consistent with more recent research in this domain (Arinven-Barrow et al., 2007). It appears that, not only do ATCs feel unprepared to meet the psychological needs of their athletes and rarely implement the skills or techniques required to fulfill the PIR competency, they also are reluctant to refer to other mental health professionals to assist their client-athletes.

#### Athletic Trainers and Sport Psychology

Of the many mental health professions (e.g., psychiatrist, counselor) available to ATCs, none may be more capable of assisting athletes than sport psychologists (SPs). Depending on academic and clinical training, SPs can provide a wide range of services to athletes including performance enhancement (e.g., emotion regulation during competition), treatment of psychological disorders (e.g., depression, anxiety), interpersonal concerns (e.g., problems with significant other), and management of psychological responses to injury (e.g., return to play anxiety). Consequently, SPs can serve as a valuable resource for ATCs, particularly when dealing with athletes who may be experiencing issues outside of the ATCs' areas of competence. Collaboration between ATCs and SPs is especially salient given ATCs' perceived lack of preparedness to meet the psychological needs of their athletes. However, in a study of collegiate ATCs' referral practices, Misasi et al. (1996) found that although 27% reported "always"

referring athletes to counselors on campus, over half (52%) indicated that they rarely referred to SPs. Infrequent referrals to SPs, may reflect ATCs' lack of access to sport psychology services, which has ranged from 15.5% to 25.3% (Arinven-Barrow et al., 2007; Hemmings & Povey, 2002; Larson et al., 1996). However, though ATCs' lack of access to sport psychology services indeed may be a barrier to collaboration (Arinven-Barrow et al., 2007; Hemmings & Povey, 2002; Larson et al., 1996), no studies have explored other factors, such as attitudes toward sport psychology services and knowledge of the roles occupied by SPs, which also may hinder collaboration.

#### Attitudes Toward Psychological Services

Gender (e.g., Gonzalez, Alegria, Prihoda, Copeland, & Zeber, 2011; MacKenzie, Gekoski, & Knox, 2006; Martin, 2006; Vogel & Wester, 2003; Wrisberg, Loberg, Simpson, Withycombe, & Reed, 2010) and previous exposure to psychological services (Anderson et al., 2004; Kahn & Williams, 2003; Kakhnovets, 2011; Lubker et al., 2012; Mackenzie et al., 2006; Vogel & Wester, 2003) have been related to clients' attitudes about psychological services (including sport psychology) in both athlete and non-athlete populations. For example, female athletes and non-athletes consistently have reported more favorable attitudes toward psychological services than male athletes and non-athletes; men also report using psychological services less frequently than women (Anderson et al., 2004; Carragher, Adamson, Bunting & McCann, 2010; Martin, 2006; Yorgason, Linville, & Zitzman, 2008; Wang et al., 2005). Explanations for observed gender differences have focused on the influence of socialized gender roles as foundational components of psychological services (e.g., interpersonal openness, expression of emotion) are often viewed as inconsistent with traditional masculine ideologies, thus stigmatized by men (Addis & Mahalik, 2003; Martin, 2006). Notably, several studies have

suggested that men, more so than women, feel stigmatized for engaging in psychological services (Martin, Wrisberg, Beitel, & Lounsberry, 1997; Pepin, Segel, & Coolidge, 2009) and are less willing to endure stigmatization associated with seeking psychological help (MacKenzie, Knox, Gekoski, & Macaulay, 2004), which presents a significant psychosocial barrier to receiving psychological help, including sport psychology services.

Regarding previous exposure to psychological services Mackenzie et al. (2006) used demographic and personality variables to predict non-athletes' intentions to seek psychological help. Previous experience with psychological services was a robust predictor of attitudes toward seeking psychological help and accounted for a greater amount of variance than participant age or education. Specific to sport psychology, Anderson et al. (2004) investigated attitudes of New Zealand athletes and found that those who had previous contact with SPs reported higher confidence in sport psychology consultation and higher levels of stigma tolerance (more willing to endure stigma) than those without prior sport psychology experience. Similar findings have been observed in other athlete populations such as NCAA Division I athletes (Wrisberg et al., 2010), elite rugby players (Green, Morgan, & Manley, 2012), and American high school and collegiate athletes (Martin, 2006), suggesting that previous exposure to, and experience with psychological services is a significant variable of interest when exploring one's attitudes toward mental health services.

Although age has been targeted in relation to attitudes toward mental health services (Mackenzie et al., 2006, Currin et al., 2011; Pepin et al., 2009), findings have been equivocal. Initial studies suggested that psychological services (e.g., psychotherapy) may not be congruent with traditional values endorsed by older adults emphasizing independence and self-reliance (e.g., Estes, 1995); older adults ultimately reporting more negative view toward seeking mental health

services than younger adults (Lundervold & Young, 1992; Waxman et al., 1984). However, more recent studies have suggested that older athletes (Martin, 2006) and non-athletes (Currin et al., 2011; Pepin et al., 2009) may hold more positive views of psychological services than younger generations. Researchers have proposed that the lack of age differences in recent studies may reflect a historical shift in the availability and acceptance of psychological information (e.g., news stories, pop culture, technology; Currin et al., 2011), yet others have suggested that, due to extended lifespans, older adults may be more willing to abandon self-reliance and independence as a means to better physical health (Mackenzie et al., 2006). In light of the equivocal findings regarding the relationship between age and attitudes toward mental health services, further study seems warranted.

#### Health Professionals' Attitudes Toward Psychological Services

Though current research has primarily focused on individual clients' attitudes toward psychological services, numerous studies have explored the attitudes of medical (e.g., general practitioners; Brazeau, Rovi, Yick, & Johnson, 2005; Kainz, 2004; Kessler, 2005; Pryor & Knowles, 2001) and athletic (e.g., coaches, athletic directors; Nelson, 2008; Kornspan & Duve, 2006; Wrisberg, et al., 2010; Voight & Callaghan, 2001; Zakrajsek, Martin, & Zizzi, 2011) professionals who may act as gatekeepers to psychological services. Most notably, primary care physicians (PCPs) often serve as the primary medical contact for those who are sick or injured, which mirrors the role of ATCs in sport environments. Studies evaluating PCPs' attitudes toward mental health services, though, have been limited and have yielded mixed results. Some studies have indicated that physicians view psychological services as important components to effective primary care (e.g., Brazeau, et al., 2005; Pryor & Knowles, 2001), whereas others have pointed to significant stigma attached to the inclusion of psychological services in primary care settings

(e.g., Kessler, 2005). Kainz (2004) identified attitudinal resistance as a significant barrier to medical-psychological collaboration, which was often reflected in physicians' uncertainty of therapeutic approaches and a lack of confidence in the benefit of psychological services. Similarly, Pryor and Knowles (2001) found that attitudes toward psychological services (e.g., social stigma, professional competency) accounted for 27% of the variance in physicians' referral rates; physicians who viewed seeing a psychologist as stigmatizing and questioned the competency of mental health professionals were less likely to make referrals. Explanations for physicians' referral practices and attitudes toward mental health professionals have focused on a lack of knowledge of, and access to, psychological services (e.g., Beacham et al., 2012). Illustrating this point, Grenier, Chomienne, Gaboury, Ritchie and Hogg (2008) found that only 59% of the Canadian family physicians surveyed were aware that psychologists held doctorates and even fewer of the physicians (33%) indicated that psychologists were qualified to formulate and communicate diagnoses. Such findings are consistent with studies that have shown that a lack of knowledge about psychological services can be a significant barrier to collaboration (Kainz, 2004; Sigel & Lieper, 2004) and an important determinant of physician's referral behaviors (Beel, Gringart, & Edwards, 2008).

### Purpose and Hypotheses

Although ATCs play an integral role in the general well-being of athletes, they often feel unprepared to meet the psychological needs of their athletes or utilize psychological skills that may benefit rehabilitation. Despite their own lack of training, ATCs rarely refer athletes to mental health professionals, including SPs, who may be of most assistance in fostering the psychological well-being of athletes. Though ATCs' lack of access to sport psychology services and education may serve as a barrier to collaboration (Arinven-Barrow et al., 2007; Hemmings &

Povey, 2002; Larson et al., 1996), no studies have explored attitudinal factors that also may influence ATCs' referral behaviors. Given these limitations, the purpose of the current study is to explore ATCs' beliefs about the role of SPs in athletic environments and their attitudes toward sport psychology as a significant factor potentially influencing referral behaviors and collaboration with SPs. Drawing from the current literature on attitudes toward psychological services (e.g., Beacham et al., 2012; Martin, 2005), the following hypotheses were made: (a) female ATCs will endorse more positive attitudes toward sport psychology than male ATCs, (b) older ATCs will have more negative attitudes toward sport psychology than younger ATCs, and (c) ATCs with regular access to SPs will have more positive attitudes toward sport psychology than those with no, or infrequent access.

## CHAPTER 2

### METHOD

#### Participants

One thousand (500 male & 500 female) certified athletic trainers (ATCs) were solicited for participation; 496 completed and returned the questionnaire (265 male, 231 female). For the 367 ATCs who reported it, mean age was 33.98 years ( $SD = 8.37$ ). In terms of race/ethnicity, 463 (93.3%) ATCs identified as White/non-Hispanic, 12 (2.4%) as Asian American, 8 (1.6%) as African-American, 4 (.8%) as Latino/a and 7 (1.4%) as “Other”. A majority of the ATCs reported receiving a master’s degree or higher ( $n = 284$ ; 57.2%); 179 (36.1%) participants received degrees in sports medicine, 117 (23.6%) in kinesiology or exercise science, and 24 (4.8%) in physical therapy. An additional 165 (33.3%) ATCs said they received their highest degree in unlisted academic disciplines including, but not limited to, education, health sciences or promotion and athletic administration.

The majority of the ATCs ( $n = 475$ ; 95.8%) reported being licensed by the National Athletic Trainers Association (NATA); 380 (76.6%) indicated they held a state athletic training license or certificate and 98 (19.8%) held an additional license or certificate including, but not limited to, certified strength and conditioning specialist (CSCS), registered nurse (RN) and physical therapist (PT) or physical therapist assistant (PTA). The participants primary work settings were: public high schools (36.5%), four-year colleges or universities (27.0%), and outpatient clinics (16.9%). In these settings, ATCs most frequently listed football (57.5%) as the primary sport with which they worked, followed by soccer (9.8%) and basketball (9%).

## Instruments

*Demographics.* Certified athletic trainers (ATCs) were asked to provide information regarding their gender, age, race/ethnicity, highest degree received and the academic area in which their highest degree was awarded. ATCs also indicated the primary setting in which they worked as an athletic trainer, state and national licensure or certifications, as well as the primary sports with which they worked.

*Sport psychology background and training.* ATCs completed a series of items related to: (a) previous training in sport psychology, including formal coursework in this area, (b) continuing education courses or workshops addressing topics related to sport psychology, and (c) sport psychology journals they read regularly. Further, the ATCs provided information about college-level courses they taught in sport psychology, and any articles published in professional journals or presented papers, posters or symposiums at professional conferences whose focus was in sport psychology.

*Referral practices.* ATCs indicated (Yes or No) if they had previously referred athletes to sport psychologists (SPs) and to counselors. For each referral they made, ATCs were asked to (a) describe the reason(s) for such referrals, and (b) assess the degree to which they believed each referral (i.e., sport psychology consultation, or counseling) was helpful to the athlete(s), on a scale ranging from 1 (*not at all*) to 7 (*extremely*).

*Interest in sport psychology training.* ATCs indicated (Yes or No) whether they were interested in obtaining formal training (i.e., coursework, field experience and/or continuing education workshops) in sport psychology. If Yes, ATCs selected all applicable challenges they faced in obtaining such training (e.g., limited access to coursework, lack of time, lack of financial incentive, uncertainty of professional benefits).



*Acceptability of SP and ATC behaviors.* In each of three areas - (a) teaching athletes skills related to performance enhancement and sport psychology, such as goal setting, concentration and arousal management, (b) helping athletes with psychological recovery from physical injury, such as coping with feelings of depression or anxiety or regaining confidence, and (c) counseling athletes concerning personal issues such as family, peer or teammate relationships – ATCs rated the acceptability of an ATC providing each service using a 7- point scale that ranged from 1 (*not at all acceptable*) to 7 (*extremely acceptable*). In each area, ATCs also indicate the degree to which these behaviors are consistent with the role of a SP on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

*Referral scenarios.* ATCs were presented three separate scenarios about a hypothetical athlete experiencing: (a) performance difficulties due to psychological barriers (“If one of my athletes was having performance difficulties related to the mental aspect of the game such as an inability to concentrate, low confidence, or an inability to regulate their motivation or emotions, I would...”), (b) performance difficulties relating to interpersonal factors (“If one of my athletes were having performance issues related to interpersonal/relationship problems, such as family, teammates, or friends, I would...”), and (c) difficulties in injury rehabilitation due to perceived mental aspects (“If one of my athletes were having difficulty recovering from a physical injury, such as adhering to rehabilitation protocol, feeling depressed or anxious, or having low levels of confidence regarding his/her ability to compete, I would...”). Within each scenario, ATCs rated on a 7-point scale that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*) if they would make the following referrals: (a) refer him/her to the coach or assistant coach for assistance, (b) refer him/her to the sports medicine physician for assistance, (c) refer him/her to the sport psychology consultant for assistance, (d) refer him/her to a counselor/therapist for assistance, (e)

assist him/her on my own, and (f) do nothing. On a separate item, ATCs checked all the reasons why they would not refer athletes to a sport psychology consultant (i.e., too expensive for athlete or team, athletes are too busy or don't have time, access to sport psychologists in my community is not convenient, lack of referral network of sport psychologists in my community, lack of knowledge about how a sport psychologist might help athletes, and in general, do not believe that the services a sport psychologist provides are beneficial).

*Athletic trainers' attitudes toward sport psychology.* Twelve items from the Sport Psychology Attitudes Questionnaire (SPAQ; Harmison, 2000) were selected and modified to measure ATCs' belief in the credibility of sport psychology consultation (i.e., their confidence in sport psychology, openness to it, and willingness to withstand any stigma associated with using it). On items such as "A sport psychology consultant could fine-tune an athlete's performance," ATCs responded using a 7-point scale that ranged from 1 (*strongly disagree*) to 7 (*strongly agree*). Total score is the mean; higher scores indicate a stronger confidence in sport psychology and a greater willingness to refer their athletes. Harmison (2000) reported strong relationships between the SPAQ and measures of athletes' belief in the benefits of sport psychology skills and openness to seeking psychological help, providing evidence for its validity. Cronbach's alpha from the current study was .87.

### Procedure

Approval for the study was obtained from the university's Institutional Review Board for human subject's research. A randomly selected sample of 500 male and 500 female ATCs was provided by the National Athletic Trainers' Association (NATA) to participate in the study. The ATCs were sent a packet containing (a) an informed consent form, (b) a cover letter explaining the purpose of the current study (i.e., evaluate ATCS' training, interest and involvement in sport

psychology), (c) the questionnaire itself, and (d) a postage-paid envelope to return the questionnaire. Two weeks following the initial mailing, a follow-up mailing was sent to those ATCs who had not already returned their questionnaires.

## CHAPTER 3

### RESULTS

#### Data Analysis

Prior to completing analyses, missing data were evaluated on the Athletic Trainers' Sport Psychology Attitudes Questionnaire (ATSPAQ). Twenty Certified Athletic Trainers (ATCs) (4%) were either not sent or did not complete any ATSPAQ items; therefore these cases were excluded from the analyses using ATSPAQ scores. Missing values on the 12 ATSPAQ items ranged from .2% to .6% and were determined to be missing at random (Schlomer, Bauman, & Card, 2010); expectation maximization was used to impute missing values. Additionally, some ATCs did not respond to other items in the survey, resulting in additional missing data that could not be replaced using the above described technique. Thus, the number of participants associated with each item may not equal the total sample ( $n = 496$ ). Data were also analyzed to determine the presence of extreme values and assess normality. Outliers determined to be the result of input error were corrected by a re-evaluation of individual questionnaires. Subsequent measures of normality across all dependent variables were within acceptable limits thus, data was not altered further prior to analysis.

#### Professional Roles

*ATCs.* ATCs' ratings of how acceptable it was for their colleagues to (a) teach skills related to performance enhancement, (b) help athletes recover psychologically from injury, and (c) counsel athletes regarding personal issues are presented in Table 1. A 2 (male vs. female ATC) X 3 (ATC role) mixed design ANOVA did not yield a significant interaction effect,  $F(2, 982) = 1.32, p = .324$ , partial  $\eta^2 = .002$ . There was, however, a significant main effect for ATC role,  $F(2, 982) = 266.42, p < .001$ , partial  $\eta^2 = .352$ , suggesting that the ATCs did not view these

behaviors as being equally acceptable. The ATCs viewed helping athletes psychologically recover from injury as significantly more appropriate ( $M = 5.97$ ,  $SD = 1.15$ ) than teaching them performance enhancement skills ( $M = 4.86$ ,  $SD = 1.45$ ), which was scored significantly higher than counseling athletes for personal issues ( $M = 4.44$ ,  $SD = 1.49$ ).

*SPs.* ATCs' ratings of how appropriate it was for SPs to (a) teach athletes skills related to performance enhancement, (b) help athletes recover psychologically from injury, and (c) counsel athletes regarding personal issues are presented in Table 2. The 2 (male vs. female ATC) X 3 (SP role) mixed design ANOVA did not reveal a significant interaction,  $F(2, 976) = 2.19$ ,  $p = .112$ , partial  $\eta^2 = .004$ , although there was a significant main effect for SP role,  $F(2, 976) = 131.66$ ,  $p < .001$ , partial  $\eta^2 = .212$ , indicating that the ATCs did not view these behaviors as equally appropriate for SPs. The ATCs' rated helping athletes psychologically recover from injury ( $M = 6.08$ ,  $SD = 1.00$ ) and teaching athletes mental skills ( $M = 6.01$ ,  $SD = 1.04$ ) as equally appropriate, though each of these roles were scored significantly higher than counseling athletes regarding personal issues ( $M = 5.21$ ,  $SD = 1.47$ ).

Pearson product-moment correlations revealed that ATCs' appropriateness ratings of SP roles were correlated significantly with the extent to which they viewed sport psychology as credible. Specifically, the more credible ATCs perceived sport psychology to be, the more likely they were to view as appropriate SPs' teaching athletes skills related to performance enhancement ( $r = .48$ ,  $p < .001$ ), helping athletes psychologically recover from injury ( $r = .47$ ,  $p < .001$ ), and counseling athletes regarding personal issues ( $r = .23$ ,  $p < .001$ ).

#### ATCs' Referral Ratings for Athletes

*Performance difficulties related to mental aspects.* Regarding the scenario involving a hypothetical athlete experiencing performance difficulties related to mental aspects (i.e., inability

to concentrate, low confidence, or an inability to regulate their motivation or emotions), ATCs' ratings of each professional referral option are presented in Table 3. The 2 (male vs. female ATC) X 6 (professional referral options) mixed design ANOVA revealed no significant interaction,  $F(5, 2355) = 1.51, p = .180$ , partial  $\eta^2 = .003$ . There was, however, a main effect for referral option,  $F(5, 2355) = 467.29, p < .001$ , partial  $\eta^2 = .498$ . Specifically, ATCs were significantly more likely to refer the athlete to a sport psychologist ( $M = 5.42, SD = 1.39$ ) than to a counselor/therapist ( $M = 4.75, SD = 1.46$ ). ATCs viewed referring the athlete to a coach ( $M = 4.11, SD = 1.69$ ) or assisting on his or her own ( $M = 4.10, SD = 1.50$ ), as equally valid options, though they were significantly less likely to pursue these options than referring the athlete to either a sport psychologist or counselor/therapist. Although having significantly lower scores than the other professional options, referring the athlete to a sports medicine physician ( $M = 2.97, SD = 1.48$ ) was viewed as a significantly more valid option than doing nothing to assist the athlete ( $M = 1.42, SD = .97$ ).

*Performance difficulties related to interpersonal issues.* With regards to the hypothetical athlete experiencing performance difficulties due to interpersonal/relationship concerns (i.e., family, teammates, or friends), ATCs' ratings for each professional referral option are presented in Table 4. Analysis of the 2 (male vs. female ATC) X 6 (professional referral option) mixed design ANOVA revealed a significant interaction effect,  $F(5, 2365) = 2.50, p = .029$ , partial  $\eta^2 = .005$ , and main effect for referral option,  $F(5, 2365) = 384.31, p < .001$ , partial  $\eta^2 = .448$ . The significant interaction suggests that male and female ATCs differed significantly in their views toward at least one of the referral options. Specifically, both female ( $M = 5.82, SD = 1.18$ ) and male ( $M = 5.59, SD = 1.27$ ) ATCs rated referring the athlete to a counselor/therapist as the most valid referral option, although female ATCs indicated they were significantly more likely to do

so than the male ATCs. The ATCs viewed referring the athlete to a SP as the next most likely option, though male ATCs ( $M = 4.70, SD = 1.57$ ) rated this option as significantly more viable than their female counterparts ( $M = 4.36, SD = 1.70$ ). Male ATCs reported a greater likelihood of helping the athlete on their own ( $M = 3.92, SD = 1.48$ ) than referring the athlete to a coach ( $M = 3.51, SD = 1.70$ ), whereas female ATCs indicated that helping the athlete on her own or referring to a coach were equally valid options ( $M = 3.81, SD = 1.48$ ;  $M = 3.47, SD = 1.61$ ); female and male ATCs' views regarding these options did not differ significantly. Further, although female ( $M = 2.76, SD = 1.50$ ) and male ( $M = 2.67, SD = 1.47$ ) ATCs rated referring the athlete to a sports medicine physician equally, these ratings were significantly lower than the other referral options. Although both male and female ATCs viewed doing nothing as the least viable option, the male ATCs ( $M = 1.43, SD = .98$ ) were significantly more likely to do nothing than the female ATCs ( $M = 1.27, SD = .71$ ).

*Difficulty recovering from physical injury.* ATCs' ratings of professional referral options regarding an athlete experiencing difficulty recovering from an injury (i.e., not adhering to rehabilitation protocol, feeling depressed or anxious, or having low levels of confidence regarding his/her ability to compete) are provided in Table 5. The 2 (male vs. female ATC) X 6 (professional referral option) mixed design ANOVA indicated only a significant main effect for referral option,  $F(5, 2325) = 534.19, p < .001$ , partial  $\eta^2 = .535$ ; interaction was not,  $F(5, 2325) = 1.51, p = .185$ , partial  $\eta^2 = .003$ . Specifically, ATCs indicated that they would be equally likely to refer the athlete to a SP ( $M = 5.21, SD = 1.48$ ) or assist the athlete on their own ( $M = 5.16, SD = 1.34$ ), and significantly more likely to do so than refer the athlete to a counselor ( $M = 4.45, SD = 1.61$ ) or sport medicine physician ( $M = 4.43, SD = 1.65$ ), which did not differ significantly

from each other. The ATCs were significantly more likely to refer the athlete to a coach ( $M = 3.48$ ,  $SD = 1.80$ ) than do nothing to assist the athlete ( $M = 1.24$ ,  $SD = .73$ ).

#### Demographic Variables and ATCs' Belief in the Credibility of SP (ATSPAQ)

Overall, ATCs ( $n = 476$ ; men = 255; women = 221) reported believing that sport psychology was credible ( $M = 5.60$ ,  $SD = .71$ ); male ( $M = 5.56$ ,  $SD = .72$ ) and female ( $M = 5.65$ ,  $SD = .68$ ) ATCs did not differ significantly in their beliefs,  $t(474) = -1.38$ ,  $p = .167$ . Further, the ATCs' age was not related significantly to how credibly they viewed SP ( $r = .02$ ,  $p = .714$ ).

#### ATC Involvement in Sport Psychology

The majority of the ATCs (81.2%;  $n = 403$ ) reported completing at least one formal course in sport/exercise psychology, including: Sport and Exercise Psychology (58.2%;  $n = 288$ ), Psychology of Injury/Rehabilitation in Sport (31.5%;  $n = 156$ ), and Health and Exercise Psychology (20.8%;  $n = 103$ ); 94 (19.3%) said they had pursued sport psychology training through continuing education courses or workshops. ATCs who reported the completion of at least one formal sport psychology course also indicated a greater belief in the credibility of sport psychology ( $M = 5.65$ ,  $SD = .70$ ) than those who had not completed at least one course ( $M = 5.41$ ,  $SD = .69$ ),  $t(474) = 2.73$ ,  $p = .007$ ,  $d = .25$ . Very few of the ATCs (17.3%,  $n = 86$ ), however, normally read one or more academic journals related to sport psychology (e.g., *Medicine & Science in Sport & Exercise*, *Research Quarterly for Exercise and Sport*, *The Sport Psychologist*). Three hundred seventeen ATCs (63.9%) expressed interest in receiving formal training in sport psychology (i.e., coursework, field experience and/or continuing education courses), though they identified several barriers/challenges to doing so, including: a lack of time (75.4%;  $n = 239$ ), limited access to coursework (51.7%;  $n = 164$ ), lack of information about formal training (44.2%;  $n = 140$ ), and a lack of financial incentive (37.9%;  $n = 120$ ).



With regards to professional interactions with SPs, few ATCs (23.1%;  $n = 111$ ) reported having regular access to a SP in their primary work setting. However, those ATCs who had access to a SP expressed greater belief in the credibility of sport psychology ( $M = 5.75$ ,  $SD = .59$ ) than the ATCs who had no, or infrequent access ( $M = 5.56$ ,  $SD = .72$ ),  $t(460) = 2.49$ ,  $p = .013$ ,  $d = .28$ . In terms of referring their athletes to other professionals, only 132 ATCs (27.1%) had referred one to a SP, whereas 246 (50.3%) reported sending their athletes to see a counselor or psychologist. When made, ATCs generally perceived referrals to SPs ( $M = 5.40$ ;  $SD = 1.24$ ) and counselors/psychologists ( $M = 5.08$ ;  $SD = 1.28$ ) as helpful for their athletes.

## CHAPTER 4

### DISCUSSION

Certified Athletic Trainers (ATCs) endorsed helping athletes psychologically recover from injury (e.g., rebuild confidence, manage pain) as the most acceptable professional role for their colleagues to assume; teaching athletes mental skills related to performance enhancement (e.g., goal-setting, arousal management) and counseling athletes regarding personal issues (e.g., family or peer relationships) were viewed as significantly less acceptable. This ranking of professional roles/behaviors is consistent with ATCs' educational experiences given that (a) a majority of ATCs' academic and clinical training is focused on the assessment and treatment of physical injuries, and not on performance enhancement or counseling athletes (Hamson-Utley & Stiller-Ostrowski, 2011; NATA, 2011), (b) their current roles as ATCs focus on the treatment of athletic injuries, and (c) PIR competencies indicate that ATCs should be able to utilize psychological skills to aid physical rehabilitation. Consistent with the current findings, Misasi et al. (1996) reported that ATCs believed they were most able to counsel an injured athlete in issues related to their injury (i.e., injury rehabilitation, injury prevention) in comparison to clinical (e.g., drug abuse, suicide) or interpersonal issues (e.g., family matters, relationship issues).

Although ATCs viewed helping athletes psychologically recover from injury as the most acceptable role for fellow ATCs, previous studies have indicated that ATCs often feel unprepared to meet the psychological needs of their athletes and report infrequent use of mental skills (e.g., relaxation, imagery) during physical injury rehabilitation (Stiller-Ostrowski & Hampton-Utley, 2010; Wiese et al., 1991). Explanations for ATCs' infrequent use of mental skills and perceived lack of preparedness have focused on a deficiency of educational emphasis on psychological components of injury and rehabilitation, and namely a scarcity of experiential

training opportunities available to ATCs (Misasi et al., 1996; Stiller-Ostrowski & Ostrowski, 2009; Wiese et al., 1991). Specifically, Seiler (2010) found that both athletic trainers and directors of athletic training programs viewed the PIR competency as the least critical of the eight competency domains outlined by the NATA. Accordingly, Hamson-Utley and Stiller-Ostrowski (2011) reported that few training programs provide athletic training students with practical experiences related to integrating psychological skills during rehabilitation and/or making psychological referrals. The discrepancy between ATCs' view of psychologically aiding an injured athlete as an acceptable professional role and their perceived lack of preparedness to fulfill this role may account for the high percentage of ATCs (63.9%) that expressed a desire to obtain formal sport psychology training.

The ATCs viewed teaching athletes mental skills related to performance enhancement and helping athletes psychologically recover from injury as the most appropriate roles for SPs; counseling athletes regarding personal issues was deemed less so. Notably, teaching mental skills and assisting with recovery from injury are listed by the Association for Applied Sport Psychology (AASP) as services commonly provided by sport consultants (AASP, 2013). However, as a multidisciplinary field comprised of professionals from various educational backgrounds (e.g., psychology, sport/exercise science), the appropriateness of individual SPs counseling athletes is determined by their specific training and educational experiences. SPs trained in applied psychology programs (e.g., counseling, clinical) are likely to have had training and practical experiences in psychotherapy on a wide range of issues including personal (e.g., familial problems, relationship difficulties) and clinical concerns (e.g., depression, anxiety, suicidality), and thus be ethically able to provide assistance in these areas. SPs whose training is

in sport/exercise science (e.g., kinesiology) may not have had such clinical training experiences and thus may not be competent to counsel athletes regarding personal issues.

ATCs' views of appropriate roles for SPs are likely determined by their educational and/or professional experiences with sport psychology. Specifically, the use of mental skills to enhance athlete performance and aid in an athlete's rehabilitation are fundamental roles associated with the practical work of SPs, and often viewed as delineating SPs from other mental health or athletic professions (AASP, 2013). ATCs who have completed courses in sport psychology or worked with SPs where performance enhancement and the use of mental skills were discussed as primary services provided by SPs may have an understanding of SPs roles. And, if so, ATCs would view the roles of SPs within this context; that is, primarily working to enhance performance and aid in the psychological recovery from injury through the use of mental skills (e.g., relaxation, imagery). In such instances, ATCs may be unaware that some SPs have received the training and experience necessary to competently counsel athletes. Supporting this proposition, AASP (2007) indicates that only 24% of its membership identifies counseling or clinical psychology as their major field of study, increasing the likelihood that ATCs encounter SPs without the required experience or training to counsel athletes regarding personal issues ultimately viewing this role as inappropriate for SPs.

When considering an athlete who was reported to be experiencing performance issues related to mental aspects, ATCs indicated that they would be most likely to refer the athlete to a SP, followed by a counselor/therapist; they were significantly less likely to refer to a coach or sport medicine physician, assist the athlete on their own or do nothing to assist the athlete. Given that the ATCs viewed the teaching mental skills as an appropriate role for SPs and given that most (81.3%) had taken a sport psychology course during their academic training, referring an

athlete to an SP for mental skills training likely parallels these experiences. Sport psychology coursework completed by ATCs likely focused on how SPs work with athletes to overcome performance deficits through the use of mental skills (e.g., goal-setting, relaxation). Interestingly, ATCs indicated that the second most likely action was to refer the athlete to a counselor or therapist (vs. a coach) who may be viewed as more knowledgeable regarding the mental aspects of sport. Although one might assume ATCs viewed referring to a counselor/therapist as more appropriate simply due to the psychological nature of the athlete's concern, additional analysis is needed to better understand ATCs' preference to refer an athlete experiencing performance issues to a counselor/therapist vs a coach.

Regarding having the psychological difficulties athletes may experience when recovering from injury, ATCs' indicated that referring the athlete to a SP or assisting the athlete on his or her own were the most likely, and equally viable, options. Referring to a counselor/therapist, sports medicine professional, coach, or doing nothing to help the athlete was rated as less desirable options. ATCs in my study viewed aiding in the psychological recovery of injured athletes as appropriate for both them and SPs. Further, the ability to assist in the psychological rehabilitation of an injured athlete has been deemed an acceptable and appropriate professional role for both SPs (AASP, 2013) and ATCs (NATA, 2011). However, ATCs also have indicated that they feel unprepared to meet the psychological needs of their athletes and infrequently use mental skills in conjunction with physical rehabilitation (Misasi et al., 1996; Stiller-Ostrowski & Ostrowski, 2009; Wiese et al., 1991). Thus, though ATCs in my study indicate the desire to independently assist injured athletes psychologically, it is unclear if they have received adequate training to be effective in this role, particularly given the lack of educational or practical

emphasis placed on fulfilling the PIR competency (Hamson-Utley & Stiller-Ostrowski, 2011; Stiller-Ostrowski & Hampton-Utley, 2010; Wiese et al., 1991).

Regarding the treatment of an athlete with interpersonal issues there was an interaction between referral option and the ATCs' sex. Overall, ATCs indicated that they were most likely to refer to a counselor/therapist, followed by a referral to a SP. With respect to ATC sex, female ATCs indicated they were more likely to refer to a counselor/therapist than male ATCs, whereas male ATCs expressed a greater likelihood of referring the athlete to a SP than female ATCs. Similar to ATCs' views regarding the appropriate role(s) for SPs, ATCs' referral preference for a counselor/therapist may reflect their own educational or professional experience with sport psychology. In the absence of experience or knowledge suggesting that some SPs may be able to counsel athletes regarding personal issues, it would seem intuitive that ATCs would be more likely to refer the athlete to a counselor/therapist than a SP when experiencing personal issues.

Male and female ATCs' referral ratings may have differed due to the stigma each one associates with psychological services and their expectations of psychological services. Men typically attach greater stigma to the utilization of mental health services than women (e.g., Vogel & Wester, 2003), and respond most favorably to directive and analytical styles whereas women typically respond best to expressive and supportive interactions (Aries, 1998; Leaper & Ayres, 2007). Specific to sport psychology, male athletes and non-athletes generally expect SPs to be more directive and capable of problem solving than female athletes and non-athletes (Martin et al., 2001). Within the context of these other empirical findings (Aries, 1998; Martin et al., 2001), the sex differences noted in my study appear consistent with current interpersonal interaction theory. Male ATCs would be more hesitant to refer the athlete to a counselor or therapist as greater stigma may be attached to such services and interaction styles associated with

traditional psychotherapy may be inconsistent with those preferred by male ATCs. Further, male ATCs' greater endorsement of referring the athlete to a SP may be due to how they believe SPs will work (directive) and what they think would be most beneficial for their athlete. Additionally, as the athlete's sex was not specified in the scenario, male ATCs may have viewed the title of a SP as more amenable to male athletes. In comparison, female ATCs' would be more likely to favor the services of a counselor or therapist because female ATCs are less likely to perceive these services as stigmatizing, and more consistent with women's preferred interaction styles than the work of SPs.

Overall, ATCs reported viewing sport psychology as credible, which is consistent with previous studies that have found that ATCs view the use of mental skills (e.g., goal-setting, relaxation) as beneficial to an athlete's rehabilitation process (e.g., Brewer et al., 1994; Hamson-Utley et al., 2008) and recognize the importance of treating both physical and psychological consequences associated with physical injury (e.g., Arvinen-Barrow et al., 2007). Though these studies did not directly explore ATCs' attitudes toward sport psychology, their findings suggest that ATCs view sport psychology, and services provided by SPs, as beneficial and worthwhile for their athletes.

ATCs' belief in the credibility of sport psychology may have resulted from ATC's exposure to, and knowledge of, sport psychology obtained through the completion of formal coursework (e.g., Sport and Exercise Psychology, Applied Sport Psychology, Psychology of Injury or Rehabilitation in Sport) and/or access to SPs in their primary work setting. Supporting this assertion, the ATCs who reported the completion of at least one formal sport psychology course viewed sport psychology as significantly more credible than those who did not; ATCs who indicated having regular access to a SP also endorsed greater belief in the credibility of

sport psychology than those with infrequent, or no access to a SP in their primary work setting. Previous investigations with non-athlete (e.g., Mackenzie et al., 2006; Vogel & Wester, 2003), athlete (Green et al., 2012; Martin, 2006; Wrisberg et al., 2010), medical (Beacham et al., 2005; Westheimer et al., 2008) and ATC (Hamson-Utley et al., 2008) samples have revealed similar results indicating that previous exposure is associated with more positive views toward psychological services, including sport psychology. For example, in a sample of 306 ATCs and 356 physical therapists (PTs), Hamson-Utley et al. (2008) found that participants who had completed formal training in the rehabilitative use of mental skills (e.g., imagery) viewed mental skills as more effective than participants who had not completed such training. In the present study, ATCs reporting exposure to sport psychology (i.e., completion of formal courses, regular access to SP) were likely exposed to key principles, theories, and empirical research findings that served as the foundation for their understanding of and belief in sport psychology practices and techniques. Similarly, these ATCs are also more likely to have positive direct (e.g., interpersonal) or indirect (e.g., athlete referral) experiences with SPs, leading to more positive views of sport psychology. Though attitude differences based on exposure (i.e., formal training, access) have been observed across multiple studies (Beacham et al., 2005; Martin, 2006; Vogel & Wester, 2003), the specific mechanism underlying this relationship remains unclear. Without specific items to illuminate the exposure-attitude relationship observed in my study, further investigation is necessary.

ATCs' belief in the credibility of sport psychology was not related to the ATCs' age. Though previous studies with non-athletes (Lundervold & Young, 1992; Waxman et al., 1984) indicated that older adults held more negative views towards psychological services, more recent inquiries have failed to identify a significant relationship between age and attitudes toward



psychological services (Currin et al, 2011; Pepin et al., 2009). Currin et al. (2011) posited that the equivocal age findings may reflect historic cultural shifts in exposure to (e.g., media coverage, evidence based treatments), and acceptance of (e.g., mental health services covered by insurance) psychological services; each subsequent generation being more knowledgeable and accepting of psychological services than those that preceded it. As more generations become knowledgeable about and exposed to psychological services, age may become moot (e.g., Lundervold & Young, 1992; Waxman et al., 1984). Thus, the lack of an observed relationship between age and belief in the credibility of sport psychology in my study may be a function of the sample's knowledge of, and exposure to, sport psychology, particularly given the large proportion of ATCs reporting the completion of formal coursework.

Contrary to my hypothesis, male and female ATCs did not differ significantly in their belief regarding the credibility of sport psychology. This finding diverges from established sex differences in both athlete (e.g., Martin, 2005; Watson, 2005) and non-athlete (e.g., Pepin et al., 2009) samples regarding attitudes toward psychological services where women have traditionally reported more positive views than men. As previously stated, theoretical explanations for such differences have focused on the idea that men attach greater stigma to seeking psychological services because these services are viewed as inconsistent with masculine ideology (Addis & Mahalik, 2003). Moreover, this conceptualization has been supported in empirical studies that have documented significant sex differences in stigma tolerance related to psychological services (e.g., Martin, 2005; Pepin et al., 2009; Vogel & Wester, 2003). For example, Pepin et al. (2009), using a sample of 164 undergraduates and older adults (61 to 90 years-old), noted that men identified stigma as a significantly greater barrier to seeking counseling than women. The lack of sex differences in my study may be due to the fact that the ATSPAQ measured only ATCs'

belief in the credibility of sport psychology services, a domain that has failed to yield significant sex differences (Martin, 2005). Accordingly, future studies exploring ATCs' attitudes toward sport psychology should include an examination of stigma tolerance in addition to ATCs' confidence in sport psychology.

Similar to Hamson-Utley et al. (2008), a majority of the ATCs (63.9%) expressed interest in obtaining formal training in sport psychology (i.e., coursework, field experience, or continuing education courses), yet only a small percentage of them (19.3%) reported engaging in post-degree formal training (e.g., continuing education, workshops) and even fewer indicated that they read sport psychology journals regularly (17.3%). ATCs reporting interest in formal training frequently cited a lack of time, limited access to coursework, and insufficient information about training opportunities as significant barriers to doing so. In combination, these findings suggest a discrepancy between ATCs' interest in and ability, or willingness, to seek out and complete additional training in sport psychology. Given that many athletic training education programs (ATEPs) do not emphasize (or offer) courses aimed at meeting the PIR competency (e.g., Psychology of Injury, Sport and Exercise Psychology, Health Psychology) or fail to provide appropriate experiential training (Hamson-Utley & Stiller-Ostrowski, 2011), the onus for obtaining such training falls on the ATC after they have graduated despite the perceived obstacles to them doing so.

Only 27.1% of ATCs reported referring an athlete to an SP whereas 50.3% had sent an athlete to a counselor/therapist. ATCs commonly cited clinical (e.g., depression, eating disorder) and personal concerns (e.g., family issues, relationship problems) as reasons for referring athletes to both SPs and counselors/therapists. ATCs' higher referral rates to counselors or psychotherapists has been cited in multiple studies (Albinson, 2006; Misasi et al., 1996; Moulton

et al., 1997), which have proposed that access, or specifically a lack of access to SPs, contributes significantly to differing referral rates to counselors vs. SPs. Within the current sample, only 25.1% of the ATCs indicated that they had regular access to a SP in their primary work setting, which is consistent with previous studies reporting ATCs' access rates to SPs that have ranged from 15 to 25% (Arinven-Barrow et al., 2007; Hemming & Povey, 2002; Larson et al., 1996). However, because ATCs were not asked to indicate their access to a counselor/therapist, I do not know that value and cannot make direction comparisons within my sample.

### Limitations

The current investigation was limited in several ways. First, a large majority of the ATCs surveyed (93.3%) identified as White/non-Hispanic, resulting in an ethnically homogeneous sample. The NATA's most recent membership estimate suggests that roughly 83% of its members identify as White/non-Hispanic (NATA, 2009), suggesting that other ethnicities (e.g., African-American, Asian-American) were underrepresented slightly in the current sample. The lack of ethnic diversity may be particularly salient given recent findings (e.g., Masuda et al., 2009) that have suggested racial/ethnic differences in attitudes toward psychological services. For example, Masuda et al. (2009) found that Asian American and African American undergraduates were less willing to endure stigma attached to psychological services than white undergraduates; Asian American undergraduates also expressed less confidence in psychological professionals than both African American and White undergraduates. Thus, ATCs may have expressed less belief in the credibility of sport psychology, or may have been more hesitant to endorse referring athletes to mental health professionals (i.e., counselor/therapist, sport psychologist) with a more diverse sample. Second, though the ATSPAQ provided a measure of ATCs' belief in the credibility of sport psychology, it did not assess additional facets believed to

comprise attitudes toward psychological services (i.e., stigma tolerance, interpersonal openness and recognition of need; Fischer & Turner, 1970). Thus, I could only assess ATCs' views about SP credibility, but not whether they associated any deleterious stigma with it. Furthermore, referral scenarios did not specify the athlete's sex, a potential confound variable influencing ATCs' referral decisions. Lastly, the data are based on a cross-sectional methodology and limited to self-reports by the ATCs. Consequently, I cannot determine the direction of relationships amongst the variables, such as whether taking a sport psychology course led to increases in ATCs' beliefs in the credibility of sport psychology or believing more in the viability of sport psychology leads to more referrals to an SP. Further, the ATCs may have responded in socially desirable ways, and thus minimized any negative beliefs/attitudes they had toward sport psychology.

#### Future Directions

First, future research might use a multidimensional measure of ATC attitudes toward sport psychology that would allow for a more complete examination of relationships across key demographic (e.g., ATC sex, race/ethnicity) and professional (e.g., access to SP, formal sport psychology training, previous professional experience with SP) variables. Further study also is needed to identify if, and subsequently how, attitudes affect the extent to which ATCs' collaborate with SPs. Such studies may explore the attitudes of ATCs with differing referral rates to SPs, or utilize structural equation models to examine the potential relationship(s) between ATCs' attitudes toward sport psychology and athlete referrals. Similarly, future studies also might explore ATCs' views regarding the roles and training of various psychological professions (e.g., counselor/therapist, sport psychologist, psychiatrist) and how this information influences ATCs' referral preferences and behaviors. Obtaining such information can be used to guide

formal (e.g., continuing education courses) or informal (e.g., websites) educational opportunities geared toward ATCs, helping them to make referrals to the professionals that are best suited to assist their athletes.

Results from my study highlight the potential importance of exposure and access to an SP in relation to ATCs' belief in the credibility of sport psychology. However, little is known about the mechanisms that underlie this relationship. Thus, additional study is needed to better understand how ATCs develop their attitudes toward sport psychology. For example, to what extent does taking a formal sport psychology course or working directly with an SP lead to positive (or negative) changes in ATCs' attitudes? Information from such studies might guide efforts to increase collaborations amongst ATCs and SPs.

#### Practical Implications

Practically, the current study revealed the significance of both access to an SP and exposure to sport psychology information (e.g., completion of sport psychology courses). Though a majority of the ATCs surveyed expressed a desire to gain formal training in sport psychology, few reported that they had pursued such training, often citing a lack of time or access to courses/information as significant barriers. To address such barriers, SPs may wish to reach out to ATCs in their community by attending local conferences or marketing SP services to professional settings that may employ ATCs (e.g., high school or university athletic departments, physical therapy clinics, orthopedic services). Providing ATCs' with access may help in the dissemination of information regarding the training, education and role(s) of SPs in addition to facilitating professional collaboration between ATCs and SPs.

Additionally, SPs may be able to meet ATCs' desire for post-graduate training in sport psychology by offering continuing education courses. Professional organizations such as NATA

and the American Psychological Association Division 47 (Exercise and Sport Psychology) might work together to offer continuing education workshops at their respective conferences. Topics covered may include the psychological consequences of athletic injury, relevant mental skills (e.g., goal-setting, relaxation) that may benefit rehabilitation outcomes, and making effective and appropriate psychological referrals. Such courses should emphasize experiential learning experiences, allowing ATCs to actively practice the implementation of techniques or strategies covered during the course. Doing so may not only serve to educate ATCs regarding relevant sport psychology topics or skills but may also serve to inform ATCs of local sport psychology services available when confronted with scenarios outside of their competency.

### Conclusion

The aim of the current study was to explore ATCs' (a) involvement in sport psychology, (b) views regarding the role(s) of both ATCs and SPs, (c) referral preferences across three hypothetical athlete scenarios, and (d) belief in the credibility of sport psychology. ATCs viewed aiding in the psychological recovery of an injured athlete as acceptable professional behavior for fellow ATCs, though they viewed teaching athletes mental skills to enhance performance and counseling athletes regarding personal concerns as less acceptable professional behaviors. Furthermore, ATCs saw teaching athletes mental skills and aiding in the psychological recovery of an injured athlete as equally appropriate roles for SPs but viewed counseling athletes as a significantly less appropriate role. Consistent with their views regarding professional roles, ATCs reported that when confronted with an athlete experiencing performance difficulties related to mental aspects of sport, they were most likely to refer the athlete to a SP; yet, when considering an athlete experiencing difficulty recovering from injury, ATCs expressed that they were equally, and most, likely to refer the athlete to a SP or assist the athlete independently.

Interestingly, though female and male ATCs indicated that they were most likely to refer an athlete experiencing personal issues to a counselor/therapist and then a SP, male ATCs expressed a greater likelihood of referring the athlete to a SP than female ATCs; female ATCs reported a greater likelihood of referring the athlete to a counselor/therapist than male ATCs. These results not only provide valuable information as to how ATCs' view the professional roles of ATCs and SPs but also illuminate ATCs' referral preferences when confronted with athletes experiencing various psychological concerns. Though a more robust examination of these topics is warranted, such information can be integrated into practical programs aimed at facilitating professional collaboration between ATCs and SPs. For example, educational programs may focus on the varying roles of SPs based on their educational and training background, thus aiding ATCs in making informed referral decisions.

Overall, the ATCs surveyed viewed sport psychology as credible. Though significant relationships were not observed with regard to demographic variables (i.e., ATC sex, age), ATCs with previous exposure to sport psychology material (e.g., completion of formal sport psychology course) or regular access to a SP reported greater belief in the credibility of sport psychology than ATCs whom had not completed a sport psychology course or had infrequent access to a SP. Similarly, few ATCs (25.1%) reported having regular access to a SP in their primary work setting. Although a majority of the ATCs (63.1%) expressed interest in obtaining formal sport psychology training, ATCs interested in formal training frequently indicated that a lack of time and limited access to resources provided significant barriers to obtaining such training. In combination, these results appear to underscore the importance of exposure/access not only in relation to ATCs' belief in the credibility of sport psychology but also in their ability to complete formal training. Though future studies should explore the extent to which ATCs'

belief in the credibility of sport psychology influences collaboration between ATCs and SPs, results from this study suggest that a lack of access to sport psychology (e.g., training opportunities, SPs in local community) continues to be a variable of practical and empirical interest.

Table 1

*Means and Standard Deviations for the Acceptability Ratings of ATC Roles*

Role	<i>M</i>	<i>SD</i>
Teach athletes mental skills related to performance enhancement	4.86 <sup>b</sup>	1.45
Help athletes with psychological recovery from physical injury	5.97 <sup>a</sup>	1.15
Counsel athletes regarding personal issues	4.44 <sup>c</sup>	1.49

*Note.*  $N = 493$ . Mean scores range from 1, *Not at All Acceptable*, to 7, *Extremely Acceptable*; higher scores indicating greater view of role as acceptable. The 2 (male vs. female ATC) X 3 (ATC role) mixed design ANOVA revealed significant main effect for ATC role  $F(2, 982) = 266.42, p < .001$ , partial  $\eta^2 = .352$ , however, the interaction,  $F(2, 982) = 1.32, p = .324$ , partial  $\eta^2 = .002$ , was not.

<sup>a, b</sup> Means with differing superscripts are significantly different at  $p \leq .05$  based on Bonferroni corrected pairwise comparisons.



Table 2

*Means and Standard Deviations for the Appropriateness Ratings of SP Roles*

Role	<i>M</i>	<i>SD</i>
Teach athletes mental skills related to performance enhancement	6.01 <sup>a</sup>	1.04
Help athletes with psychological recovery From physical injury	6.08 <sup>a</sup>	1.00
Counsel athletes regarding personal issues	5.21 <sup>b</sup>	1.47

*Note.*  $N = 490$ . Mean scores range from 1, *Strongly Disagree*, to 7, *Strongly Agree*; higher scores indicating greater view of role as appropriate. A 2 (male vs. female ATC) X 3 (SP role) mixed design ANOVA did not reveal a significant interaction,  $F(2, 976) = 2.19, p = .112$ , partial  $\eta^2 = .004$ , however a significant main effect for SP role,  $F(2, 976) = 131.66, p < .001$ , partial  $\eta^2 = .212$ , was observed.

<sup>a, b</sup> Means with differing superscripts are significantly different at  $p \leq .05$  based on Bonferroni corrected pairwise comparisons.

Table 3

*Means and Standard Deviations for Referral Option Ratings – Performance Difficulty (Mental Aspects)*

Referral Option	<i>M</i>	<i>SD</i>
Coach or Assistant Coach	4.14 <sup>c</sup>	1.70
Sports Medicine Physician	2.97 <sup>d</sup>	1.48
Sport Psychology Consultant	5.39 <sup>a</sup>	1.39
Counselor/Therapist	4.74 <sup>b</sup>	1.45
Assist him/her on my own	4.10 <sup>c</sup>	1.51
Do nothing	1.43 <sup>e</sup>	0.97

*Note.*  $N = 473$ . Mean scores range from 1, *Strongly Disagree*, to 7, *Strongly Agree*; higher scores indicating greater likelihood of referral. The main effect for referral option was significant,  $F(5, 2355) = 467.29, p < .001$ , partial  $\eta^2 = .498$ , although the 2 (male vs. female ATC) X 6 (referral option) interaction effect was not,  $F(5, 2355) = 1.51, p = .180$ , partial  $\eta^2 = .003$ .

<sup>a, b</sup> Total means with differing superscripts are significantly different at  $p \leq .05$  based on Bonferroni corrected pairwise comparisons.

Table 4

*Means and Standard Deviations for Referral Option Ratings – Performance Difficulty (Interpersonal Concerns)*

Referral Option	<u>ATC Sex</u>	
	Male ( <i>n</i> = 253)	Female ( <i>n</i> = 222)
Coach or Assistant Coach	3.51 <sup>f</sup> (1.70)	3.47 <sup>f</sup> (1.61)
Sports Medicine Physician	2.67 <sup>g</sup> (1.47)	2.76 <sup>g</sup> (1.50)
Sport Psychology Consultant	4.70 <sup>c</sup> (1.57)	4.36 <sup>d</sup> (1.70)
Counselor/Therapist	5.59 <sup>b</sup> (1.27)	5.82 <sup>a</sup> (1.18)
Assist him/her on my own	3.92 <sup>e</sup> (1.48)	3.81 <sup>e</sup> (1.48)
Do nothing	1.43 <sup>h</sup> (0.98)	1.27 <sup>i</sup> (0.71)

*Note.* *N* = 475. Mean scores range from 1, *Strongly Disagree*, to 7, *Strongly Agree*; higher scores indicating greater likelihood of referral. Standard deviations are reported parenthetically. Both the 2 (male vs. female ATC) X 6 (professional referral option) interaction,  $F(5, 2365) = 2.50, p = .029$ , partial  $\eta^2 = .005$ , and main effect for referral option,  $F(5, 2365) = 384.31, p < .001$ , partial  $\eta^2 = .448$ , were significant.

<sup>a, b</sup> Means with differing superscripts are significantly different at  $p \leq .05$  based on Bonferroni corrected pairwise comparisons.

Table 5

*Means and Standard Deviations for Referral Option Ratings – Difficulty Recovering from Injury*

Referral Option	<i>M</i>	<i>SD</i>
Coach or Assistant Coach	3.48 <sup>c</sup>	1.80
Sports Medicine Physician	4.43 <sup>b</sup>	1.65
Sport Psychology Consultant	5.21 <sup>a</sup>	1.48
Counselor/Therapist	4.45 <sup>b</sup>	1.61
Assist him/her on my own	5.16 <sup>a</sup>	1.34
Do nothing	1.24 <sup>d</sup>	0.73

*Note.*  $N = 467$ . Mean scores range from 1, *Strongly Disagree*, to 7, *Strongly Agree*; higher scores indicating greater likelihood of referral. The 2 (male vs. female ATC) X 6 (professional referral option) mixed design ANOVA indicated the main effect for referral option was significant,  $F(5, 2325) = 534.19$ ,  $p < .001$ , partial  $\eta^2 = .535$ , but the interaction effect,  $F(5, 2325) = 1.51$ ,  $p = .185$ , partial  $\eta^2 = .003$ , was not.

<sup>a, b</sup> Total means with differing superscripts are significantly different at  $p \leq .05$  based on Bonferroni corrected pairwise comparisons.

APPENDIX A  
REVIEW OF LITERATURE

Across the United States, certified athletic trainers (ATCs) play an increasingly pivotal role in health care delivery. Although originally working primarily with athletes, the roles occupied by ATCs have expanded in recent decades. ATCs can now be found in a variety of non-sport settings including, but not limited to, physicians' offices, recreational fitness centers, hospitals, and inpatient rehabilitation facilities (Prentice, 2006). Despite expansion into new professional settings, ATCs continue to be an integral part of sport environments through sports medicine teams that may be comprised of nutritionists, sport psychologists, orthopedic surgeons, strength and conditioning coaches, and/or exercise physiologists (Prentice, 2006). As a team, these professionals aim to prevent, diagnose, and treat athlete injuries or illness and promote the general well-being of the athletes with whom they work. Although all of the aforementioned professionals contribute medicine teams' aims, ATCs often play a unique role because they are often the initial medical contact for athletes. As such, ATCs have increased interaction with athletes and may be in the position to first recognize athletes' distress and healthy concerns, including those that are psychological in origin. Consequently, ATCs are required to understand and recognize psychological disorders, act as referring agents to mental health services (e.g., counseling, sport psychology consultation) when unable to meet an athlete's psychological needs, and integrate psychological skills into rehabilitation protocols to aid in athletes' recovery from injury (NATA, 2011).

Despite emphasis on meeting the psychological needs of athletes, many ATCs report feeling unprepared to integrate psychological skills (e.g., goal-setting, relaxation) into athlete rehabilitation and refer athletes to mental health professionals (Stiller-Ostrowski & Hampton-Utley, 2010; Stiller-Ostrowski & Ostrowski, 2009). Further, academic training programs place little emphasis on psychological aspects of injury in comparison to other domains (e.g., physical

treatment and evaluation; Hamson-Utley & Stiller-Ostrowski, 2011). Although sport psychologists (SPs) have been identified as a potential resource for ATCs, ATCs rarely refer athletes to SPs who may be best prepared to meet the psychological needs of athletes (Misasi, 1998; Wiese, Weiss & Yukelson, 1991). This discrepancy suggests the presence of significant barriers hindering collaboration between ATCs and SPs. Although ATCs' limited access to SPs has been identified as a potential physical barrier to collaboration (e.g., Misasi, Davis, Morin, & Stockman, 1996), few studies have evaluated alternative barriers such as previous experience with SPs or knowledge regarding the roles of SPs. More specifically, attitudes toward general psychological services have been identified as a significant factor influencing an individuals' intention to seek mental health services and physicians' referral behaviors (Beacham, Herbst, Streitwieser, Scheu, & Siber, 2012; Kelly & Achter, 1995). Thus, evaluating ATCs' attitudes toward sport psychology may allow for a better understanding of the barriers obstructing collaboration between ATCs and SPs.

#### Athletic Trainers

*Role of ATCs.* Founded in 1950, the National Athletic Trainers Association (NATA) is the primary professional organization for ATCs in the United States. Among their responsibilities, NATA facilitates national certification, establishes training curriculum standards, and helps define the function and responsibilities of ATCs within the national health care system. As of 2010, the NATA reported a total membership of 35,000 ATCs worldwide and the accreditation of athletic training curricula provided by 325 academic institutions (NATA, 2011). Required to work under the direction of licensed physicians, NATA (2011) defined the role of ATCs as encompassing “the prevention, diagnosis, and intervention of emergency, acute and chronic medical conditions involving impairment, functional limitations, and disabilities” (p.1).

More specifically, practicing ATCs focus on the treatment and rehabilitation of both acute and chronic neuromusculoskeletal and/or medical conditions in order to minimize or prevent impairments or limitations (NATA, 2010).

ATCs often play a unique role in sports medicine teams due to their high level of direct contact with athletes. ATCs, in comparison to other sports medicine professionals (e.g., physicians), regularly attend team practices and competitions, travel with athletes and coaches, administer preventive treatment, and oversee post-injury rehabilitation. Because of their presence at practices and competitions, ATCs often are the first responders when athletes are injured and thus serve as the primary and most immediate health care provider available (Ray & Wiese-Bjornstal, 1999). In many instances, ATCs also serve as liaisons, working to communicate medical information between players, coaches and other affiliated medical personnel (Prentice, 2006). As a result of these roles and extensive contact, ATCs frequently develop strong interpersonal relationships with the athletes and coaches that they serve. Underscoring their importance, athletes often cite ATCs as a significant source of social support following athletic injury and throughout the rehabilitation process (Bone & Fry, 2006; Clement & Shannon, 2011; Robbins & Rosenfeld, 2001).

*ATC education and certification.* Aligned with its definition of athletic training, the NATA has established basic competencies that encompass the minimum body of knowledge and clinical skills required of ATCs. Currently in its 5<sup>th</sup> edition, the Athletic Training Education Competencies document (*ATEC*; NATA, 2011) outlines eight critical content areas: (a) evidenced-based practice (understand and apply research based methods and techniques), (b) prevention and health promotion (implementation of strategies and programs to prevent injury/illness), (c) clinical examination and diagnosis (application of clinical-reasoning to

assimilate data, select appropriate assessments and formulate differential diagnosis), (d) acute care of injury and illness (knowledge and skills associated with the evaluation and immediate management of acute injuries/illness), (e) therapeutic interventions (knowledge and skills related to a range of methods, techniques, equipment, activities and medication used to maximize patient's participation and health-related quality of life), (f), psychosocial strategies and referrals (the recognition of mental health concerns related to injury/illness, utilization of psychological interventions and ability to complete referrals to appropriate mental health professionals), (g) healthcare administration (understanding of healthcare delivery, insurance policies, patient privacy and facility management) and, (h) professional development and responsibility (maintenance of competency relating to development in interventions, healthcare policies, and ethical guidelines). Although NATA encourages ATCs to extend their education and practical experiences beyond these domains, the document serves as the basis for the Commission on Accreditation of Athletic Training Education (CAATE), which accredits athletic training programs (ATPs). Further, the NATA's Board of Certification (BOC), representing the only national certification program for entry-level ATCs, has utilized these eight areas to inform its *Role Delineation Study/Practice Analysis* (RD/PA; BOC, 2010). The *RD/PA* serves to align the roles and responsibilities of working ATCs with the eight essential content areas proposed by the NATA, providing content validity to the NATA's training program requirements and certification examination (Mensch, 2007).

Included in the eight essential content areas is the psychosocial strategies and referral (PIR) competency. Broadly, the PIR domain requires that ATCs demonstrate (a) the ability to recognize clients/patients who exhibit abnormal social, emotional or mental behaviors, (b) the ability to intervene with said clients and make appropriate referrals to mental health



professionals, and (c) appreciate, and utilize, interventions that recognize the connections between mental health, injury and return to participation (NATA, 2011). NATA also delineates the PIR competency into specific skills and knowledge, such as the ability to describe and utilize psychological techniques (e.g., goal setting, relaxation) to motivate clients during injury rehabilitation and to facilitate clients' physical and psychological needs as well as return to activity (NATA, 2011). Additionally, ATCs are required to have an established referral network of mental health professionals consisting of psychologists, psychiatrists, counselors and/or social workers. In developing such a network, ATCs are required to be able to differentiate amongst these professions in order to make appropriate client referrals. To fulfill the PIR competency ATCs must be knowledgeable of potentially beneficial psychological skills as well as the roles of various mental health professions to best assist their clients.

*NATA psychological intervention and referrals competency.* Athletic training by its very nature emphasizes the diagnosis and treatment of the physical aspects of injury (NATA, 2011). Consistent with this emphasis, athletic training education programs (ATEPs) and the BOC's certification examination focuses on educating and testing students' knowledge in these areas (BOC, 2010). Despite an educational and experiential emphasis on the physical prevention and consequences of injury amongst ATCs, in the last decade the athletic training field has acknowledged the importance of considering and being able to respond to athletes' psychological reactions to injury (e.g., Mensch, 2007). For example, Wiese-Bjornstal, Smith, Shaffer, and Morrey (1998) proposed an integrated model of injury that posits that cognitive appraisals (e.g., perceptions of social support or cause of injury) are an essential determinant of emotional (e.g., anger, sadness) and behavioral responses (e.g., adherence to rehabilitation, use of social support) to injury. Subsequently, these behavioral and emotional responses are hypothesized to directly

influence the athlete's recovery outcomes (e.g., return to participation). Although the model has not been fully evaluated and validated, some studies have provided support for components of the model (e.g., Walker, Tatcher, & Lavalley, 2007), which highlights the importance of ATCs having a holistic understanding of athletic injury that extends beyond physical pain or limitations and includes psychosocial responses.

Studies have suggested that the majority of ATCs recognize that there are psychological consequences associated with injury (e.g., Arvinen-Barrow, Hemmings, Weigand, Becker, & Booth, 2007; Larson, Starkey, & Zaichkowsky, 1996). For example, Arvinen-Barrow et al. (2007) surveyed 361 European physiotherapists regarding psychological responses to injury. They found that 99.7% of the physiotherapists believed that athletes were psychologically affected by injury, and that injured athletes experience such psychological distress the majority of the time (~ 83%). Additionally, on a scale from 1, *never* to 5, *very often*, the physiotherapists indicated that athletes experienced stress/anxiety most frequently ( $M = 3.75$ ), followed by exercise addiction ( $M = 3.39$ ), and treatment compliance problems ( $M = 2.81$ ). Using a similar scale, Larson et al. (1996) reported that, based on a sample of 482 ATCs from the U.S., injured athletes were thought to experience stress/anxiety ( $M = 3.92$ ), anger ( $M = 3.48$ ), and treatment compliance problems ( $M = 3.36$ ) most frequently.

To more closely evaluate ATCs perceptions of the importance of the eight competencies, Seiler (2010) surveyed 53 ATEP directors and 88 ATCs. Using a 12-point scale from 1, *most critical*, to 12, *least critical*, he found that both ATCs and ATEP directors believe that the PIR competency was the least critical ( $M = 7.56$ ) of the eight competencies to being an effective ATC. Further, 58.5% of the ATEPs reported that their academic program did not require undergraduate AT students to complete a course in psychosocial aspects of athletic training or injury. These

studies' findings suggest that ATCs are not only aware of athletes' psychological responses to injury but they encounter these conditions regularly in their practice. Unfortunately, many ATCs do not believe that the PIR competencies are that important to their role and few have opportunities, at least at the undergraduate level, to receive training in this area.

*ATC psychological skill use.* Recognition of psychological aspects of injury carries significant implications for the clinical practice of ATCs. Notably, NATA specifies that not only should ATCs be able to describe beneficial mental skills, but they should also be able to implement and teach psychological strategies (e.g., goal-setting, relaxation) to athletes. These psychological interventions may be aimed at improving rehabilitation outcomes (e.g., shortened duration), enhancing compliance to a rehabilitative program, or facilitating performance during return to play. ATCs have indicated that several psychological strategies, including goal-setting (e.g., Brewer, Jeffers, Pepitas, & Van Raalte, 1994), relaxation (e.g., Durso-Cupal, 1998), imagery (e.g., Cupal & Brewer, 2001) and positive self-talk (e.g., Ievleva & Orlick, 1991), are beneficial in athletes' rehabilitation from injury and facilitate adherence to rehabilitation programs.

Wiese, Weiss, and Yukelson, (1991) surveyed 115 ATCs regarding the perceived effectiveness of psychological skills in the treatment of athletic injuries. On a five point scale, ATCs reported that the three most important techniques to use when treating athletic injuries were being skilled in interpersonal communication skills ( $M = 4.53$ ), positively reinforcing the athletes' behaviors ( $M = 4.50$ ), and encouraging the coach to support the athlete ( $M = 4.49$ ). Relaxation ( $M = 3.45$ ) and visualization ( $M = 3.44$ ) techniques were rated as the least important. In a study evaluating the use of mental skills (i.e., visualization, thought stoppage, relaxation, goal setting), Stiller-Ostrowski and Hampton-Utley (2010) found that, in a sample of 1701 ATCs,

80.2% reported using goal-setting in the treatment of athletic injury at least half of the time. However, the ATCs used other mental skills far less often: 24.0% ( $n = 408$ ) taught cognitive restructuring techniques, 17.4% ( $n = 296$ ) employed relaxation techniques to manage pain during rehabilitation, and 9.5% ( $n = 162$ ) used visualization scripts. Although these psychological techniques (e.g., goal-setting, relaxation, imagery) have been identified as beneficial in the treatment of athletic injuries (Brewer et al., 1994; Cupal & Brewer, 2001; Durso-Cupal, 1997; Ievleva & Orlick, 1991), these studies suggest that ATCs may not perceive these techniques as effective and thus rarely use them during rehabilitation.

Kamphoff, Hamson-Utley, Antoine, Knutson, Thomae, and Hoenig (2010) studied the perceived effectiveness of psychological skills in a sample of 180 athletic training students. Generally, students recognized the psychological consequences of athletic injury ( $M = 4.67$  out of 5) and found it important to treat both the physical and psychological aspects of injury ( $M = 4.47$ ). As for their perceptions of the effectiveness of psychological skills (i.e., mental imagery, positive self-talk, goal setting, pain tolerance), on a 7-point scale, students reported generally positive views toward psychological interventions as effective tools in aiding recovery from injury. Specifically, students reported greater belief in the effectiveness of goal-setting ( $M = 6.07$ ) in aiding athlete rehabilitation in comparison to pain management strategies (e.g., relaxation;  $M = 5.71$ ), positive self-talk ( $M = 5.67$ ), and imagery ( $M = 5.11$ ). Further, perceptions of psychological skill effectiveness did not differ based on students' year in school (e.g., junior, senior, master's). The majority of students (90.6%;  $n = 163$ ) reported being interested in learning more about the utility of psychological skills in treating injured athletes. In comparison to professional ATCs (Hamson-Utley, Martin, & Walters, 2008), the students' views of psychological skills in injury rehabilitation were less positive suggesting that post-professional

experiences (e.g., continuing education, practical experiences) may increase positive attitudes and a belief in their effectiveness.

*ATCs' perceived preparedness in PIR.* Despite PIR being one of the eight designated competencies for ATCs, a number of studies have found that both entry-level and experienced ATCs feel underprepared to implement psychological strategies or complete psychological referrals in their work with athletes (Misasi, 1998; Misasi et al., 1996; Moulton, Molstad & Turner, 1997; Stiller-Ostrowski & Hamson-Utley, 2010; Stiller-Ostrowski & Ostrowski, 2009). For example, in a qualitative study of 11 entry-level ATCs representing 11 different academic institutions, Stiller-Ostrowski & Ostrowski (2009) found that the ATCs felt unprepared to make referrals to mental health professionals (e.g., psychiatrists, counselors), utilize basic counseling skills (e.g., active listening), and teach athletes mental skills relevant to injury rehabilitation (e.g., imagery, relaxation, stress management). One ATC's description illustrated the feeling of not being adequately trained, "Everybody just kind of touched on it and said that you won't have to deal with it very much...but at small schools and high schools it's just going to be you dealing with it" (p.71). Not surprisingly, ATCs who reported feeling more prepared in these areas indicated that their training programs utilized role-plays and case discussions. Consistent with these results, Misasi et al. (1996) found that the majority of entry level ATCs in their sample felt confident in their clinical and academic preparation to counsel athletes regarding injury prevention (86%;  $n = 77$ ), rehabilitation (83%;  $n = 75$ ), and nutrition (62%;  $n = 56$ ), but far fewer felt prepared to discuss or intervene with issues such as drug use/abuse (41%;  $n = 37$ ), relationship issues (21%;  $n = 19$ ), and suicide (8%;  $n = 7$ ).

Using a sample of 128 undergraduate athletic training program directors (PDs), Hamson-Utley and Stiller-Ostrowski (2011) assessed their methods and confidence in the educational

experience provided to their students with regards to the PIR competency. When asked to rank the competencies by instructional importance (1, *most emphasis*, to 8, *least emphasis*), PDs ranked the PIR competency as the content area with the lowest instructional emphasis in their academic program ( $M = 6.80$ ). Further, 33.8% of the PDs indicated that there was no designated course offered within their program that could fulfill the entirety of the PIR competency; most training programs (71%) fulfilled the academic requirements for the PIR competency through a variety of non-core courses, such as sport and exercise psychology, introduction to psychology, and health psychology. In these courses, PDs reported that the primary methods of instruction were lecture (82.8%) or discussion (48.9%); few of the courses (21.8%) used role-playing or other active education methods (e.g., case studies). Consistent with the reported experience of entry-level ATCs (Miasi et al., 1996; Stiller-Ostrowski & Ostrowski, 2009), PDs whose programs utilized more practical training (e.g., role playing) and assessment (e.g. clinical observation) methods to fulfill and train students in the PIR competency reported greater confidence in their students' abilities in this area.

Several studies have examined the influence of educational courses in the psychology of injury that emphasize psychological skills with athletic training students (ATs; Harris, Demb, & Pastore, 2005; Stiller-Ostrowski, Gould, & Covassin, 2009). Stiller-Ostrowski, Gould, and Covassin (2009) conducted a six-week "Applied Sport Psychology for Athletic Trainers" course, ultimately testing its effect on knowledge of the psychological aspects of injury, psychological skills that can be used in rehabilitation, and the use of such skills in practice. Knowledge tests and skill usage surveys were administered prior to the start of the course (baseline), and both at the midpoint and conclusion of the course. Knowledge tests were designed to evaluate students' retention of course content (e.g., "List two strategies for dealing with noncompliant or difficult

athletes”) whereas skill usage surveys assessed students’ use psychological skills and interventions (e.g., relaxation, goal-setting) in their interactions with athletes (e.g., “I teach and encourage my athletes to use relaxation techniques during injury and rehabilitation”). Students in the intervention group completed additional knowledge tests and were re-administered usage surveys at seven and fourteen weeks following completion of the course. Course content was informed by the NATA’s PIR competency and included (a) antecedents and consequences of athletic injury, (b) communication, (c) social support, (d) motivation, and (e) psychological skills that may benefit physical rehabilitation (e.g., relaxation, imagery), to name a few. Students who completed the course reported significant retention of knowledge obtained during the course and maintained skill use 14 weeks following the completion of the course. At 14 weeks post completion, the intervention group showed a 170% increase in knowledge of psychological aspects of sport injury over baseline as well as a 25% increase in psychological skill usage.

Harris, Demb and Pastore (2005) investigated changes in 19 athletic training students’ attitudes following completion of a 10-week course addressing psychological aspects of injury. They found significant changes in students’ awareness of psychological responses to injury, particularly with regard to influence on sport participation (e.g., timing of injury in season), social relationships (e.g., social support), and academic performance (e.g., academic persistence following injury). Based on follow-up interviews with participants, students reported being more empathetic (e.g., “actually getting to know the individual so that you can make better decisions about the individual”, p.107) and supportive (e.g., “let them know they are doing what they need to be and they are doing a good job so they don’t get frustrated”, p.106) in their work with injured athletes. These studies (Harris et al., 2005; Stiller-Ostrowski et al., 2009) suggest that although ATCs generally feel unprepared to successfully fulfill the roles and responsibilities

outlined in the PIR competency, when they are provided with academic and practical opportunities for training in this area they report an increase in knowledge, confidence, and skill use.

*ATC referrals to mental health professionals.* When confronted with psychological issues beyond their training (e.g., suicidality, substance abuse), the PIR competency emphasizes ATCs' ability to initiate and complete referrals to appropriate mental health professionals (NATA, 2011). As ATCs may be the most consistent medical professional with whom athletes have contact, ATCs may be the first to identify athletes' psychological distress and be in the position to facilitate athletes' use of psychological services. Lemberger (2007) suggested that effective psychosocial referrals require ATCs to (a) identify the client's psychosocial need and contributing variables (e.g., life stressors), (b) evaluate potential referral sources, (c) prepare one's self, the patient and specialist for the impending referral, (d) coordinate the referral, and (e) follow through with athlete and specialist to ensure continuity of care. By completing psychological referrals within this framework, Lemberger suggests ATCs can fulfill PIR requirements and facilitate holistic rehabilitation of their athletes.

Despite an emphasis on completing effective psychosocial referrals, research regarding ATC referral behaviors remains limited. In a study of 90 physiotherapists, Hemmings and Povey (2002) reported that fewer than 9% of the physiotherapists had previously completed a referral to either a counselor or sport psychologist for assistance. Additionally, only two maintained a written procedure for psychological referrals. Similarly, in a sample of 482 ATCs, Larson et al. (1996) found that 23.9% reported making previous referrals to mental health professionals for counseling following injury and did so in only 8.2% of the cases that they saw; however, 9% of ATCs indicated having a written or structured method for making referrals, a finding that is



consistent with more recent research (Arinven-Barrow et al., 2007). These studies suggest that although psychosocial referrals have been identified as an essential component of fulfilling the PIR competency, few ATCs complete or are prepared for such referrals.

Of the many mental health professions (e.g., psychiatrist, counselor), none may be more capable of assisting athletes than sport psychologists (SPs). Dependent on academic and clinical training, SPs can provide a wide range of services to athletes including performance enhancement (e.g., emotion regulation during competition), treatment of psychological disorders (e.g., depression, anxiety), interpersonal concerns (e.g., problems with significant other), and management of psychological responses to injury (e.g., return to play anxiety). Consequently, SPs can serve as an important resource for ATCs, particularly when dealing with athletes who may be experiencing issues outside of the ATCs' areas of competence. However, in a study of collegiate ATCs' referral practices, Misasi et al. (1996) found that 27% reported "always" referring athletes to counselors on campus, just over half (52%) said they would rarely refer to SPs. Infrequent referrals to SPs, such as those reported by Misasi et al. (1996), may reflect ATCs' lack of access to sport psychology services. For example, the percentage of ATCs (and physiotherapists) with regular access to SPs has ranged from 15.5% to 25.3% (Arinven-Barrow et al., 2007; Hemmings & Povey, 2002; Larson et al., 1996), suggesting that the majority of ATCs' referral behaviors may be reflect a lack of access.

ATCs play an integral role in fostering the physical and mental well being of athletes. Although many ATCs recognize the importance of psychological responses to injury, they likely do not feel capable or prepared to counsel athletes or integrate potentially beneficial psychological skills (e.g., goal-setting, relaxation) into the rehabilitation process. Explanations for the discrepancy between ATCs' recognition of psychological responses and integration of

psychological skills have focused solely on ATCs' lack of educational and practical experiences. However, Stiller-Ostrowski et al. (2009) noted that although students who recently completed a course in psychological aspects of injury demonstrated a 170% increase in knowledge 14 weeks following course completion, there was only a moderate increase in skill usage (25%). Such findings indicate that although educational courses may increase ATCs' knowledge of psychological skills they may not lead to large scale changes in integrating and implementing such skills in their daily work with athletes. Consequently, future research may focus on alternative barriers that contribute to the discrepancy between recognition of psychological responses to injury and the use of psychological skills in the rehabilitation process.

In situations where ATCs feel unprepared to meet the psychological needs of their athletes, the NATA's psychosocial competency requires ATCs to make referrals to mental health professionals (e.g., psychiatrists, counselors). Yet, research has suggested that ATCs rarely refer athletes for psychological services during rehabilitation. Further, ATCs have indicated that they rarely refer athletes to SPs who may be best prepared to meet the unique psychological needs of athletes. Some researchers have suggested that ATCs' low frequency of referrals to SPs likely reflects a lack of access to sport psychology services (Arinven-Barrow et al., 2007; Hemmings & Povey, 2002; Larson et al., 1996). However, studies in this domain remain limited and have yet to explore additional factors that may act as barriers between ATCs and SPs, ultimately leading to a lack of integration between the psychological and physical needs of injured athletes.

#### Beliefs and Attitudes toward Psychological Services

Over the course of the last five decades, a number of variables have been investigated to determine factors influencing individuals' willingness to engage in help-seeking behaviors, and specifically their willingness to seek psychological help. Willingness to seek psychological help

has received increased attention following a number of studies that suggest those suffering from psychological issues (e.g., depression, anxiety) are unlikely to seek help from mental health professionals (Kohn, Saxena, Levav, & Saraceno 2004). One variable that has been identified consistently as a potential factor influencing help-seeking behavior is an individual's attitude toward psychological services. The importance of attitudes toward specific behaviors originates from the Theory of Planned Behavior (TPB; Ajzen, 1991), which attempts to explain how and why individuals engage in deliberate behaviors. Within this framework, an individual's intentions to engage in a behavior are influenced by (a) attitudes toward the specific behavior (i.e., degree to which performance of the behavior is valued), (b) perceived behavioral control (i.e., perceived difficulty associated with performing the behavior), and (c) subjective norms (i.e., how significant others would judge the behavior; Ajzen, 1991; Ajzen, 2012; Ajzen & Fishbein, 1973). Further, TBP posits that individuals will be most likely to engage in behaviors when they believe the behavior is easy to perform, is positively valued and will lead to positive judgments from significant others.

Based on TPB, attitudes toward specific behaviors are a predictive component of individuals' intentions, subsequently determining their decision to engage, or not engage, in a specific behavior; more positive attitudes leading to a greater likelihood of engaging in a specific behavior (Ajzen & Fishbein, 1977). Broadly, attitudes toward a specific behavior have been hypothesized to reflect a combination of one's behavioral beliefs (i.e., consequences of behavior) and outcome evaluations (i.e., importance or value associated with these consequences).

Numerous empirical studies have found individuals' attitudes toward specific behaviors are related significantly with their engagement in behaviors including gambling (Martin et al., 2010), risky sexual behaviors (Albarracín, Johnson, Fishbein, & Muellerleile, 2001; Turchik & Gidycz,

2012), recycling (Nigbur, Lyons, & Uzzell, 2010), and binge drinking (Collins & Carey, 2007; French & Cooke, 2012). These findings suggest that behavior specific attitudes may provide a greater understanding of why individuals ultimately engage in deliberate behaviors.

Based on the theoretical assumptions and empirical validity of TPB, attitudes toward psychological services have become an important construct in exploring why individuals may or may not seek mental health services. Fischer and Turner (1970) suggested that the interaction between beliefs and outcome evaluations related to mental health would be reflected in four primary facets: (a) recognition of personal need for professional help, (b) tolerance of stigma commonly associated with psychotherapy, (c) interpersonal openness regarding one's problems or concerns, and (d) confidence in the ability of the psychological professional to be of assistance, ultimately determining one's attitudes toward psychological services. Based on this conceptualization, attitudes toward psychological help could reflect a combination of all four facets or could be explored as separate factors that might enhance or inhibit one's willingness to seek psychological services. For example, Masuda and Boone (2011) used a sample of 466 undergraduates to explore cultural differences in attitudes toward psychological services using the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPHS; Fischer & Turner, 1970), a measure consistent with Fischer and Turner's multidimensional conceptualization. The ATSPPHS includes four subscales, (a) recognition of need, (b) stigma tolerance, (c) interpersonal openness, and (d) confidence in psychological professional as well as a general attitude score. In comparison to European American students, Masuda and Boone (2011) found that Asian American students held more negative general attitudes toward psychological services as measured by lower overall ATSPPHS scores. However in a similar study, Masuda et al. (2009) assessed cultural differences in attitudes toward psychological

services using ATSPPHS subscales. Results indicated that Asian American and African American students reported lower stigma tolerance than Caucasian students and Asian American students expressed less confidence in the benefits of psychological services than both African American and Caucasian students. These studies (Masuda & Boone, 2011; Masuda et al., 2009) provide empirical validity for the multidimensional conceptualization of attitudes toward psychological services proposed by Fischer and Turner (1970).

Consistent with the TPB framework, a number of studies have found that attitudes toward psychological services represent a significant predictor of help-seeking intentions (Kelly & Achter, 1995; Cepeda-Benito & Short, 1998). For example, Cepeda-Benito and Short (1998) utilized the ATSPPHS (Fischer & Turner, 1970) to assess undergraduates' ( $n = 732$ ) attitudes toward psychological services and their reported likelihood of seeking services across three different problem areas (i.e., interpersonal concerns, academic concerns, and drug use concerns). Results indicated that individual's attitudes toward psychotherapy was the only significant predictor of intention to seek help across all three problem areas (interpersonal  $\beta = .41$ , academic  $\beta = .17$ , drug use  $\beta = .17$ ); perceived social support and psychological distress were not significant predictors of help-seeking. Further, in a sample of 260 undergraduates Kelly and Achter (1995) found that the students who held positive attitudes toward psychological services were likely to seek counseling if needed ( $\beta = .40$ ). In summary, these studies suggest that to better understand individuals' intentions to seek psychological services, it is important to assess their attitudes toward such services.

#### Factors influencing attitudes toward mental health services.

*Gender.* Gender has been related to attitudes toward psychological or mental health services (e.g., Ang, Lim, Tan, & Yau, 2004; Atik & Yalcin, 2011; Gonzalez, Alegria, Prihoda,

Copeland, & Zeber, 2011; MacKenzie, Gekoski, & Knox, 2006; Morgan, Ness & Robinson, 2003; Vogel & Wester, 2003); women consistently report more favorable attitudes toward psychological services and greater intentions to seek psychological help than men. For example, Gonzalez et al. (2011) conducted a study utilizing data from the National Comorbidity Survey Replication (NCS-R), a national database that includes items broadly assessing attitudes toward psychological services (e.g., “How comfortable would you feel talking about personal problems with a professional?”). Based on their sample of 5691 (3309 women; 2383 men), they found that male participants were less likely to express a willingness to seek help and held more negative beliefs about the usefulness of psychological services than did the women. In a meta-analysis of studies using college-aged samples ( $n = 14$ ), Nam et al. (2010) reported a significant weighted effect size ( $r = .17$ ) for gender; across the studies women had more positive attitudes toward psychological services than did men.

Research also has indicated that men use psychological services less frequently than women (Bertakis et al., 2000; Carragher, Adamson, Bunting & McCann, 2010; Rhodes, Goering, To, & Williams, 2002; Yorgason, Linville, & Zitzman, 2008; Wang et al., 2005). Such behavioral findings align with TPB; men’s more negative attitudes toward psychological services are associated with them seeking help less frequently than women. Explanations for observed gender differences have focused primarily on the influence of socialized gender roles (Addis & Mahalik, 2003). Foundational components of psychological services and psychotherapy, such as interpersonal openness, expression of emotion, and seeking help are often viewed as inconsistent with traditional masculine ideologies and may be perceived as feminine (Addis & Mahalik, 2003). Engaging in behaviors viewed as inconsistent with traditional masculine gender roles may create internal (e.g., anxiety, depression) or interpersonal (e.g., social isolation) conflict for men

(Berger, Levant, McMillan, Kelleher, & Sellers, 2005; O'Neil, 2008). Consistent the perception of psychotherapy as feminine, men are more likely to perceive being stigmatized if they engage in psychological services than women (Martin, Wrisberg, Beitel, & Lounsberry, 1997; Pepin, Segel, & Coolidge, 2009) and report being less willing than women to endure stigmatization associated with seeking psychological help (MacKenzie, Knox, Gekoski, & Macaulay, 2004), resulting in a significant psychosocial barrier to receiving psychological help.

*Age.* Results of studies investigating the relationship between age and attitudes toward mental health services have been equivocal (Currin, Hayslip, & Temple, 2011; Gonzaelez et al., 2005; Mackenszie et al., 2006; Robb, Haley, Becker, Polivka, & Chwa, 2003). For example, several studies assessing only the attitudes of older adults indicated that participants generally held negative views toward mental health services (Lundervold & Young, 1992; Waxman, Carrier, & Klien, 1984). However, more recent studies have compared attitudes between older and younger adults to assess the potential relationship between age and mental health attitudes. For example, Mackenzie et al. (2006) reported a relationship between age and views of mental health services, such that positive views toward mental health services were found to increase with age. Additionally, older adults (65+) supported taking steps to improve mental health more so than young adults (21-65), but fewer older adults supported seeking professional help (e.g., counselor, psychologist, psychiatrist) than younger adults. These findings suggest that although older adults value and want to improve their mental health, they may be more likely than younger adults to seek assistance from informal sources (e.g., friends, family members; Cobb et al., 2003). Notably, there were no significant differences between age groups with regards to the importance of access to mental services. Similarly, Pepin, Segal, and Coolidge (2009) found no significant differences between young and old adults in regards to stigma attached to

psychotherapy although younger adults endorsed greater fear of psychotherapy than older participants.

More recently, Currin, Hayslip and Temple (2011) suggested that broad attitudes between age groups have changed over the last several decades. Using a time-lagged longitudinal design, authors surveyed older adults' attitudes toward psychotherapy in 1977, 1991 and 2001. Younger adults were surveyed at two data points: 1991 and 2000. The use of a time-lagged design allowed for the evaluation of historical changes and age differences across time thus evaluating changes in attitudes of similar age groups at different historical points. Older adults surveyed in 1991 and 2000 demonstrated more positive attitudes toward mental health services than those in 1977; differences between 1991 and 2001 were not statistically significant. Consequently, although older adults may have adopted more positive attitudes toward mental health over time, these changes may have stabilized. Additionally, differences between younger and older adult participants were limited, suggesting that older adults may not hold significantly different attitudes toward mental health when compared to younger adults as previous studies have suggested.

Although age has been identified as a variable of interest in relation to attitudes toward mental health services, empirical results exploring this relationship have been equivocal. Initial studies that explored the age-attitudes relationship suggested that psychological services may not be congruent with traditional values that emphasized independence and self-reliance (e.g., Estes, 1995). Further, a number of studies found that older adults had more negative view toward seeking services from mental health professionals than younger adults, frequently citing differences in stigma tolerance; older adults being less willing to endure stigma associated with psychological services (Lundervold & Young, 1992; Waxman et al., 1984). However, more



recent studies have identified a lack of age differences with relation to stigma tolerance and suggested that older adults actually may hold more positive views of mental health than younger adults (Currin et al, 2011; Pepin et al., 2009). Several researchers have indicated that the lack of age differences in recent studies may reflect a historical shift in the availability and acceptance of psychological information (e.g., news stories, pop culture, technology; Currin et al., 2011), yet others have suggested that due to extended lifespans, older adults are now more willing to abandon traditional values emphasizing self-reliance and independence as a means to better physical health (Mackenzie et al., 2006). In light of the equivocal findings regarding the relationship between age and attitudes toward mental health services, future studies may help clarify this relationship as well as explore the effects of different contextual factors (e.g., different occupations, specialties within psychology).

*Previous exposure.* In addition to demographic factors (e.g., age, gender), researchers have shown that previous exposure to psychological services are related significantly to positive attitudes toward mental health treatment (Fischer & Turner, 1970; Kahn & Williams, 2003; Kakhnovets, 2011; Mackenzie et al., 2006; Vogel & Wester, 2003). Using a sample of undergraduates (215 men; 196 women), Kakhnovets (2011) found that students who had previous experience with psychotherapy reported more positive attitudes toward receiving psychological services than those who did not. Further, Mackenzie et al. (2006) used demographic and personality variables to predict intentions to seek psychological help. Previous experience with psychological services was a robust predictor of attitudes toward seeking psychological help and accounted for a greater amount of variance than participant age or education. A significant relationship between previous psychological experience and current

attitudes toward psychological services has been supported by additional studies in samples of South African and American undergraduates (Atik & Yalcin, 2011; Vogel & Wester, 2003)

A recent study examined the effectiveness of a media-based intervention that contained repeated exposures to positive counseling experiences on increasing individuals' positive attitudes toward mental health services (Kaplan, Vogel, Gentile, & Wade, 2011). The researchers used a repeated measures design, and included a control group (no video intervention), single viewing group, and a repeated viewing group. An intervention video was compiled using clips from a reality television show involving counseling sessions. Members of the intervention groups (single viewing and repeated viewing) observed clips that provided positive information about counseling services, and positive interactions between clients and therapist; control group members viewed clips from the same series but none of the clips alluded to its focus on psychotherapy. Individuals in the repeated exposure group demonstrated significantly greater positive attitudes toward mental health services in comparison to their own baseline measures as well as to the control and single viewing groups. Notably, the observed differences between the repeated viewing group and the single viewing groups did not become significant until after the repeated measures group had seen the intervention video multiple times. These findings suggest that exposure to positive information about and demonstrations of psychological services can help to improve attitudes toward mental health services.

*Attitudes and referrals.* In contemporary health systems, general practitioners (GPs) or primary care physicians (PCPs) often serve as the primary medical contact for those who are sick or injured; mirroring the role of ATCs in sport environments. Similar to ATCs, these professionals are in a position to identify mental health concerns and may act as gatekeepers to specialized health services such as physical therapy, medical specialists, and mental health

professionals. Because of their gatekeeper role in the general health care system, a number of studies have investigated the attitudes of GPs and PCPs toward mental health services (e.g., Brazeau, Rovi, Yick, & Johnson, 2005; Kainz, 2002; Kessler, 2005; Pryor & Knowles, 2001).

Studies evaluating PCPs' attitudes toward mental health services, though, have been limited and have yielded mixed results. Some studies have indicated that physicians view psychological services as important components to effective primary care (e.g., Brazeau, et al., 2005; Pryor & Knowles, 2001), whereas others have pointed to significant stigma attached to the inclusion of psychological services in primary care settings (e.g., Kessler, 2005). Further, several studies have indicated that medical students acknowledge stigmatizing individuals suffering from psychological disorders and tend to view those patients less favorably (Aker, Aker, Boke, Dundar, Sahin, & Peksen, 2007; Byrne, 1997; Kassam, Glozier, Leese, Loughran, & Thornicroft, 2011). However, using qualitative methods to explore the potential barriers to the physician-psychologist collaboration, Kainz (2004) identified attitudinal resistance as a significant barrier to medical collaboration. Resistance often reflected physicians' uncertainty of therapeutic approaches (e.g., "You do not know, because somebody has a certain degree, very much about their approach or really anything else", pp.170-171) and lack of confidence in the benefit of psychological services (e.g., "I think that the tools that psychologists use focus people inwards towards themselves and just perpetuate the problem", p. 171). Further, the author noted attitudinal differences among physicians who referred to psychologists regularly and those who did not, reporting that physicians in the low referral group "hinted at the end that their opinion of psychological treatment was not high" (p.171) and those who referred with greater frequency "had no difficulty listing favorable aspects of the psychology department" (p.171).

Although the data related to physicians' attitudes toward mental health services remains limited (Pryor & Knowles, 2001; Trude & Stoddard, 2003), PCP attitudes and perceptions of psychological services are likely key variables influencing willingness to refer patients to psychological services (e.g., counselor, psychiatrist). A majority of the studies in this domain have focused on attitudinal differences between physicians in integrated health settings (e.g., psychologist housed within medical complex) and independent physicians (Beacham, et al., 2012; Westheimer, Steinley-Bumgarner, & Brownson, 2008). Such studies have found that physicians with more favorable views of, and access to, psychological services provide referrals more frequently than those with more negative views and less access to psychological service providers (Beacham et al., 2012; Westheimer et al, 2008). Consistent with these findings, Pryor and Knowles (2001) found that attitudes toward psychological services (e.g., social stigma, professional competency) accounted for 27% of the variance in physicians' referral rates; physicians who viewed seeing a psychologist as stigmatizing and questioned the competency of mental health professionals were less likely to make referrals.

Explanations for physicians' referral practices and attitudes toward mental health professionals have focused on a lack of knowledge and training about psychological services (e.g., Beacham et al., 2012). Grenier, Chomienne, Gaboury, Ritchie and Hogg (2008) found that only 59% of the Canadian family physicians surveyed were aware that psychologists held doctorates and fewer than half (49%) were aware of the legal necessity for advanced training in psychotherapy. Only 33% of the physicians indicated that psychologists were qualified to formulate and communicate diagnoses. Such findings are consistent with studies that have shown that a lack of knowledge about psychological services can be a significant barrier to

collaboration (Kainz, 2004; Sigel & Lieper, 2004) and an important component of physician's referral behaviors (Beel, Gringart, & Edwards, 2008).

#### Attitudes toward sport psychology.

*Athletes.* Athletes frequently serve as the primary population with which SPs work, making their attitudes toward, and perceptions of, sport psychology salient. However, previous studies have found that athletes, in comparison to non-athletes, report more negative attitudes toward psychological services (e.g., Watson, 2005). Specifically, athletes report lower stigma tolerance (less willing to endure potential stigma associated with seeking services) than non-athletes, which is consistent with the perceived stigma attached to athletes who had utilized sport psychology, or general psychological services (Linder, Brewer, Van Raalte, & DeLange, 1991; Linder, Pillow, & Reno, 1989; Martin et al., 1997; Van Raalte, Brewer, Brewer, & Linder, 1992). Athletes have expressed concern that others (e.g., coaches, teammates, fans) would perceive them as weak, or suffering from a psychological disorder should they seek the assistance of a SP (Williams, 2003). Further, one athlete discussed how athletes and others involved in sport environments may not differentiate sport psychology from other psychological services: “the term sport psychologist has sport in front of it but they really wouldn't think of anything being different than a regular psychologist” (Williams, 2003, p. 29).

Gender has been identified as a demographic variable of interest in relation to athletes' attitudes toward sport psychology. Similar to what occurs among non-athletes, male athletes have endorsed less positive views toward sport psychology than female athletes (Martin, 2006; Wrisberg et al., 2010). Several of these studies have pointed directly to the role of stigmatization in accounting for such differences. For example, Martin (2005) explored high school and college athletes' views and attitudes toward sport psychology consultation using the Sport Psychology

Attitudes–Revised form (SPA-R; Martin, Kellmann, Lavalley, & Page, 2002). Male athletes were more likely to stigmatize sport psychology consultants than their female counterparts and endorsed more negative attitudes toward sport psychology. Male athletes’ tendency to view sport psychology services as stigmatizing is consistent with other studies that have suggested that male athletes maintained more negative attitudes toward sport psychology services (e.g., lack of confidence in consultation, lack of openness to services) and reported being less willing to seek sport psychology consultation for performance related concerns (e.g., communicating with coaches, managing emotions during competitions; Anderson, Hodge, Lavalley, & Martin, 2004; Wrisberg et al., 2010).

An additional variable of interest regarding athletes’ attitudes toward, and perceptions of, sport psychology has been access to, or previous experience with, sport psychology professionals. Athletes who have had previous experience with sport psychology professionals are more likely to endorse positive attitudes toward consultation as well as express a greater willingness to seek future consultation (Lubker et al., 2012). Anderson et al. (2004) investigated attitudes of New Zealand athletes and found that those who had previous contact with SPs reported higher confidence in sport psychology consultation and higher levels of stigma tolerance (more willing to endure stigma) than those without prior sport psychology experience. Similar findings have been observed in other populations such as NCAA Division I athletes (Wrisberg et al., 2010), elite rugby players (Green, Morgan, & Manley, 2012), and American high school and collegiate athletes (Martin, 2006).

Broadly, studies have indicated that athletes often report more negative views towards psychological services than non-athletes (Watson, 2005; 2006). Research exploring athletes’ specific attitudes toward sport psychology has suggested that athletes may not differentiate SPs

from other mental health professions (e.g., counselors, psychiatrists). Subsequently, athletes are likely to stigmatize athletes who seek sport psychology consultation. Perceived stigma associated with seeking assistance from a SP is often more salient for male athletes in comparison to female athletes because characteristics of psychological services may be inconsistent with traditional masculine norms; a finding consistent with literature in non-athlete populations. Further, athletes who reported previous experience with SPs generally held more positive views towards sport psychology consultation, including greater belief in its effectiveness and a higher stigma tolerance. The identification of gender and previous experience as significant factors influencing athletes' attitudes toward sport psychology suggests that future studies exploring similar constructs in other populations would benefit from the inclusion of these variables.

*Athletic administrators.* In many athletic environments, particularly those at the amateur level, athletes are unable to dictate who comprises their training staff. In such instances, coaches and/or athletic administrators' may act as gatekeepers to sport psychology or mental health services because they are likely to control funding and have the ability to hire personnel. A number of studies have examined the perceptions of sport psychology from administrators, such as collegiate athletic directors (ADs; Kornspan & Duve, 2006; Voight & Callaghan, 2001; Wilson, Gilbert, Gilbert, & Sailor, 2009; Wrisberg, Withycombe, Simpson, Loberg, & Reed, 2012). In a study of 96 National Collegiate Athletic Association (NCAA) Division I ADs, Voight and Callaghan (2001) discovered generally indifferent views toward sport psychology consultants; almost half of the universities who stated that they currently did not use SPC services also indicated that they would not be pursuing such services in the future. Common reasons given for not utilizing SPC included a lack of funding, seeking similar services elsewhere on campus (e.g., counseling center), and a lack of "positive results." A significant

percentage (37%) of universities using SPCs indicated that these positions were hired by an individual coach and received only part-time pay.

More recent studies have found that ADs maintain more positive attitudes toward SPC, especially with regards to SPCs' ability to enhance performance by helping athletes perform under pressure, improve mental toughness, build confidence, and aid in emotion management during competition (Wilson et al., 2009; Wrisberg et al, 2012). Although ADs generally acknowledge that consultations are potentially beneficial, Wilson et al. (2009) found that only 23.6% of ADs surveyed reported working directly with an SPC, lower than the 53% of ADs surveyed by Voight and Callaghan (2001). These studies (Wilson et al., 2009; Voight & Callaghan, 2001) also suggested that ADs viewed SPC services as less important than physical components of training, would pay SPCs lower salaries than other members of a sports medicine team (e.g., head strength and conditioning coach), and felt less confident in SPCs' ability to manage or provide benefits for athlete issues outside of the sporting context (Kornspan & Duve, 2006; Wilson et al., 2009; Wrisberg et al., 2012). Across these studies, many ADs remain hesitant to employ SPCs on a full-time basis.

*Coaches.* Coaches, similar to athletic administrators, are often positioned to request sport psychology services for athletes or themselves (Birrer, Wetzel, Schmid, & Morgan, 2012). Further, coaches have been identified as a population of interest because gaining their acceptance or confidence may facilitate greater consultation effectiveness (Fifer, Henschen, Gould, & Ravizza, 2008). In fact, athletic administrators frequently report leaving the decision to utilize sport psychology consultation at the discretion of individual coaches (Voight & Callaghan, 2001).

Despite acknowledgment of their position as potential gatekeepers to SPC, a relatively limited number of studies have attempted to evaluate coaches' attitudes toward and perceptions



of sport psychology (Johnson, Andersson, & Fallby, 2011; Nelson, 2008; Orlick & Partington, 1987; Partington & Orlick, 1987; Wrisberg, Loberg, Simpson, Withycombe, & Reed, 2010; Zakrajsek & Zizzi, 2007; Zakrajsek, Martin, & Zizzi, 2011). Initial studies focused on elite level coaches and were primarily qualitative in nature (Orlick & Partington, 1987; Partington & Orlick). These studies suggested that coaches tended to maintain positive attitudes toward consultants and sport psychology services, particularly if they observed tangible benefits (e.g., more consistent performance). However, these studies also noted that several coaches interviewed expressed negative attitudes toward SPs, particularly as it related to the stigmatization of athletes interested in consulting; “If one of my athletes needs a sport psychologist, I don’t want that athlete on my team” (Partington & Orlick, 1987, p. 101).

More recent literature has expanded to include the attitudes of high school (e.g., Zakrajsek, Martin, & Zizzi, 2011), collegiate (e.g., Wrisberg et al., 2010), and professional level (e.g., Johnson, Andersson, & Fallby, 2011) coaches. Using a large sample of NCAA coaches ( $n = 815$ ), Wrisberg et al. (2010) found generally positive attitudes toward the use and effectiveness of SPC, particularly for performance-related concerns (e.g., building confidence, managing emotions during competition, improving focus). Additionally, a majority of coaches surveyed (84.5%) indicated that they were in favor of making sport psychology consultation services available to their athletes. These generally positive attitudes were corroborated in other studies as well (Nelson, 2008; Zakrajsek & Zizzi, 2007), suggesting that although there likely continues to be some variability in coaches’ attitudes, contemporary views of SPC tend to be favorable.

The coaches’ gender and previous experience with sport psychology services have been identified as potential reasons for the variability in their attitudes. Research findings regarding gender differences in coaches’ attitudes toward SPC, however, have been equivocal. Zakrajsek

and Zizzi (2007) found significant gender differences between male and female track and swimming coaches with regards to stigma tolerance and personal openness. Specifically, male coaches reported lower stigma tolerance and less personal openness than their female counterparts. However, Nelson (2008) found no significant differences in attitudes between male and female high school basketball coaches. Wrisberg et al. (2010) corroborated the lack of gender differences between female and male coaches on their perceived effectiveness of sport psychology services, and willingness to encourage athletes to seek assistance from a SP, noting that the only observed difference between male and female coaches was that a greater percentage of female coaches (90.8%) were in favor of making SPC services available to athletes than male coaches (79.4%).

Research on the availability of SPC services has been varied as well. Wrisberg et al. (2010) reported that 44.9% of collegiate coaches surveyed had access to SPC services, which was higher than reported by athletic administrators (37.5%; Wrisberg, et al., 2012). Despite conflicting findings regarding access to SPCs, previous exposure to sport psychology or consultation with SPCs has been found to relate positively with coaches' attitudes toward sport psychology services (Partington & Orlick, 1987; Zakrajsek & Zizzi, 2007; Nelson, 2008). More specifically, in a sample of collegiate track and swimming coaches, Zakrajsek and Zizzi (2007) found that although coaches' attitudes did not relate significantly to their intention to use sport psychology services, those coaches with more previous exposure to sport psychology services reported greater confidence in the effectiveness of mental training as well as greater stigma tolerance. Wrisberg et al. (2010) reported similar findings. Collegiate coaches with greater exposure to and experience with SPCs indicated more favorable attitudes toward sport psychology, specifically with regards to their confidence in SPCs' ability to be of benefit to their

athletes across several performance domains (e.g., dealing with pressure, building confidence). These results were partially supported by Nelson's (2008) study of high school basketball coaches; those coaches who reported higher levels of previous exposure to sport psychology had greater stigma tolerance with regards to consultation services. However, contrary to Zakrajsek and Zizzi (2007), Nelson (2008) did not find a significant relationship between previous experience with SPC and confidence in SPC services. In combination, these findings may reflect coaches' lack of knowledge or understanding of sport psychology consultation; coaches with more exposure may have a clearer understanding of the services provided by SPCs and have greater certainty of the role of SPCs within athletic environments (Johnson, Andersson, & Fallby, 2011).

### Purpose

Although ATCs play an integral role in the general well-being of athletes, they often feel unprepared to meet the psychological needs of their athletes or utilize psychological skills that may benefit rehabilitation. Despite such unpreparedness, ATCs rarely refer athletes to mental health professionals, including SPs, who may be of most assistance in fostering the psychological well-being of athletes. Although ATCs' lack of access to sport psychology services and education may serve as a barrier to collaboration between ATCs and SPs (Arinven-Barrow et al., 2007; Hemmings & Povey, 2002; Larson et al., 1996), few studies have attempted to explore alternative factors such as beliefs about the efficacy of sport psychology services or potential stigma associated with seeking psychological help, that may hinder such collaboration. Further, one's attitudes toward a specific behavior have been identified as a significant variable influencing their intentions to engage in the behavior. Thus, the purpose of the current study is to

explore ATCs' beliefs about the role of SPs in athletic environments and their attitudes toward sport psychology as a significant factor influencing referral behaviors.

### Study Aims and Hypotheses

The current study will evaluate the attitudes of ATCs toward sport psychology. Specifically, four aims will be considered: (a) assess ATCs' involvement in sport psychology (i.e., formal courses or workshops completed, familiarity with academic sport psychology journals, access to SPs, and previous referrals to SPs or counselors), (b) examine ATCs' perceived roles for both ATCs and SPCs in their work with athletes, (c) understand ATCs' referral behaviors and perceived challenges in completing psychosocial referrals, and (d) evaluate ATCs' belief in the credibility and usefulness of sport psychology and sport psychology consultants across significant demographic (i.e., ATCs' gender, age) and experiential variables (i.e., ATC access to SPC, previous referral to SPCs and perceived helpfulness of SPCs).

In the absence of specific literature regarding the delineation of roles between SPCs and ATCs, as well as preferred ATC referral behaviors, these questions will be primarily exploratory in nature. However, drawing from current literature on attitudes toward psychological services, the following hypotheses are made: (a) female ATCs will indicate more positive attitudes than male ATCs, (b) older ATCs will have more negative attitudes toward sport psychology than younger ATCs, (c) ATCs who report interest in sport psychology will have more positive attitudes toward sport psychology than those who report no interest, and (d) ATCs who perceived previous referrals to SPCs as helpful will have more positive views toward sport psychology than those without previous referrals.

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