Chapter 1

INTRODUCTION TO SPORT PSYCHOLOGY

CHAPTER OUTLINE

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"I fell in love with football as I was later to fall in love with women: suddenly, inexplicably, uncritically, giving no thought to the pain or disruption it would bring with it" (Hornby, 1994, p. 1).

And so it goes with sport. This sentiment expressed by an Englishman about the sport Americans call soccer has undoubtedly been experienced by millions of men and women throughout the world. Regardless of the specific sport, gender, ethnicity, or nationality, interest and passion in sport endures. For example, recent estimates are that 23 million youth in the United States (U.S.) between the ages of 5 and 16

Getting started

participate in sports after school and another 6.5 million play sports that are sponsored by their schools (Participation Survey, 1999–2000).

Likewise, interest in psychology is widespread and enduring. In the year 2000, 74,060 Americans received bachelor's degrees with psychology majors (U.S. Department of Education, 2002). Sport psychology brings together these widespread interests.

WHAT IS SPORT PSYCHOLOGY?

Sport psychology is defined as the application of the knowledge and scientific methods of psychology to the study of people in sport and exercise settings. This knowledge is also applied to enhance sport performance and enjoyment, and the health and fitness of sportspersons. The scope of sport psychology includes understanding how psychological factors affect performance and how involvement in sport and exercise activities relates to psychological development, adjustment, and well-being (Williams & Straub, 2010). It is not surprising that college students have a keen interest in sport psychology, as college students have consistently demonstrated the greatest interest in topics in psychology that have direct applications in their daily lives (Ruch, 1937; Zanich & Grover, 1989).

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HISTORY OF SPORT PSYCHOLOGY

By the start of the 20th century, theories about the benefits of sport were well-established. Theories to explain human motivation for involvement in sport and play were also developed. For example, play and sport were seen as inherently pleasurable, or as outlets for surplus energy (Hermann, 1921). Edward W. Scripture developed a widely recognized theory at the psychological laboratory of Yale University. According to Scripture (1900), involvement in sport built character, or fostered the development of favorable qualities of personality. He studied the effects of athletics, calisthenics, and manual training on the development of self-control among young felons in the Elmira Reformatory. Scripture argued that character strengths developed by motor activity could be transferred to areas of everyday living. Scripture was not alone in concluding that sport and play were methods by which people developed skills and qualities that would prepare them for life. Sport was said to develop alertness, judgment, and the capacity to react to changing environments. In scientific and popular literature, parallels were drawn between strong bodies and strong minds and sportspersonship and ethical conduct in other areas of life functioning (Bailey et al., 2009; Davis, Huss, & Becker, 1995).

RESEARCH AND TRAINING IN THE UNITED STATES

Norman Triplett (1898) is credited with conducting the initial research in sport psychology at the University of Indiana. Triplett discerned that bicycle racing performances were faster when cyclists competed in the

presence of other cyclists who functioned as pacemakers or as competitors. Racing performances were slowest when cyclists rode alone. Triplett reasoned that the presence of pacemakers or competitors was "dynamogenic," or served as stimuli to release energy that was latent when cyclists rode alone. Visual and auditory cues from the other cyclists were also seen to inspire additional effort from cyclists. Triplett replicated these findings with children who were timed winding fishing reels, either alone or with another child. These results were later described as the **social facilitation effect** (Zajonc, 1965). This research was conducted while Triplett was in graduate school. He did not continue this research, as his professional career was spent in teaching and administration.

The first American psychologist to devote a significant portion of his career to research, teaching, and service in sport psychology was **Coleman Roberts Griffith** (Gould & Pick, 1995). Griffith and his students had a major impact on the field between the years of 1920 and 1940, as his was the first program for systematic research and training in sport psychology. He also championed sport for its capacity to develop virtues of character such as courage, honor, fair play, and team work (Green, 2006). He has been called the father of American sport psychology, and was the director of the Research in Athletics Laboratory at the University of Illinois. This lab was founded in 1925, five years after the first sport psychology laboratory in the world was established at the Institute of Physical Education by Robert Werner Schulte in Berlin, Germany. Griffith offered the first course in sport psychology, "Psychology and Athletics," in 1923 (Green, 2006).

Sport and character strengths—Diego Forlan

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Diego Forlán Keeps His Promises

Diego Forlán's older sister, Alejandra, was left paralyzed at age 17 due to injuries suffered in a car accident. Although only 13 years of age, he promised that he would provide for her. "I told her while she was in her hospital bed that I would become a star so that I could ensure that she still has a good life," said Forlán.

Forlán pursued stardom in soccer. He left his native Uruguay at age 17 to play professional soccer with Argentina's Independiente. After scoring 40 goals in 91 games for Independiente, he was signed by Manchester United in the English Premier League at age 23. Subsequently he played for Villarreal and Atletico Madrid in Spain, and twice won scoring titles. He developed the Fundación Alejandra Forlán, and became an outspoken critic of dangerous driving.

Forlán led Uruguay, a country of approximately 3.3 million, to a fourth-place finish in the 2010 World Cup of soccer. He won the Golden Ball as the tournament's best player (Woitalla, 2010).

In addition to his research in his laboratory, Griffith functioned as an educator and consultant, and his career therefore presaged the roles of future generations of sport psychologists. In 1926 and 1928, his books *Psychology of Coaching* and *Psychology of Athletics* were published, and are considered classics. He also consulted with the Chicago Cubs professional baseball team and corresponded with the renowned Notre Dame Football coach Knute Rockne. Philip Knight Wrigley, the owner of the Chicago Cubs, advocated for Griffith's application of scientific rigor in the training and preparation of professional baseball players. However, the managerial and coaching staff of the Cubs undermined Griffith's efforts, perhaps fearing that their authority and influence would be diminished (Green, 2003).

Application

Griffith's experience with the Chicago Cubs illustrates the importance of working alliances between sport psychologists and coaching and managerial staffs. Griffith's efforts to impose scientific rigor on the homespun style and haphazard practices of manager Charlie Grimm resulted in division and conflict. Griffith's assistant John E. Sterrett summarized the atmosphere:

> I am convinced that Grimm is knocking our work as much as he can. Grimm said to one of the players that he was afraid we might say or do something worthwhile and that if the players or the head office knew about it, it would put him in a bad light (cited in Griffith, 1939, p. 48).

In turn, Griffith became increasingly critical of Grimm, and his successor at manager, Gabby Hartnett. Ultimately, Griffith had little influence with the Cubs, and Griffith's association with the Cubs came to an end in 1940 after only two years.

Griffith's sport psychology laboratory at the University of Illinois was also shut down in 1932. Ostensibly, budgetary restraint necessitated by the onset of the Great Depression was responsible for its closing. However, it was also rumored that Griffith lost the support of Illinois football coach Robert Zuppke (Green, 2003).

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Griffith developed a view of the scope of sport psychology. First, he recommended that sport psychologists study the techniques and principles practiced by the best coaches of their day. Sport psychologists were then to abstract and summarize these principles and communicate them to young and inexperienced coaches. In this way, sport psychologists could help in the development of more effective coaches.

Second, Griffith studied psychomotor learning and the relationship between personality factors and physical performance and called for the integration of this information into sport psychology research. This practice has continued to the present day, and the extension of this practice is emphasized in this book. Third, Griffith recommended scientific,

psychological research specific to sport psychology (Weiss & Gill, 2005). This research was to have practical applications in supporting improved athletic performance. Among the topics of research in his laboratory were the learning of athletic and motor skills and the influence of personality traits on athletic performance. Personality traits refer to ways of responding and behaving that are consistent over time and across situations.

Griffith introduced the concepts of automated responses and the development of optimal states of arousal for competitions. Automated responses occur without conscious or deliberate thought and are characteristic of sophisticated and elite motor responses and athletic performance (see Chapter 5). With the identification of optimal states of arousal, it was recognized that athletic performance could be inhibited if physiological activation was too low or too high. Arousal refers to the activation of the sympathetic branch of the autonomic nervous system. This activation is measured on the bases of heart rate, rate of breathing, systolic blood pressure, diastolic blood pressure, and galvanic skin response. Higher readings on these measures were considered indicative of players being ready for, or "up" for, games. Successful performance was seen to be associated with the majority of the team being prepared for competition. Current literature concerning the relationship between arousal and performance will be reviewed in Chapter 4. Griffith was also interested in the psychological growth that could be fostered by sport and physical training.

Rapid growth in sport psychology occurred between 1950 and 1980 (Landers, 1995; Wiggins, 1984). Topics in sport psychology that were identified during this period remain active areas of scientific inquiry. These areas include: optimal states of arousal and performance, mental imagery and performance, modeling of adaptive motor and psychological responses, performance anxiety, and achievement motivation. Between 1950 and 1965 there was an emphasis on personality factors associated with involvement in athletics. This literature was not especially conclusive, probably due in no small part to methodological limitations, such as reliably measuring the personality factors. More recent and promising research is reviewed in Chapter 15.

In the 1970s, the **interactionism paradigm,** or the interaction between individuals and their environments, was emphasized in sport psychology research (Williams & Straub, 2010). Research in sport venues rather than university laboratories was also emphasized in the 1970s. **Rainer Martens**'s 1979 article "About Smocks and Jocks" was credited with stimulating research in sport settings. Research in sport settings was considered more ecologically valid or directly applicable to real-life issues in sport.

Applied research occurred on a limited basis before the 1970s. For example, as early as 1952, psychologists studied the relationship between arousal and performance with professional American football teams (Freudenberger & Bergandi, 1994). Coleman Roberts Griffith lugged his "Sanborn reaction time outfit" to the practice facilities of the University of Illinois football team to test the quickness of players (Green, 2006, p. 155).

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In the 1980s and thereafter, the breadth of research in sport psychology increased. Topics such as the cognitive factors associated with optimal performance, overtraining and burnout, the effects of athletic injuries, goal orientations, and exercise adherence were examined.

In the late 1960s and early 1970s, sport psychology regained the momentum on American campuses that it had experienced prior to 1932 in Coleman Griffith's laboratory. During this era, textbooks and scientific journals specific to sport psychology were published, and college courses and graduate training programs in sport psychology were founded. Sport psychology classes were also offered in university departments of Physical Education, Exercise, Sport Science, and Kinesiology, and to a lesser extent in departments of Psychology. The majority of graduate training in sport psychology has been provided in university departments of Physical Education, Exercise, Sport Science, and Kinesiology (Singer, 1989).

Recommendations for the enhancement of graduate training include implementing formal professional and peer mentoring programs (Watson, Clement, Blom, & Grindley, 2009), increasing the numbers of faculty in clearly defined Sport Psychology departments, and providing supervised practicum experiences for graduate students (Knowles, Gilbourne, Tomlinson, & Anderson, 2007; Silva, Conroy, & Zizzi, 1999). Practicum experiences involve the applied practice of sport psychology, such as consulting with teams and athletes, under the supervision of faculty. The development of comprehensive practicum training has lagged behind the establishment of strictly academic coursework, but is improving, as doctoral students in sport psychology averaged 446 hours of supervised experience between 1994 and 1999 (Williams & Scherzer, 2003).

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RESEARCH AND TRAINING IN EUROPE AND CANADA

The development of sport psychology in Britain has been somewhat parallel to that in the U.S. The study of motor learning and the development of skill in sport were advanced at Cambridge University in the 1940s and 1950s (Biddle, 1989). The tradition of research concerning personality factors and athletics was pursued both in the U.S. and Britain. The eminent British psychologist Hans Eysenck was a pioneer in the scientific study of personality, and he extended his research to the evaluation of the personality of sportspersons (Eysenck, Nias, & Cox, 1982). A substantial portion of Chapter 15 will be devoted to reviewing Eysenck's theory of personality and its application in sporting contexts.

Professional organizations were developed and in 1985 the British Association of Sports Sciences was formed, which was an amalgamation of the Biomechanics Study Group, British Society for Sport Psychology, and Society of Sports Sciences. The British Psychological Society formed the Division of Sport and Exercise Psychology in 2004. Also consistent

with practices in the U.S., academic programs in sport psychology have been developed and British sport psychologists have increasingly consulted with athletes. Since the 1980s, research in applied or sport settings has been more frequent, and the findings of this research will be presented in later chapters.

Similarly, sport and exercise psychology services have been available for many years in France, Germany, Australia, Canada, Italy, Sweden, Japan, the People's Republic of China, and the former Soviet Union (Kornspan, 2012; Pargman, 1998). For example, in 1925, Piotr Antonovich Roudik established the first sport psychology laboratory in the Psychology Department of the State Central Institute of Physical Culture in Moscow (Ryba, Stambulova, & Wrisberg, 2005), and soon thereafter, A. Z. Puni established a sport psychology laboratory at the Institute of Physical Culture in Leningrad (Roberts & Treasure, 1999). In 1946, Puni launched a Department of Sport Psychology at the Institute. Beginning in the 1950s, and continuing for approximately three decades, a rivalry ensued between Puni and Roudik for the acknowledged leadership of sport psychology in the Soviet Union. During this time period sport psychology was seen as an important ingredient in the success of Soviet Olympic athletes (Ryba et al., 2005).

The focus of Soviet/Russian sport psychology was on applied sport psychology and especially on interventions to optimize the performance of elite athletes (Stambulova, Wrisberg, & Ryba, 2006). Prior to 1963, applied sport psychology in the Soviet Union included consulting with athletes about preperformance preparation for competition, simulation training, mental rehearsals (see Chapters 5 and 6), goal setting (see Chapter 8), and the development of sport self-confidence (see Chapter 10; Ryba et al., 2005). Among Puni's contributions was a comprehensive model for optimal sport performance that included long- (e.g., goal setting) and short-term (e.g., practicing mental skills to realize optimal concentration) phases.

A great number of resources were devoted to performance enhancement with elite athletes in the former Soviet Union and East Germany. In these countries, elite athletes were exposed to as many as 30 hours of training in techniques to enhance performance, such as autogenic training, visualization, and self-hypnosis (Williams & Straub, 2010). Professional journals devoted to exercise and sport psychology are available in most of these countries.

Sport psychology also developed as a more applied discipline in Canada than in the U.S. in the 1960s and 1970s. Unlike their American counterparts, Canadian sport psychology consultants were supported by their national sport-governing organizations, such as the Coaching Association of Canada. As a result, the utilization of psychological services was more widespread among coaches and athletes in Canada. As was the case in the Soviet Union, there was also a greater emphasis on interventions to enhance and maximize athletic performance (Stambulova et al., 2006).

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PROFESSIONAL ACTIVITIES OF SPORT PSYCHOLOGISTS

Sport psychologists based in universities are actively involved in scientific research, and therefore in the development of the basic facts and findings of the science of sport psychology. University-based sport psychologists also teach courses in sport and exercise psychology, and academia remains the primary area of employment for sport psychologists (Williams & Scherzer, 2003).

A group of sport psychologists consult with professional, university, and Olympic teams and athletes, and this **consultation** emphasizes the realization of optimal performance. Some of these consultants function as a "mental coach" in teaching athletes techniques to enhance performance and minimize inhibition. This consulting may involve techniques for decreasing anxiety during competition, as well as enhancing confidence and motivation (Singer, 1989). These consultants may be identified as **educational sport psychologists** and often have graduate training in sport and exercise science, physical education, and kinesiology as well as sport psychology (McCullagh & Noble, 2002). Other consultants are licensed clinical or counseling psychologists with specialized training in sport and exercise psychology. **Clinical psychologists** are licensed to diagnose and treat mental disorders and behavioral or adjustment problems. Examples of mental disorders that might be present among athletes are substance abuse, depression, and eating disorders. The practices of clinical and counseling psychologists have converged in recent years, as both have been increasingly involved in the delivery of psychotherapy. Psychotherapy is a verbal intervention by which the psychologist assists the client or patient in overcoming mental disorders or problems in living. Traditionally, counseling psychologists have been trained to identify impediments to psychological growth rather than discrete mental disorders.

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Evolution of Consultation

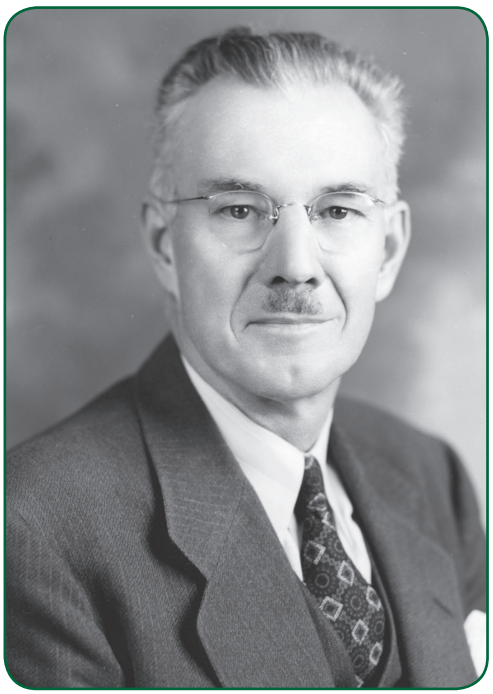
From the 1960s to the present, the range of professional psychological services provided to athletes progressed. A sport psychologist was assigned to work with the U.S. Olympic team for the first time in 1976, and in 1978 the U.S. Olympic Committee (USOC) recruited advisors in four branches of sport science: biomechanics, exercise physiology, nutrition, and sport psychology. The USOC established a Sport Psychology Committee and a registry of qualified sport psychologists who specialized in research, education, or clinical sport psychology by 1983 (USOC, 1983). In 1984 and thereafter, sport psychology services were routinely provided to U.S. summer and winter Olympians. There were 11 psychological consultants for U.S. athletes at the 1984 summer and winter Olympics, with academic backgrounds in physical education and motor learning, clinical psychology, and counseling psychology (Suinn, 1985). The number of sport psychology consultants grew, and by 1988, 47 sport psychology consultants had consulted with U.S. Olympians and coaches (Gould, Tammen, Murphy, & May, 1989).

In the last 25 years, psychological preparation for peak performance has become increasingly important for the Olympic competition (Haberl & Zaichowsky, 2003). The psychological services most frequently provided by these consultants were training in concentration, relaxation, self-talk, the use of mental imagery and mental practice, and team cohesion.

In 2002, the Football Association of England initiated a "Psychology for Football" (soccer) educational program. The purpose of this initiative was to increase the awareness and application of sport psychology within professional clubs, youth academies, and national teams. Increasing numbers of professional clubs employ sport psychology consultants. In addition to teaching techniques for performance enhancement to professional footballers, these consultants focus on positive youth development within the youth academies of the professional teams (Harwood, 2008; Pain & Harwood, 2004). Russian and Swedish sport psychologists also emphasize a *whole person approach*, or guidance on how to balance athletic, academic, and social concerns (Stambulova, Stambulov, & Johnson, 2012).

It is not uncommon for innovations derived from psychological practice to precede the validation of these innovations via experimental study. For example, in 1971, Richard M. Suinn developed an intervention for athletes that combined mental imagery and relaxation. Suinn's **Visuo-Motor Behavioral Rehearsal** will be discussed in Chapter 7. It has been highly influential and has subsequently received solid empirical support (Seabourne, Weinberg, Jackson, & Suinn, 1985). In 1997, it was described as perhaps the most studied mental practice procedure in the literature of sport psychology (Onestak, 1997). Robert Nideffer's influential description and assessment of attentional styles was developed in 1976 and will also be discussed in Chapter 6 and in other chapters (Nideffer, 1985).

Bruce Ogilvie has been called the father of North American applied sport psychology because of his leadership in providing psychological services to elite and professional athletes. His book *Problem Athletes and How to Handle Them* (Ogilvie & Tutko, 1966) and questionnaire, the Athletic Motivational Inventory, were influential and controversial. Ogilvie and other pioneering consultants surveyed colleagues in 1979 regarding the training necessary for clinical psychologists to function effectively in consultation with athletes (Ogilvie et al., 1979). These clinicians placed the highest priority on knowledge about psychopathology, and they also made frequent use of relaxation training to reduce physiological anxiety. The clinicians stated that their experience as athletes competing at a high level was their most important experience or training to be an effective sport psychologist. Although not necessary for effective consulting, athletes are



Coleman Roberts Griffith
(Courtesy of the University of Illinois Archives, Photographic Subject File, RS 39/2/20)

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not unimpressed by consultants' histories of athletic accomplishments, particularly if the athlete and consultant competed in the same sport (Lubker, Visek, Geer, & Watson, 2008). Participation notwithstanding, consultants who are deeply aware of the physical, technical, and tactical aspects of the client's sport are more capable of demonstrating empathy. An empathic understanding of the athlete's concerns is necessary for effective consultation (Sharp & Hodge, 2011).

These psychologists were probably self-trained or learned "on the job" to apply clinical services to athletes. Today, on-the-job training is not sufficient for certification as a sport psychologist. For example, the Division of Exercise and Sport Psychology of the **American Psychological Association (APA)** explicitly states that sport psychologists are not self-taught and also that experience as an athlete and training as a clinical psychologist does not provide the necessary education and training. Formal graduate coursework, supervised practice, and testing are necessary to insure that sport psychologists meet objective standards of competence and expertise. The **Association for Applied Sport Psychology (AASP)** developed criteria for certification for sport psychologists in 1991 that also requires supervised experience, graduate coursework in psychology and counseling, as well as knowledge of the biomechanical and/or physiological bases of sport (Zizzi, Zaichkowsky, & Perna, 2002). The USOC requires this certification for consultants to work with Olympic programs. Current sport consultants recognize the need for specialized training in sport performance enhancement (Lubker et al., 2008).

The clinicians in the 1979 survey (Ogilvie et al., 1979) recognized an ethical concern that has been codified as an ethical standard of sport psychologists, in that they considered confidentiality within the consulting relationship to be a highest priority. Sport psychologists and athletes continue to emphasize the importance of confidentiality (Petitpas, Brewer, Rivera, & Van Raalte, 1994), trustworthiness, and honesty (Lubker et al., 2008) in consulting relationships. It is especially important for sport psychology consultants to maintain appropriate professional boundaries and confidentiality, because consultations often occur in informal settings such as hotel lobbies and at training sessions (Sharp & Hodge, 2011).

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Application

The ethical code of the AASP (1994) was modeled after that of the American Psychological Association (APA; 2002). The ethical code of the APA is an admixture of five general principles and specific rules that follow the general principles and relate to specific situations in the field of psychology. The general principles (Beneficence and Nonmaleficence, Fidelity and Responsibility, Integrity, Justice, Respect for People's Rights and Dignity) are considered universal or applicable to all human beings and to involve no contradictions (Whelan, Meyers, & Elkins, 2002). The specific rules are derived to some degree from the actual practice of psychology and are intended to enhance the well-being of the greatest majority of people. An example of a specific ethical obligation for professional psychologists is to maintain the confidentiality of information they obtain from clients (with certain exceptions) in professional counseling relationships.

Athletes' Views of Consulting Sport Psychologists

Given the aforementioned history of consultation with U.S. Olympic athletes since 1976, it is not surprising that in more recent times elite athletes routinely consult with psychologists (Gould, 1999; Gould & Maynard, 2009). However, perhaps due to less experience with sport psychologists (Maniar, Curry, Sommers-Flanagan, & Walsh, 2001), collegiate athletes in the U.S. and Britain are not entirely comfortable with the prospect of psychological consultations (Linder, Brewer, Van Raalte, & De Lange, 1991; Van Raalte, Brewer, Brewer, & Linder, 1992; Van Raalte, Brewer, Linder, & DeLange, 1990; Van Raalte, Brewer, Matheson, & Brewer, 1996). Sport psychologists are viewed as similar to mental health professionals such as clinical psychologists, counselors, and psychiatrists. However, they are often viewed to be less knowledgeable about mental health issues and more conversant with sport and physical topics than are mental health professionals. Coaches generally view the consultations of sport psychologists positively and recognize a need for their services (Pargman, 1998).

Athletes have underutilized mental health services and have been reluctant to take advantage of the services of sport psychologists. They are more likely to seek emotional help and support from family and professionals identified primarily as sport professionals, such as coaches (Maniar et al., 2001). It appears that athletes are uncomfortable with the title of psychologist due to its association with mental disorders and problems (Ravizza, 1988). African American and male Division I intercollegiate athletes were particularly uncomfortable with the prospect of accessing help from sport psychologists, as they feared being stigmatized by consulting sport psychologists (Maniar et al., 2001; Martin, Wrisberg, Beitel, & Lounsbury, 1997).

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Metta World Peace Promotes Mental Health

At one time, Metta World Peace would have been an unlikely candidate for UCLA Medical Center's prestigious CICARE Award. This award honors someone for "healing humankind, one patient at a time, by improving health, alleviating suffering, and delivering acts of kindness" (Painter, 2010).

As an NBA player in 2004, and when named Ron Artest, World Peace was suspended for 86 games—the longest suspension in NBA history—for his part in a brawl involving the opposing team and fans. He served a seven-game suspension in 2007 for his no-contest plea to a domestic violence charge. In 2011, World Peace earned a one-game suspension for slamming his forearm into the face of an opposing player. He was slapped with a seven-game suspension in 2012 for an elbow to an opponent's head that resulted in a concussion. He was suspended for one game in 2013 for jabbing another player in the jaw.

World Peace has openly acknowledged mental health struggles. He thanked his psychologist, Dr. Santhi Periasamy, on national television after his Los Angeles Lakers won the NBA championship in 2010. World Peace has seen no less than eight therapists since adolescence. World Peace credits therapy for helping him to become a better person, husband, and father.

World Peace donated his NBA Championship ring to an auction to raise money for community mental health projects. He lends public support to the UCLA Resnick Neuropsychiatric Hospital and projects such as the Mental Health in Schools Act (Smith, 2010).

Female athletes appear to be more willing to accesses consultation from sport psychologists, and to acknowledge their need for help. Perhaps males are more likely to be socialized to be stoic, or to accept pain and the risk of injury without asking for help or complaining (Martin, Akers et al., 2001; Martin et al.,1997). Female athletes are less likely to believe that others will label them as having psychological problems due to their consultation with a sport psychologist. These women and girls are also less likely to express a preference for working with a consultant of their same culture, ethnicity, or race (Martin, 2005). High school athletes are also more likely than Division I collegiate athletes to associate consultation with a sport psychologist with the stigma of having psychological problems (Martin, 2005).

PROFESSIONAL ASSOCIATIONS AND JOURNALS

An important stimulus to the growth of sport psychology was the formation of academic societies and scholarly journals which fostered research and communication (Roberts & Treasure, 1999). The first journal to be devoted entirely to sport psychology was founded in 1970 as the *International Journal of Sport Psychology.* It is the official journal of the **International Society of Sport Psychology (ISSP)**, and the first president of ISSP and editor of the *International Journal of Sport Psychology* was the Italian psychiatrist Ferruccio Antonelli. The *Journal of Sport Psychology,* later called the *Journal of Sport & Exercise Psychology,* publishes basic and applied research and was established in 1979. Other important journals in this field are: *The Journal of Sport Sciences,* founded in 1983; *The Sport Psychologist,* established in 1986; the *Journal of Applied Sport Psychology,* founded in 1989 and the official journal of Association for Applied Sport Psychology (AASP); and the *Psychology of Sport and Exercise* founded in 2000. Division 47, Exercise and Sport Psychology, of the APA inaugurated its journal, *Sport, Exercise, and Performance Psychology,* in 2012. The relative youth and rapid development of sport psychology is reflected in this timeline for the development of journals.

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Websites of Interest

With the development of the Internet, websites provide useful sources of information about sport psychology.

Sport and Exercise Psychology in North America

American Alliance for Health, Physical Education, Recreation and Dance
http://www.aahperd.org
Association for the Advancement of Applied Sport Psychology
http://www.appliedsportpsych.org
Canadian Society for Psychomotor Learning
http://www.scapps.org

Division 47 of the American Psychological Association
http://www.psyc.unt.edu/apadiv47
North American Society for the Psychology of Sport and Physical Activity
http://www.naspspa.org

Information About Sport

American College of Sports Medicine
http://www.acsm.org
Coaching Association of Canada
http://www.coach.ca
National Collegiate Athletic Association
http://www.ncaa.org
United States Olympic Committee
http://www.olympic-usa.org

Sport and Exercise Internationally

Asian South Pacific Association of Sport Psychology
http://www.humankinetics.com/associations/aspasp/index.cfm
British Association for Sport and Exercise Sciences
http://www.bases.org.uk
Board of Sport Psychologists of the Australian Psychological Society
http://psychsociety.com.au/units/colleges/sport
Canadian Society for Psychomotor Learning and Sport
http://www.scapps.org
European Federation of Sport Psychology
http://www.fepsac.org
International Olympic Committee
http://www.olympic.org
International Society for Sport Psychology
http://www.issponline.org

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Associations for the study of sport psychology were established in the mid-1960s. In 1965, the International Society of Sport Psychology (ISSP) held the First International Congress of Sport Psychology in Rome, and in 1967 the first meeting of the North American Society for the Psychology of Sport and Physical Activity (NASPSPA) was held in Las Vegas (Landers, 1995; Wiggins, 1984). The Canadian Society for Psychomotor Learning and Sport Psychology (CSPLSP) was established in 1969. Initially, it was under the auspices of the Canadian Association for Health, Physical Education and Recreation, but became independent in 1977 (Williams & Straub, 2010). The Association for the Advancement of Applied Sport Psychology (renamed the Association for Applied Sport Psychology [AASP]) was launched in 1986. In 1987, the Division of Sport and Exercise Psychology was established as the 47th division of the APA.

Accreditation

Accreditation provides an objective index of the quality of training for educational programs and individuals. The AASP established standards for the accreditation of individual sport psychologists (Silva, 1989). Accreditation for graduate training programs in sport psychology has been recommended but is more controversial (Silva, 1989).

The precedent for accreditation was established by the APA for clinical psychology shortly after World War II (Report, 1947). This model is referred to as the scientist–practitioner model, reflecting its emphasis on training in academic and applied psychology, and as the Boulder model, in that it was established in a meeting in Boulder, Colorado (Raimy, 1950). Accreditation indicates that the academic courses, faculty, and facilities of academic institutions are sufficient to train competent professional psychologists.

Accreditation of graduate programs in sport psychology has been seen as slow to develop (Silva et al., 1999). Perhaps it has not been universally embraced due to concerns about the cost of the accreditation process, fears that programs that fail to meet accreditation standards will be eliminated, and beliefs that academic freedom will be imperiled if curriculums are imposed by outside organizations such as AASP. These issues appear to be less concerning to graduate students in sport psychology as they are largely in favor of accreditation (Students', 1997).

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SPORT PSYCHOLOGY AND THE SCIENTIFIC METHOD

As mentioned earlier, a substantial body of scientific research is summarized in each chapter of this textbook. Although there is some explanation of how this information was obtained, the content rather than the methods of this scientific research will be emphasized in the ensuing chapters. Before continuing with the presentation of this content, a brief discussion of the methods by which this information was obtained is warranted. Due to space limitations, these topics are only introduced in this text, and readers are encouraged to explore these issues more thoroughly by referencing the suggested readings at the end of this chapter.

The majority of the research in this textbook was informed by the scientific method, which consists of developing hypotheses, often informed by prior research, and testing the correctness or accuracy of the hypotheses with sophisticated experimental and statistical methodology. The minimal elements necessary for scientific research in sport psychology are, therefore, testable hypotheses, valid experimental designs, and statistical procedures that mathematically evaluate hypotheses. The question "How many angels can stand on the head of a safety pin?" may be of metaphysical interest to some, but it does not represent a scientifically testable hypothesis. Tangible information cannot be obtained to test this question about angels. A question such as "Does pressure disrupt athletic performance?" is both testable and relevant to Sport Psychology.

Hypotheses are tested in **experiments** or **quasi-experiments.** True experiments have experimental and control groups, and participants or subjects are randomly assigned to both groups. Experimental groups are exposed to an intervention, whereas control groups are given no intervention or an intervention that would be expected to have no effect on the behavior of interest. With random assignment it is assumed that the experimental and control groups are equivalent before the intervention.

Returning to the question about the effects of pressure on performance, a sport psychologist might conduct a true experiment in which sport performance is measured by the accuracy of putting a golf ball. Specifically, accuracy could be measured by the distance between each putt and the target or pin. Pressure might be operationalized or represented in this experiment by filming students putting in the experimental condition, and informing them that golf coaches and other students would review the film. Undergraduate students without prior experience at golf might be randomly assigned to the experimental group that received instructions that their putting would be filmed and reviewed or to a control group that was given no instructions or instructions that were not intended to produce pressure, such as to try their best.

Differences in putting accuracy between the experimental and control groups would then be compared with statistical tests such as a *t-test*, a test of differences between the means of the two groups (Lindman, 1974). If between-groups differences are sufficiently large, then the *null hypothesis*—that the experimental and control groups are indistinguishable and that pressure has no effect on performance—would be rejected with some degree of statistical certainty. Experimental convention dictates that a 0.05 level of statistical significance or certainty is necessary to reject the null hypothesis, and at this level, the experimenter knows that differences as large as those recorded would occur by chance only five times in 100.

Returning to the potential study of pressure and putting performance, the experimenter might find that the average distances between putts and pins was 10 inches for the experimental or pressured group and 4 inches for the control group. The t-test would likely demonstrate that this difference is significant, perhaps at least at the 0.05 level. The experimenter may then reject the null hypothesis with the certainty that a difference between groups this large would occur only five times in 100 times. Following this procedure, the experimenter is also likely to conclude that the experiment has **internal validity** or that the intervention designed to induce pressure was responsible for the reduced putting accuracy of the pressured group.

The experimenter might pause before announcing that this study has external validity. **External validity** refers to the populations to which the results of a study can be generalized. This study was an analog study or a study in which realistic conditions were recreated in a laboratory environment. In that it was analogous but not identical to the study of pressure in actual sporting events, it is far from certain that the results of this hypothetical study can be generalized to all groups of golfers. For example, elite golfers may have developed skills for blunting the effects of pressure,

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or perhaps those susceptible to pressure quit, so that only golfers relatively unsusceptible to pressure advance to elite ranks.

Perhaps a study in a golf tournament with skilled golfers would provide more convincing evidence about the effects of pressure on performance. However, it is highly unlikely that participants in a golf tournament could be subjected to experimental conditions intended to increase pressure. Instead, performance in naturally occurring situations that produce pressure might be compared to performance where pressure is less obvious. For example, a gallery might be present on certain holes and not on others, and scores for holes with and without galleries might be compared. This study would probably have **ecological validity** in that it was conducted in naturalistic conditions and external validity in that it was conducted in the actual setting and with the population of interest. However, this study would lack the experimental control and random assignment necessary for true experiments, and therefore it would be a quasi-experiment (Shadish, Cook, & Campbell, 2002). Quasi-experiments are more open to challenges about causation or whether the experimental procedures resulted in the differences in measured variables (in this case, scores on holes). The benefits of external and ecological validity are balanced with potential challenges to internal validity when evaluating quasi-experiments.

Concerns about internal and external validity notwithstanding, true and quasi-experiments allow for inferences about causation. Some of the studies in this book utilized procedures, such as correlation and qualitative analyses, which were descriptive but did not allow for causal inferences. **Correlational studies** demonstrate associations between variables. **Qualitative analyses** (e.g., Gould, Tuffey, Udry, & Loehr, 1996; Lincoln & Guba, 1985; Patton, 1990) rely on semistructured interviews that are tape-recorded and transcribed verbatim. Independent investigators identify specific themes of the interviews, and the specific themes are subsequently organized into increasingly general themes. Qualitative analyses permit the discovery of information from the perspective of sportspersons. Another form of qualitative research, **ethnography,** has recently been advanced as a method of gaining insight into the behaviors and mental states of athletes. With ethnography, researchers become embedded in a particular sport and team, and collect data in the forms of participant observations, interviews, photography, and questionnaires (Krane & Baird, 2005).

Information from true experiments, quasi-experiments, correlational studies, and qualitative analyses is integrated throughout this textbook. With this research, the horizons of sport psychology are continually expanded.

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SUMMARY AND APPLICATION

Sport psychology is a rapidly maturing area of research, teaching, and practice. The maturity of sport psychology is evidenced by the number of professional journals and organizations devoted to advancing and

communicating the science and practice of sport psychology. The importance of applied sport psychology is perhaps best demonstrated by the observation that sport psychologists have consulted with U.S. Olympians since 1976.

As is true in other areas of applied psychology, such as clinical psychology, there have been periods of tension between practitioners and academics. Subsequent to the publication of Rainer Martens's 1979 article "About Smocks and Jocks," research in the actual venues of sport has been emphasized. Studies in such sport settings provide opportunities for research that is both ecologically and externally valid. This research diminishes the distance between academic and applied practice.

The effectiveness of psychologists in consulting, educational, and research settings is to some degree determined by the quality of their working alliances with students, supervisees, and clients. The effectiveness of working alliances merits monitoring on an ongoing basis. This monitoring may involve estimates of the degree of trust in the working alliance.

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Key Terms

Norman Triplett 4

Social facilitation effect 5

Coleman Roberts Griffith 5

Rainer Martens 7

Consultation 10

Educational sport psychologist 10

Clinical psychologist 10

Visuo-Motor Behavioral Rehearsal 11

Bruce Ogilvie 11

American Psychological Association (APA) 12

Association for Applied Sport Psychology (AASP) 12

International Society of Sport Psychology (ISSP) 14

Accreditation 16

Experiments 17

Quasi-experiments 17

Internal validity 17

External validity 17

Ecological validity 18

Correlational studies 18

Qualitative analyses 18

Ethnography 18

Discussion Questions

Q1. What is the scope and focus of sport psychology?

Q2. Review the history of sport psychology, including the contributions of Edward W. Scripture, Norman Triplett, Coleman Roberts Griffith, and Rainer Martens.

Q3. Consider current recommendations for graduate training in sport psychology.

Q4. Describe training in sport psychology in the U.S., Europe, and Canada.

Q5. Differentiate educational sport psychologists and licensed psychologists.
Q6. Review the history of consultation in sport psychologists, including consultation with the USOC and the Football Association of England.
Q7. How do we remember Bruce Ogilvie?
Q8. What is the current status of "on the job" training in sport psychology?
Q9. How are competent consultants in sport psychology identified?
Q10. Review the general principles in the ethical code of the APA.
Q11. Which athletes might be initially favorably disposed to consultation with a sport psychologist?
Q12. What is the role of professional journals in the development of an academic discipline?
Q13. Define professional accreditation.
Q14. How is a testable hypothesis determined?
Q15. What differentiates experiments from quasi-experiments?
Q16. What is the role of the null hypothesis in research?
Q17. Define internal, external, and ecological validity.
Q18. Describe correlation studies, qualitative analysis, and ethnography.

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Suggested Readings

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