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# INTERPERSONAL, INDIVIDUAL, AND SITUATIONAL FACTORS ASSOCIATED WITH BURNOUT IN STUDENT ATHLETES

By

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ABSTRACT

INTERPERSONAL, INDIVIDUAL, AND SITUATIONAL FACTORS ASSOCIATED WITH BURNOUT IN STUDENT ATHLETES

By

Alexis J. Vlahos

This study aimed to develop a model concerned with the relationships between athletes' experience of burnout and individual, interpersonal, and sport-specific factors. Burnout was defined as a response to the chronic stress of athletic competition that can be characterized by feelings of emotional exhaustion. The model proposed that athlete burnout would be related to athletes' personality traits (level of neuroticism & extraversion), experiences of competitive stress, level of confidence in athletic abilities, and perceptions of social support.

Eighty male and twenty female athletes from high schools (n = 73) and a one year post-high school college preparatory (n = 27) athlete popluation voluntarily participated by completing a battery of assessment measures. These measures addressed personality traits, perception of social support, competitive trait anxiety, sport self-confidence, and burnout.

Exploratory, confirmatory factor analyses and path analyses suggested a complex interaction between athletes' individual (personality traits), interpersonal, and situational variables and their experience of burnout. Athletes' perception of support from significant adults was found to directly effect their

experience of burnout and indirectly effect their experience of burnout through its impact on levels of neuroticism and extraversion. Athletes' level of neuroticism and competitive trait anxiety were found to have a direct impact on their experience of burnout. In addition, analyses indicated that athletes' level of extraversion had an indirect effect on their experience of burnout through their reported level of sport self-confidence, and that athletes' level of sport-self confidence had an indirect impact on their experience through their experience of competitive trait anxiety. These results were examined from both empirical and conceptual perspectives. In addition, results were examined in light of Smith's (1986) model of athlete burnout. Limitations of this study and implications for future research were also discussed.

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# REVIEW OF THE LITERATURE

Anxiety and stress are an inherent part of the competitive sport environment. Few voluntary activities or occupations exert upon an individual the same physical and psychological stressors that are experienced by the athlete (Heyman, 1986). Athletes constantly perform under a microscope; their every action and reaction is evaluated and appraised by their coaches, peers, families, and the general public. Failure to live up to the expectations of those around them leaves them, at least, subject to criticism, and, at most, in danger of being benched or cut from the team.

Student athletes, in particular, are faced with additional pressures which can effect their ability to perform, and influencing their physical and emotional well-being. In addition to the pressure of the athletic situation, student athletes are faced with many developmental, academic, and social issues (Heyman, 1986). For example, student athletes must perform academically as well as other students, try to maintain a social life and interpersonal relationships, and may also have to maintain a part-time job.

Athletes may respond to these pressures in any number of ways. In some cases, the athlete may meet the demands placed upon him/her and use athletics as a growth experience enhancing his/her physical and psychological development.

Conversely, the demands of the athletic situation may exceed the student athlete's ability to cope; thus leaving the athlete to face the potential for physical, emotional, and psychological problems (Gould, Horn, & Spreeman, 1983).

One reaction to chronic stress in athletic situations is psychological burnout. While burnout has been a concern of professional sports since the 1930's (Paine, 1982), it has only been in the last decade that sport scientists have shown a interest in athletic burnout (Smith, 1986). Clinicians and sport scientists have associated burnout with a number of difficulties faced by the athlete; decreased performance, withdrawal from sport participation, physical injuries, and emotional difficulties (Feigley, 1984; Fender, 1989). Despite this growing interest, research on burnout in the area of athletics is still in its early stages and extremely limited (Dale, & Weinberg, 1990; Gould, Urdy, Tuffey, & Loehr, 1996; Rotella, Hanson, & Coop, 1991; Weinberg, & Gould, 1995).

The purpose of this study was to explore burnout in student athletes. Specifically, this study examined the degree to which personal and situation variables are associated with the development of burnout in athletes. Before discussing the details of this study, the literature relevant to burnout and athletics will be examined. The first part of this review focuses on an examination of the concept of burnout: what it is, its characteristics, and

empirically identified causes. With that foundation established, this review will then focus on burnout experienced by athletes, its connection to the general literature on occupational burnout and competitive stress, and finally, will look at theoretical and empirical investigations of athlete burnout. This literature was chosen as a means to present the rationale and methodology of the present study.

## Occupational Burnout

In the mid-seventies, Herbert Freudenberger (1974) popularized the term "burnout" when he referred to the reaction a person experiences as the result of excessive demands placed upon the person's energy, strength and resources. Since that time, the burnout field has received a great deal of attention from theorists, researchers, and clinicians (Meier, 1983). Kahill (1988) notes that by 1981 there were 400 listed references to burnout (266 of which were in scholarly and professional publications), and that over 100 empirical publications concerning burnout in the human service professions appeared by the end of 1984. A review of psychological abstracts from 1974 to 1997 revealed that there are over 1000 references to psychological burnout in professional journals.

Originally, research on burnout focused on helping or human service professions. For example, researchers have examined burnout in educators (Burke, & Greenglass, 1989;

Kyriacou, & Suttcliffe, 1978; Schwab, Jackson, & Schuler, 1986; Wolpin, Burke, & Greenglass, 1990), physical and mental health care workers (Jayaratne, Himle, & Chess, 1988; Maslach, 1976; Miller, Ellis, Zook, & Lyles, 1990; Shinn, Rosario, Morch, & Chestnut, 1984), rehabilitation clinicians (Rimmerman, 1989; Ursprung, 1986), and law enforcement (Anson, & Bloom, 1987; Goodman, 1990). As the field developed, researchers began to draw on the occupational stress literature and applied the concept of burnout to a variety of other occupations (Handy, 1988). For example: bankers (Matthews, 1990), managers in industry and engineering (Bacharach, Bamberger, & Conley, 1991; Garden, 1989), air traffic controllers (Mohler, 1983), managers at federal agencies (Golembiewski, & Munzenrider, 1987), students (Fimian, Fastenau, Tashner, & Cross, 1989; McCarthy, Pretty, & Canto, 1990), coaches (Caccese, & Mayerberg, 1984; Capel, Sisley, & Desertrain, 1987), athletic trainers (Capel, 1986), youth golfers (Cohn, 1991), and junior tennis players (Gould, et al., 1996).

The proliferation of writings on burnout has left the field open to criticism. Researchers are concerned that writings in the popular press have often exceeded solid empirical research (Burke, 1987; Maslach, & Jackson 1985). This problem is further exasperated by the fact that researchers have been unable to agree on conceptual frameworks and an operational definition of burnout

(Maslach, 1982; Capel, 1986; Rogers, 1987). As a result, the concept of burnout has taken on a faddish quality to the general public. "Burnout" has come to be looked upon as a buzzword, a catchy term that creates a problem or condition, and an example of pop psychology (Maslach, 1982; Pines, & Aronson, 1988).

While criticisms of the work on burnout are significant and raise many valid concerns, they are not uncommon for any concept that is in its early stages of development (Maslach, 1982). They reflect the dissatisfaction with the state of knowledge and a concern for improved understanding through empirically sound research. These criticisms have served as motivation to researchers; they have worked to improve methods, and to gain more empirical knowledge and understanding of the nature, causes and consequences of burnout.

Definition Issues

Definitions of burnout are as varied as the interests of the researchers exploring the topic. Originally, Freudenberger (1974) defined burnout as the reaction an individual experiences as the result of excessive demands placed on his/her energy, strength, and resources. He based this definition on his own personal experience and on clinical cases he saw in his psychoanalytic practice.

Pines, Aronson, and Kafry (1981) defined burnout as the "result of constant or repeated emotional pressure

associated with an intense involvement with people over a long period of time" (p. 15). They reported that burnout is comprised of three major components: physical, emotional, and mental exhaustion (Pines et al., 1981). After studying over 5000 people in a variety of occupations, Pines and Aronson (1988) revised their definition to include any type of long-term involvement in situations that are emotionally demanding. They contend that the emotional demands can be attributed to "a combination of very high expectations and chronic situational stress" (Pines, & Aronson, 1988, p.9).

Cherniss (1980) examined burnout from a developmental perspective. He based his definition on the results of his longitudinal study of people in the helping professions. Cherniss (1980) defines burnout as "a process in which the professional's attitudes and behavior change in negative ways in response to job strain" (p. 5).

Perlman and Hartman (1982) conducted a review and content analysis of the literature on burnout from 1974 to 1980. They developed a definition based on common elements found throughout the empirical literature. Perlman and Hartman (1982) defined burnout as "a response to chronic emotional stress with three components: (a) emotional and/or physical exhaustion, (b) lowered job productivity, and (c) overdepersonalization" (p. 293).

The most comprehensive and most widely accepted definition of burnout was developed by Maslach and Jackson

(1981). Their definition is based on empirical research of a variety of occupations with a measure that has been proven to be valid and reliable (the Maslach Burnout Inventory or MBI). Maslach and Jackson (1981) defined burnout as a developmental syndrome comprised of emotional exhaustion, depersonalization, and reduced personal accomplishment. Emotional exhaustion refers to feelings of being emotionally drained and having nothing left to give. Depersonalization refers to the development of a callous and unfeeling attitude toward the people with which one works. Finally, reduced personal accomplishment refers to dissatisfaction with one's achievements and a decline in feelings of competence.

While there is variability among the many definitions, there are also many common elements. First, researchers agree that burnout can be seen as a multidimensional syndrome that is composed of behavioral, emotional, physiological, and psychological factors (Cherniss, 1980; Golembiewski, & Munzenrider, 1988; Justice, Gold, & Klein, 1981). It is a negative experience occurring at the individual level and can be viewed as an internal psychological experience involving feelings, attitudes, motives, and expectations (Maslach, 1982).

In addition, burnout has a transactional quality. Neither individual (personality characteristics) nor work-setting characteristics, when examined in isolation, are

sufficient to explain the development of burnout. It develops as the result of interactions between the individual and environmental factors (Cherniss, 1980; Golembiewski, & Munzenrider, 1988; Pines et al., 1981).

Finally, burnout can be seen as a process developing over time and in response to chronic stress (Cherniss, 1980; Maslach, & Jackson, 1981). Golembiewski et al.'s (1983) phase model provides an excellent empirically based illustration of the developmental aspect of burnout. Their model is composed of eight stages in which each stage is characterized by increasing severity of symptoms (Golembiewski et al. 1983). This model accounts for differences found in individuals' experiences, and provides a solid example of the developmental aspect of burnout.

The phase model has received empirical support in the areas of federal government (Golembiewski, & Munzenrider, 1988), police personnel (Burke, Shearer, & Deszca, 1984), coaching (Vealey, Udry, Zimmerman, & Soliday, 1992), and teaching (Quigley, Slack, & Smith, 1987). Burke and Deszca's (1986) examination of 828 individuals employed in law enforcement yielded results that were consistent with earlier studies that demonstrated the existence of phases of burnout (Burke et al., 1984; Golembiewski et al., 1983). Quigley et al. (1987) found that the phase model of burnout provides a useful approach for identifying factors related to higher levels of burnout in teacher-coaches. Within this

framework researchers have been able to provide empirical support for the developmental aspect of burnout, as well as provide a useful practical strategy for examining the phases of burnout.

Characteristics of Burnout

As the definitions indicate, burnout is a multidimensional phenomenon that can affect an individual in a variety of ways. An individual experiencing burnout is likely to experience any number of physical, emotional, psychological, or behavioral symptoms. Researchers have identified a number of symptoms that are common among those suffering from burnout. Physically, burnout has been associated with low energy, colds and flu, psychosomatic complaints, sleep disturbances, headaches, muscle tension, and gastrointestinal problems (Freudenberger, 1980; Golembiewski, & Munzenrider, 1988; Pines et al., 1981; Pines, 1993). The emotional component of burnout has been empirically related to negative feeling states, depression, emotional depletion, guilt, anxiety, irritability, and feelings of helplessness (Golembiewski, & Munzenrider, 1988; Kahill, 1988; Maslach, & Jackson, 1981). Behavioral characteristics include work-nonwork conflict, negative life-style, substance abuse, absenteeism, poor job performance, turnover, and diminishing quality of personal relationships (Golembiewski, & Munzenrider, 1988; Pines et al., 1981). Finally, attitudinal changes have been seen in

the perception of job satisfaction (Cherniss, 1980; Wolpin, Burke, & Greenglass, 1991).

Kahill (1988) conducted a comprehensive review of the empirical literature concerning symptoms of burnout from 1974 to the end of 1984. She examined research studies associating burnout with physical, emotional, behavioral, interpersonal and attitudinal symptoms. Before presenting her conclusions, Kahill (1988) cautioned that it is important to note that, with the exception of physical symptoms and the area of job satisfaction, little empirical evidence has been collected to determine the actual problems experienced by burned out individuals.

Kahill (1988) concluded that there is substantial evidence that burnout is associated with poor physical health in general; but, also reported that physical symptoms manifest themselves variously, not as a single type or set of symptoms. Emotionally, the evidence consistently linked burnout to depression (Kahill, 1988). Burnout was also clearly connected to job turnover, decreased job performance, and substance use (Kahill, 1988). Interpersonally, Kahill (1988) cautioned that specific conclusions could not be stated with confidence due to some contradictory findings and only a small number of investigations. However, she reported that burnout may have a problematic effect on interpersonal relationships with clients, friends, and family members. Finally, Kahill

(1988) reported that negative attitudes have been associated with burnout, especially in the area of job satisfaction.

As part of his examination of burnout among 828 police workers, Burke (1987) examined the correlations of various physical and psychological outcome measures with burnout. He found that individuals who scored high on burnout measures reported more psychosomatic symptoms, more negative feeling states, less job satisfaction, greater work/nonwork conflict, greater intentions to turnover, more engagement in negative life-style practices (e.g. alcohol, smoking, lack of exercise), and evidence of signs of poorer health (e.g., absenteeism from illness, and more medications). These findings confirm and are consistent with other studies which related burnout to individual health and well-being indicators (Burke, & Deszca, 1986; Maslach, & Jackson, 1981; Pierce, & Molloy 1990).

A recent study exclusively focused on the relationship between job satisfaction and burnout (Wolpin et al., 1991). Wolpin et al. (1991) studied of 245 school-based educators measuring, among other things, sources of stress, burnout and job satisfaction. Their analyses yielded a statistically significant relationship between job satisfaction and burnout. Additional analyses suggested that psychological burnout appears to cause lower job satisfaction, not the converse. These results extend earlier findings which only correlated higher levels of

burnout to lower levels of job satisfaction (Cherniss, 1980; Pines, & Aronson, 1988; Rimmerman, 1989).

The extent of these findings demonstrate the potential severity of burnout and its complex nature. There is a great deal of variability found in the way burnout manifests itself; for example each individual suffering from burnout may experience different symptoms and problems. As such, a practical way to conceptualize characteristics of the burnout syndrome is within the general categories of physical, emotional, and behavioral reactions; as opposed to a set of individual, specific symptoms.

Antecedents of Burnout

The complexity and multidimensional aspect of burnout is also reflected in the variety of factors that have been found to contribute to its development. In their attempt to understand the development of burnout researchers have explored a number of individual, organizational, and interpersonal variables. This section will provide a review of empirical research which identified variables related to the development of burnout. While different types of variables will be examined independently, it is important to clarify from the start that none of these variables acts independently or is sufficient to cause burnout alone. It is the interaction of these variables that gives rise to the potential for burnout (Cherniss, 1980; Golembiewski, & Munzenrider, 1988).

The relationship between burnout and demographic variables (such as gender, age, marital status, years of experience, and level of education) has been one area of interest to researchers. While research has identified some significant relationships between burnout and demographic variables, such results have not been substantiated on a consistent basis (Maslach, & Jackson, 1985; Russell, Altmaier, & Van Velzen, 1987). With the exception of concluding that there is great variability in the demographic makeup of people experiencing burnout, the results of these studies are too inconsistent to draw any firm, specific conclusions.

Authorities on burnout agree that individuals at risk for developing burnout are those in emotionally taxing occupations and that they share some common personality traits. High-risk individuals are likely to be highly motivated perfectionists with high ideals and enthusiasm. They enter their chosen occupation with the expectation of making a difference and giving meaning to life (Feigley, 1984; Freudenberger, 1975; Pines, & Aronson, 1988; Pines, 1993).

Along similar lines, Homer (1985) explored the dynamics of burnout from an individual perspective. In his model of he found that burnout is not caused by a stressful work environment alone, but by the individual's workaholic response to that environment (Homer, 1985).

Cherniss (1980), in his examination of 28 new professional in human service occupations, found that "Social Activists and Artisans were more likely to experience disappointment and frustration than were Careerists and Self-Investors" (p.211). Kahill (1986) investigated burnout in 255 professional psychologists and found that it was significantly correlated with professional expectations. Pines and Aronson (1988) reported that when such individuals realize that there contribution to society is less than they hoped, they start to feel empty and disillusioned and burned out.

Another personality factor associated with a high-risk of burnout is the orientation of the individual. High-risk candidates are people-orientated; they are sensitive to others and take a consideration, client-orientated approach to their occupation (Cherniss, 1980; Feigley, 1984; Pines, & Aronson, 1988). In such individuals, burnout may result from their empathic and caring attitudes which leaves them susceptible to becoming over-involved in the life of others, and internalizing their pain.

Cherniss (1980) reported that new professionals' morale was affected by how they were able to help their clients. Any mistake or failure of competence would bring added stress and harm the self-esteem of the individual (Cherniss, 1980). Dale and Weinberg (1989), in an examination of 302 high school and college coaches' leadership styles, found

that coaches with a consideration leadership style consistently perceive themselves to have higher burnout along emotional exhaustion and depersonalization dimensions than coaches with initiating-structure orientations. They concluded that these coaches tend to be genuinely concerned about their players, and may become overly involved in their lives (Dale, & Weinberg, 1989).

The individual's locus of control is another factor that has received researchers attention. Locus of control is an individual's general perception of the contingent relationship between their behavior and the events that follow (Capel, 1986). Capel's (1986) examination of athletic trainers found that an external locus of control was significantly related to measures of total burnout. Similar findings have been obtained in other occupations (Kyriacou, 1987). Such results indicate an individuals who believe that events are only occasionally contingent on their actions are at greater risk for the development of burnout.

While these personality traits identify high-risk candidates, not all individuals who carry these traits experience burnout. Pines and Aronson (1988) assert that burnout is less likely to develop if individuals are aware of it, take some preparation, and take responsibility to do something about it. Homer (1985) contends that the individual understanding his/her role in the problem can

have a positive effect on preventing burnout. Quigley et al. (1987) maintain that an individual's ability to recognize his/her capabilities and limitations reduces the chance of that individual developing burnout. Dale and Weinberg (1989) contend that burnout can be prevented when coaches learn to be more concerned about their own welfare and to not get overly involved in the personal lives of their athletes. As such, these personality styles are not causal factors of burnout; but may increase the risk of the individual to its development.

A second area that has received extensive research is the role that work and organizational factors play in the development of burnout. Organizations place certain demands and constraints on the individual. These demands and constraints can be a source of stress and frustration to the individual. Researchers have examined such variables as tedium/stimulation, absence of positive features, role conflict and ambiguity, role in decision making, feedback, autonomy, and workload for their possible connection to the development of burnout.

Pines et al. (1981) found that bureaucratic organizations share three factors that contribute to the experience of tedium (burnout): overload, lack of rewards, and lack of autonomy. Cherniss (1980) identified eight work-settings variables significantly associated with the development of burnout in professionals in human service

organizations. These variables are: the presence or absence of an orientation process, workload, stimulation, scope of client contact, agreement with institutional goals, autonomy, leadership and supervision, and social isolation (Cherniss, 1980).

Burke (1987) investigated the relationship between burnout and Cherniss's eight work-setting variables, reality shock, role conflict and ambiguity. His examination of 828 police workers revealed significant correlations between burnout measures and Cherniss's work-setting characteristics, reality shock, role conflict and ambiguity. These results provide empirical support for the role of Cherniss's work-setting variables, as well as support the results of an earlier series of studies by Burke and his colleagues (Burke et al., 1984; Burke, & Deszca, 1986).

Golembiewski and Munzenrider (1988) investigated the contribution of organizational variables to phases of burnout. They examined individuals who worked within a federal agency. The researchers found that participation in decision making, job involvement, trust in supervision, trust in employees, willingness to disagree with supervisors, and job tension all appropriately and significantly mapped phases of burnout in the expected directions (Golembiewski, & Munzenrider, 1988).

Taking a systems approach and analyzing feedback mechanisms, Levine, Sell, and Rubin (1992) developed a model

of burnout. They found that job satisfaction was a major process in the burnout situation. In addition they found that while burnout was amplified by such factors as role ambiguity and bad management, those factors were not the cause of the problem (Levine et al., 1992). These results support the view that burnout is the result of an interaction among individual and organizational factors.

Researchers have also investigated the relationship between burnout and role conflict and ambiguity. Pierce and Molloy (1990) examined high and low burnout groups of 750 teachers and found significant differences in the groups scores on role conflict and role ambiguity. Capel et al, (1987) examined high school basketball coaches and found that role conflict predicted total burnout, and that role ambiguity contributed significantly to higher burnout frequency and intensity. These results are consistent with and support findings about role conflict and role ambiguity in earlier work (Burke, & Deszca, 1986; Cherniss, 1980; Freudenberger, 1974).

The final area that researchers have explored is the individual's interpersonal relationships, both within and outside the work environment. Carroll and White (1982) assert that interpersonal relationships may serve as a source of both need gratification and frustration. They contend that interpersonal relationships "can significantly influence whether or not one will experience burnout, the

extent and intensity of the experience, and one's recovery from it" (Carroll, & White, 1982, p. 51). Pines et al. (1981) examined social support systems and categorized them into six categories: listening, technical support, emotional support, emotional challenge, and providing social reality. They asserted that the extent to which each of these support functions are covered, determines to what extent burnout will occur (Pines, et al., 1981). Other researchers have recognized the importance of interpersonal relationships and social support in relation to burnout (Cherniss, 1980; Goodman, 1990; Maslach, & Jackson, 1981).

The interest in the relationship between interpersonal relationships and burnout has also been reflected in the empirical literature. Pines et al. (1981) conducted a study of the relationship between professionals' support systems and tedium. They studied 531 professionals and students and found a negative correlation between social relations (family, friends, coworkers, and acquaintances) and tedium. Maslach and Jackson (1981) reported a significant relationship between difficulties with family and friends, and burnout. Nowack, Gibbons, and Hanson (1985) found that social support significantly related to depersonalization and personal accomplishment dimensions but not to emotional exhaustion.

Research on interpersonal relationships within the work environment has also focused on the relationship between

burnout and supervisor and coworker support. As part of their extensive study, Pierce and Molloy (1990) examined the relationship between social support in the school environment and burnout with teachers. They found that teachers in the high burnout group perceived less social support in the school environment then teachers in the low burnout group. Dignam and West (1988) found that social support on the job had influenced positive health with corrections officers through its direct and negative effect on burnout. Similar results were found with social workers (Wade, Cooley, & Savicki, 1986), helping professions (Cherniss, 1980), counseling center staff (Ross, Altmaier, Russell, 1989), federal employees (Hendrix, Cantrell, & Steel, 1988), and coaches (Vealey et al., 1992).

Despite these positive relationships, empirical studies investigating the relationship between burnout and specific elements of support in the work environment have yielded some mixed results. Russell, Altmaier, and Van Velzen (1987) found that social support from supervisors was found to be a significant predictor of the three dimensions of burnout; however, social support from coworker and spouses was not found to be significantly related to burnout. Jackson, Turner, and Brief (1987) found that supervisory support was only associated with the personal accomplishment dimension of burnout. Koeske and Koeske's (1989) study of 216 social workers found that while demanding workload was

associated with burnout, the most critical factor was low social support from coworkers. While differences exist, the research findings consistently reveal that some type of social support has a positive influence on the individual and a negative influence of burnout.

The relationship between social support outside the work environment and the development of burnout has also been investigated. As with studies on social support in the work setting, these studies have established a negative correlation between social support systems and the development of burnout; meaning the greater the support system the less likely burnout is to develop (Cherniss, 1980; Leiter, 1990; Maslach, & Jackson, 1981).

Cherniss (1980) found a strong relationship between the individual's work and personal life. He found that stress at home impeded adjustment at work and that a lack of a close, stable, available network of family and friends was associated with greater stress and negative change (Cherniss, 1980). Examining burnout in professional psychologists, Kahill (1986) established that burnout (tedium) was significantly correlated with social support, support from friends, and support from family. Rimmerman (1989), using the Maslach Burnout Inventory, found an inverse relationship between family support and burnout. He found that rehabilitation workers ratings of family support negatively correlated with the frequency and intensity of

emotional exhaustion and depersonalization, and positively correlated with measures of personal accomplishment (Rimmerman, 1989). These studies confirm others which have established a relationship between extra-work and burnout in various professions (Davis-Sacks, Jayaratne, & Chess, 1985; Hendrix et al., 1988; Pines et al, 1981).

Leiter (1990) sought to extend findings on family support by examining the extent to which family coping resources were related to changes in burnout over time, and to determine the extent to which they were distinct from professional coping styles. He examined 122 mental health workers over a six month period of time and measured levels of burnout, skill utilization, coping and family resources. Using a LISREL model testing procedure, Leiter (1990) found that family resources were related to emotional exhaustion and depersonalization; while work setting was related to personal accomplishment and depersonalization. The results of his model testing were consistent with the view that family coping resources are independent of work-related coping resources, and extend an individual's capacity to cope with occupational stress. Leiter (1990) concluded that this study provides clarification of the relationships between burnout and various areas of support at work and in the family, and that family resources complement professionally-based resources to alleviate burnout or prevent its development.

The research into antecedents of burnout has revealed the importance of individual, environmental, and interpersonal factors in the development of burnout. The research findings on individual variables suggest that an individual's personality traits and approach to his/her job may predispose that person to burnout. A wide variety of work-setting factors were empirically tested and found related to burnout. Finally, the research on interpersonal relationships clearly indicates that positive social support systems assist the individual and have a negative effect on burnout. The culmination of these findings demonstrate that none of these factors should be considered in isolation; a complete understanding burnout in the individual requires consideration of all areas of his/her personal and occupational experience.

A General Model of Burnout

As has been demonstrated, burnout is a complex multidimensional phenomenon; a wide range of symptoms and causes have been identified. A comprehensive understanding of burnout requires a complete view of individual and occupational factors. Cherniss (1980) developed a conceptual model which accounted for the interaction of different causes and symptoms of burnout. While Cherniss' model is not as detailed as Golembiewski and Munzenrider's (1988) in regards to the developmental aspect of burnout, it proposes that burnout develops over time, and is the result

of the interaction of a variety of occupational and personal variables. This model was chosen as an example because it provides a general schematic of the processes and patterns that contribute to burnout.

Cherniss's (1980) model proposes that work-setting characteristics interact with the individual, his/her particular career orientation, and extra-work demands and support. Together, these factors influence five major sources of stress identified in his research with new professionals (doubts about competence, problems with clients, bureaucratic interference, lack of stimulation, and lack of collegiality) (Cherniss, 1980). The experience of stress mobilizes coping efforts, which is also independently effected by individual and work-setting characteristics. These interactions result in either active problem solving or internal changes in attitudes (burnout). Finally, Cherniss (1980) asserts that attitudinal changes have an impact the person's view of the sources of stress.

Burke and his colleagues empirically tested Cherniss's model in a series of studies with police workers (Burke, et al., 1984; Burke, & Deszca, 1986). As part of their design these researchers included measures of Cherniss's work setting characteristics, sources of experienced stress, negative attitude change, and individual well-being. Results of analyses yielded significant correlations between burnout and Cherniss's factors. Similarly, Burke (1987)

conducted a path analysis to examine the relationships among pairs of variables and found that "work setting variable had a direct effect on burnout as well as an indirect effect on burnout through experienced sources of stress" (p.185) In addition, he found that social support had a significant ameliorating effect on experienced stress. These findings provide empirical support and validation for Cherniss's conceptual model of burnout.

Cherniss's (1980) model provides a comprehensive framework from which burnout can be explored. It includes the interaction of various factors found to contribute to burnout, and examines the occupational related consequences of burnout. As such, Cherniss's model is a valuable and practical guideline from which burnout can be investigated.

The examination of organizational literature has provided a general overview of the nature, causes and consequences of burnout. This overview will serve as a basis for the next part of this paper, an examination of burnout in athletics. As will be discussed, burnout within athletics has only recently caught the attention of sport psychologists. The information that forms conceptual models and theories of burnout have their roots in empirical findings from organizational research. As such, the exploration into occupational burnout was necessary to provide a solid background and understanding to burnout within athletics.

Athlete Burnout

Burnout has been a concern of professionals in the field of athletics since the early 1930's (Paine, 1982). Sport psychologists' have focused on the potential physical and psychological damage that may occur to the burned out athlete. Similar to burnout within bureaucratic organizations, burnout in athletes has been associated with psychosomatic complaints, tension, fatigue, accidents and injuries, depression, isolation, irritability, feelings of helplessness, and decreased efficiency in performance (Feigley, 1984; Heyman, 1986; Silva, 1990). Smith (1986) contends that burnout is a serious problem in which coaches and "elite athletes have dropped out of sports at the peak of their careers, maintaining that they are burned out and that participation has become too aversive for them to continue" (p. 36).

Despite this concern, there has been a virtual lack of research on burnout within athletics (Fender, 1989; Gould, et al., 1996; Rotella et al., 1991; Weinberg, & Gould, 1995). Research has primarily focused on coaches (Caccese, & Mayerberg, 1984) and medical training staff (Capel, 1986). Similar to occupational burnout literature, these studies examined individual and situational variables that contribute to burnout among their respective populations. Burnout has been found to be related to role ambiguity and role conflict in coaches and trainers (Capel et al., 1987;

and Capel, 1986 respectively); leadership style in coaches (Dale, & Weinberg, 1989); gender differences in coaches (Caccese, & Mayerberg, 1984); and overload in high school teacher-coaches (Quigley, et al., 1987). Vealey et al. (1992) found that trait anxiety, perceived overload of demands, lack of autonomy and control were predictors of burnout in high school and college coaches.

While those investigations have provided some insight into burnout in athletics, investigations into burnout with athletes have been scarce. To date, only two empirical studies on burnout specifically with athletes can be found in the existing literature. Primarily, knowledge on athlete burnout has been based on case reports, the research on competitive stress, conceptual models, and the extrapolations of literature on occupational burnout.

This section will explore burnout in athletes. It will begin with a sport specific definition of burnout. From there, this section will provide a basis for understanding athlete burnout by reviewing the literature on competitive stress. Finally, this section will explore the prevalent models of athletic burnout and the work conducted in this area. When appropriate, this section will relate information on competitive stress and athlete burnout to the literature on occupational burnout in order to bridge the gap in these two fields and provide a basis for the present study.

Burnout Within Athletics

Occupational burnout has previously been defined as a reaction to chronic stress characterized by emotional exhaustion, reduced personal accomplishment, and depersonalization (Maslach, & Jackson, 1981). Many sports psychologists contend that athletic situations share many of the same features that have been identified in literature on organizational burnout (Dale, & Weinberg, 1990; Fender, 1989; Smith, 1986). Feigley (1984) contends that youth athletic programs can be compared with bureaucratic management organizations. Among the similarities, Feigley (1984) cited:

> "(1) hierarchical authority in both youth sports and bureaucracies, where authority is vested in an office or position rather than the personal competencies of a leader; (2) rational authority in which decisions are based on the premise that the organization or team has priority; (3) the impersonal application of rules, regardless of the person or circumstance; (4) the division of labor, whereby jobs become specialized and routine so that individuals become trainable, standardized, and replaceable" (p.110).

It has been asserted that the athlete may share some of the same personality traits attributed to those who have developed occupational burnout; for example, perfectionism, extreme dedication to his/her sport, a concern for others, and high energy (Feigley, 1984; Fender, 1989; Gould et al., 1996). At the same time, the athlete may face the same demands, both within and outside the athletic environment, which have been found to be precursors to the development of burnout in organizational employees. For example, lack of

autonomy, tedium/stimulation, lack of social support, and problems with leadership and supervisory support. These similarities seem to suggest that burnout within athletics parallels occupational burnout.

Despite these similarities, there are important differences between athletic situations and organizations that may make it inappropriate to compare the two fields (Fender, 1989; Smith, 1986). Vealey et al. (1992) contend that "burnout experienced by athletes and coaches has different antecedents and perhaps even different psychological, physiological, and behavioral consequences" than burnout experienced by individuals in organizations (p. 56). Fender (1989) asserts that there are significant differences in individual motives in these two fields. She asserts that the athlete's primary concern and reward is based on his/her performance; whereas, an individual in the helping profession first helps others and is rewarded for doing so (Fender, 1989). Additionally, the athlete faces both extreme physical and psychological demands; whereas few organizational employees are subject to both types of pressures. These differences, and many others, make the athletic situation unique; as such, caution should be used when applying organizational variables to the study of athletic burnout.

Fender (1989) examined the definition of occupational burnout and the differences between athletics and

organizations, and developed a revised definition of burnout that is specific to the sport situation. She defines burnout as "a reaction to the stresses of athletic competition that can be characterized by feelings of emotional exhaustion, an impersonal attitude toward those the athlete associates with, and decreased athletic performance" (Fender, 1989, p.64). On a theoretical level this definition seems to accurately portray the burnout syndrome, makes it specific to the athlete, and provides a testable operational definition. However, it is important to note that there has been no research to verify the accuracy of this definition.

Foundations of Athlete Burnout

Attempts to gain insight into the causes of burnout in athletes have been largely conceptual in nature. Because sports psychologists view athlete burnout as a reaction to chronic stress in competitive situations, support and justifications for conceptual models have been based on empirical findings in the literature on competitive stress as well as the literature on occupational burnout (Cohn, 1990; Rotella, et al., 1991; Smith, 1986). This section will explore the area of competitive stress, its consequences, and factors related to its development. Along the way, it will relate the empirical findings to the occupational burnout literature in order to bridge the gap between the two fields and provide a background for the

conceptual model of athlete burnout which will be presented later.

Competitive stress has been defined as a process in which there is a perceived substantial imbalance between competitive demands and the athlete's performance capabilities, under conditions where failure to meet the demands has important consequences and is responded to with increased levels of state anxiety (Martens, 1982; Scanlan, & Passer, 1978). As such, competitive stress is composed of three factors. First, there is an actual environmental demand (labeled the objective competitive situation or OCS) which consists of whatever the athlete has to do to achieve a positive outcome against some standard or evaluative process. Second, there is a perceived response/demand discrepancy (threat) that occurs when an athlete anticipates not being able to respond to the OCS and risks failure and negative evaluation. Finally, there is state anxiety which is a reaction to the first two stages (Martens, 1982; Scanlan, & Passer, 1978).

Proponents of sport argue that sport participation and learning to deal with competitive stress has a valuable effect on physical and psychological development of the athlete. Opponents contend that athletics can harm the psychological and physical health of the child (Gould, Horn, & Spreeman, 1983). Despite these differences, most sport psychologists agree that intense and prolonged competitive

stress has the potential to be harmful to the physical and emotional well-being of the athlete (Feltz, 1986; Hellstedt, 1987; Santomier, 1983). Competitive stress has been associated with anxiety reactions, psychosomatic reactions, depression, acting out and burnout (Heyman, 1986).

Adler, Bonger, and Katz (1982) described two case histories of young athletes who experienced severe stress related reactions to athletic situations. In each case the athlete experienced psychogenic abdominal pain due to excessive stress placed upon him by highly competitive parents and/or coaches. Fender (1989) discussed a case of a twelve year old gymnast who began to throw temper tantrums, act out, and injured himself more often. In dissecting this case, Fender (1989) demonstrated that the young athlete faced parental demands that were extremely high, trained for long hours over many years, and faced more pressure than he was developmentally able to handle. These cases illustrate some of the clinical reactions that may occur as a result of competitive stress.

Hellstedt (1990) examined athletes' affective responses to their perceptions of parental pressure. He measured 104 thirteen year old elite skiers' perceptions and attitudes toward their parents' involvement in their sport. Results of analyses indicated that a majority of the athletes perceived moderate pressure from their parents to compete; but that most athletes viewed this as positive support. A

portion of these athletes (26%) felt that their parents forced them to compete, and that there was a significant relationship between the amount of perceived parental pressure and negative affective reactions (i.e. athlete being unhappy with the pressure) for all athletes tested. In addition, Hellstedt (1990) found that as parental pressure increased: athletes showed greater negative reaction to the pressure, felt more performance pressure, experienced more pressure to remain in the sport than chose an alternative sport or activity, perceived more pressure to train in the off-season and perceived more pressure to meet off season goals.

There are some limitations to Hellstedt's (1990) study. Primarily, the ability to generalize these results is limited by the relatively small sample size and the fact that athletes from only one sport were tested. Hellstedt (1990) also reported difficulties in quantifying and measuring variables. Despite these limits, the results of this study provide some insight into one area of athletic stress (i.e. parental pressure) and into the athletes reactions to this stress. The findings also provide some additional support for earlier research in which it was found that while a minority of athletes drop out of sport due to stress related factors, the majority of attrition was attributed to the pursuit of other activities (Burton, & Martens, 1986; Gould, Feltz, Horn, Weiss, 1981).

While research on the consequences of competitive stress has yielded some valuable information, the majority of empirical investigations have focused on identifying factors that contribute to its development (Gould, Horn, Spreeman, 1983; Lewthwaite, & Scanlan, 1989; Scanlan, & Passer, 1979). The majority of these studies have concentrated on intrapersonal and situational variables related to competitive stress.

Scanlan, Stein, and Ravizza (1991) examined the sources of stress in 26 former national-championship skaters. Using interview and content-analysis procedures, the researchers were able to categorize sources of stress into five central factors. They found that elite skaters perceived that competitive stress resulted from negative aspects of competition (e.g. worries about competition, and competitive failure); negative significant-other relationships (e.g. interpersonal conflict, and performance expectations); demands or costs of skating (e.g. financial demands or costs, time demands of costs); personal struggles (e.g. physical or mental difficulties, and self-doubts); and traumatic experiences (e.g. family disturbances, death) (Scanlan, et al., 1991). These results established that a wide range of factors, both inside and outside the athletic environment, are related the development of competitive stress, and that there are individual differences between athletes' specific stressors (Scanlan et al., 1991).

Scanlan et al.'s (1991) investigation extended an earlier multifaceted research program in which Scanlan and her colleagues examined intrapersonal and situational predictors of stress for youth sport (Lewthwaite, & Scanlan, 1989; Scanlan, & Lewthwaite, 1984; Scanlan, & Passer, 1978; Scanlan, & Passer, 1979). This series of studies identified sources of competitive stress in male and female soccer players, and male wrestlers. Athletes' stress levels were measured prior to, during, and following competition. Regression analyses and factor analysis were used to analyze athletes' responses.

Scanlan and her colleagues found that high precompetitive state anxiety was related to athletes with higher levels of trait anxiety, lower personal performance expectations, lower levels of self-esteem, greater perceived worries about failure, greater worries of social evaluation, greater parental pressure to participate, and lower team performance expectations. Post-competition stress was related to losing, not playing well, and not having fun. Finally, stress during competition was related to poor performance. In general, the results this series of studies were consistent across populations.

Brustad (1988) examined the correlates of positive and negative affect experienced by 207 male and female basketball players. Among the factors studied were parental pressure, sport enjoyment, and competitive trait anxiety.

Contrary to Scanlan and Lewthwaite (1984), results of Brustad's (1988) multiple regression analyses did not find that high perceived parental pressure was a significant predictor of high competitive trait anxiety. However, analyses did reveal that children with lower levels of perceived parental pressure experienced higher levels of season-long enjoyment (Brustad, 1988). Brustad (1988) accounts for these differences concluding that there may be some differences in the types of parental behaviors that the child may perceive as pressure, and that these need to be more thoroughly explored.

Gould, Horn and Spreeman (1983) investigated sources of stress in junior elite wrestlers. They found that the major sources of stress included performing up to one's ability, improving on one's last performance, not wrestling well, and losing. Factor analytic results revealed 33 sources of stress loaded on three dimensions: fear of failure and feelings of inadequacy, external control and guilt, and social evaluation. Results of multiple regression analyses indicated that trait anxiety was a significant predictor of social evaluation, and that both trait anxiety and wrestling experience were significant predictors of fear of failure-feelings of inadequacy factors.

These studies have demonstrated the complexity and extensive number of the factors which contribute to the experience of competitive stress. Multiple factors, both

within and outside the competitive situation, were found to contribute to the development of competitive stress. Substantial individual differences, regarding these factors, were found to exist among the athletes (Gould, et al., 1983; Scanlan, & Lewthwaite, 1984). Scanlan et al. (1991) provided the best summation of the complexity of competitive stress when they conclude that these studies "demonstrate that a comprehensive understanding of an elite athlete's stressors requires consideration of the totality of his or her sport experience" (p. 117).

While the number of studies specifically focusing on competitive stress is relatively small, the research has yielded consistent and reliable findings. These findings appear to parallel those in the occupational burnout literature. Individual factors (e.g. self-esteem, worries about competence), interpersonal factors (e.g. relationship with coaches/supervisors and family), and situational factors (e.g. performance outcome, and demands of sport/job) have been found to contribute to the development of both competitive stress and occupational burnout. Nevertheless, the extent to which these parallels can substantiate conclusions about the development of athlete burnout is still unknown. For the present time it is best to recognize these parallels and use them as a basis of future investigations into the area of athletic burnout.

Conceptual Models of Athletic Burnout

Investigations into competitive stress and knowledge from the organizational psychology literature have provided a basis on which sport psychologists could investigate athlete burnout. Because of the severe physical and emotional costs, there has been growing interest in exploring burnout among athletes. Dale and Weinberg (1990) note that, from an anecdotal point of view, the athlete has received the most attention where burnout is concerned. Weinberg and Gould (1995) assert that "anecdotal reports of burned out athletes share common themes: Athletes feel pressure from coaches and parents to perform at high levels and have trained extremely hard for too long at the expense of other pleasures in life" (p. 441). Despite this growing interest, there is still a lack of scientific investigations into athlete burnout and a great need for sound, comprehensive empirical investigations.

In recent years, conceptual models have been formed and scientific investigations have started. Smith (1986) was the first sport psychologist to develop a conceptual model of athlete specific burnout. His model was based on social exchange theory, his cognitive-affective model of competitive stress, and the occupational burnout literature. Smith (1986) used social exchange theory to define the conditions under which sport withdraw can be attributed to burnout, and knowledge of organizational burnout literature

as a basis for his cognitive-affective model.

In Smith's (1986) model, personality and motivational factors interact with situational factors, cognitive appraisal of the situations, and behavioral and physiological responses in order to determine an individual's response to a stressful situation. The situational component of Smith's (1986) model is composed of a variety of factors within the athlete's environment (e.g. the nature of the sport, and demands from coaches, teammates and parents). This component determines the demands placed on the athlete. The cognitive component consists of the athlete's appraisal of the situation and his\her ability to cope with the demands (Smith, 1986). Here, Smith (1986) contends that an "imbalance between demands and resources over a long period of time can give rise to a number of cognitions that have been identified in burnout victims" (p.42) (e.g. perceived overload, low perceived control, and learned helplessness). The physiological and behavioral components represent the athlete's reactions or responses to his\her cognitive appraisals. In the case where there is long-term perceived imbalance the athlete may exhibit such signs as tension, anxiety, fatigue, rigid behavior, decreased performance, interpersonal difficulties, and even withdrawal from sport. As such, Smith (1986) conceptualized burnout to represent the "manifestations or consequences of the situational, cognitive, physiological, and behavioral

components of stress" (p. 42).

Smith (1986) uses social exchange theory to account for differences in types of sport withdraw. According to Smith's (1986) explanation of social exchange theory, people participate in an activity only as long as the outcomes of participation outweigh those for alternatives. Smith (1986) contends that the decision to remain or withdraw from a situation is based on two factors. First, an analysis of the rewards and costs of the athletic situation. Then a comparison of the outcomes between rewards and costs of participation and the rewards and costs of alternative activities. Burnout-induced withdrawal is the result of increased stress-induced costs; whereas, other types of withdrawal occur when the comparison level for alternatives is raised above the participation outcome for sport (Smith, 1986).

Schmidt and Stein (1991) examined and criticized Smith's (1986) model stating that it does not provide a complete theoretical explanation of differentiation between athletic dropout or burnout. They maintain that in Smith's social-exchange theory the athlete will withdrawal from sport as soon as stress pushes the outcome below the comparison level for alternatives. As such, they contend that Smith's model is not able to account for continued participation in the face of chronic stress (Schmidt, & Stein, 1991).

Schmidt and Stein (1991) also assert that dropout and burnout are not clearly differentiated by a rewards, cost, and alternatives model. For example, Smith's (1986) model has dropout occurring as the result of rising comparison level of alternatives, Schmidt and Stein (1991) contend that dropout also can result from a decline in the participation outcome while comparison levels remain steady. They maintain that "if this is the case, then dropout becomes difficult to distinguish from burnout as described by Smith" (Schmidt, & Stein, 1991; p. 256).

Schmidt and Stein (1991) propose an investment model of burnout which accounts for the problems found in Smith's model. Based on commitment theory, they contend that a high-risk athlete may experience a sharp increase of participation related costs with no attendant rise in rewards, the perception of low or nonexistent alternatives, and an increase in already-high investments in sport (Schmidt, & Stein, 1991). To these theorists, it is the "combination of alternatives and investments that distinguishes burnout from dropout" (Schmidt, & Stein, 1991, p.261). Schmidt and Stein (1991) assert that athletes may become "candidates for burnout because they continue to compete after they have ceased to enjoy it" (p.262).

Both Smith's (1986) and Schmidt and Stein's (1991) models are unique in that they focus on the differentiation between burnout-based withdraw from sport and other types of

withdraw. These models extend the current knowledge of burnout to athletic situations. They rely on and apply organizational findings about the nature, causes, and consequences of burnout to provide a basis for their model. They recognize the role of stress in the burnout process and view burnout as a developmental process. Finally, these models support the interaction of situational (sport), individual (personality traits), and interpersonal variables in the development of athlete burnout by using findings from organizational and competitive stress literature (Smith, 1986).

As such, these models make several important contributions to conceptualizing burnout within athletics. They provide practical distinctions between burnout induced withdrawal and other types dropout in athletics. They accurately reflect the current knowledge of the burnout phenomenon and its consequences. Finally, they extend knowledge of occupational burnout to athletic situations and provide a theoretical explanations for burnout in athletics.

Cohn (1990) conducted the first empirical investigation of burnout with athletes. His research was designed to explore sources of competitive stress in high school golfers (N = 10), and to determine whether burnout can be traced to the sources of competitive stress. Cohn (1990) conducted guided interviews consisting of both open-ended and specific questions related to the experience of stress and burnout in

youth golfers.

Cohn (1990) used a typological analysis to analyze the athletes interview responses. Cohn's (1990) analysis of interview transcripts revealed that the most frequently reported sources for competitive stress were: trying to perform up to personal standards, playing difficult shots, performing in front of a crowd, practicing less than desired, playing in poor weather, and striving to meet parents expectations. In regards to burnout, Cohn (1990) found that the most frequently reported reasons were the following: too much practice or playing, lack of enjoyment, having no new goals to strive for, going into a slump, and pressure from self and others to perform well.

Recently, Gould et al. (1996a) and Gould, Tuffey, Urdy, and Loehr (1996b) examined burnout in competitive junior tennis players. In the first phase of a two stage study, 30 athletes identified by U.S. Tennis Association personnel as burned out and 32 comparison athletes completed a battery of psychological tests. Gould et al. (1996a) found that, in contrast to comparison athletes, burned out athletes experienced higher burnout scores, had less input into training, were more likely to have played high school tennis, more likely to play in higher age brackets, practiced fewer days, were lower in external motivation, were more withdrawn, were more perfectionistic, were less likely to use coping strategies, and were lower on positive

interpretation and growth coping. Based on these results the authors concluded that a variety of personal, situational, and intrapersonal factors play a role in burnout.

In the second stage a content analysis was conducted on the interviews of 10 athletes who were identified as burned out. The primary focus of this phase was to identify the characteristics and/or symptoms of burned out athletes. Gould et al. (1996b) found that the "most frequently cited characteristics included: (a) a lack of motivation, (b) frustration, (c) being moody and irritable, and (d) physically lacking energy" (p. 361). Given these results, the authors concluded that most cases of athlete burnout can be explained by Smith's (1986) model in that both personal and situational factors have been identified as determinants of burnout, as well as the athletes' interpretation of events causing stress (Gould, et al. 1996b).

Both Cohn's (1990) and Gould et al.'s (1996) research establish the roles of stress, situational, interpersonal, and individual variables in burnout in athletes. In addition, the results provide support for both situational and cognitive components of Smith's (1986) model of burnout. Situational factors such as training demands and the repetitive actions were related to both stress and burnout. Similarly, stress and burnout were related to cognitive components such as perceived pressure from self and others.

As such, Cohn's (1990) conclusion that the "importance of exploring sources of stress in athletes when investigating causes of burnout" (p. 105) seems appropriate.

While these studies provide support for and insight into burnout in athletes, there are some limitations into the research that need to be addressed. In each study there was an extremely small sample size, and generalizations are limited due to the study of a single population. In Cohn's (1990) study, burnout was measured through subjective questions, not through reliable and valid empirical measures; further, none of the athletes who reported experiencing burnout withdrew from golf because of burnout did so for longer than 14 days. Both studies were retrospective in nature; as such, it is possible that other factors (e.g. memory decay) may have influenced the findings. Despite these limits, these studies empirically establish that athletes do experience burnout and the experience of burnout it is linked to competitive stress.

The Current Study

The conceptual models of Smith (1986) and Schmidt and Stein (1991), and the empirical work of Cohn (1990) and Gould et al. (1996a, 1996b) take some positive first steps into investigating burnout in athletes. While burnout has received interest from sport-related clinicians in the past, these sport psychologists have taken empirical findings from research on competitive stress and the occupational burnout

literature, and applied them to the athletic situation. Smith (1986) and Schmidt and Stein (1991) have presented practical conceptual models of athlete burnout which account for both its development and for differences in types of withdraw from sport participation.

Cohn (1990) and Gould et al (1996) have provided the first evidence of empirical support for the existence of burnout in athletes. These studies have also provided empirical support for the roles that stress, interpersonal, situational, and individual variables play as precursors to athlete burnout. As such, Cohn's (1990) and Gould et al.'s (1996) studies provide important information about burnout in athletes, and serves as a forerunner for future investigations.

Despite the valuable contributions of these researchers, many questions remain unanswered. There is a need for more empirical support into the existence of athlete burnout in both individual and team sports. Links between competitive stress and burnout need to be validated and replicated. Factors contributing to the development of burnout must be identified and studied. Finally, similarities and differences between athlete burnout and occupational burnout need to be investigated.

The current study was designed to investigate factors which contribute to the development of burnout in student athletes. The purpose of the present study was to develop a

model which examines the relationship between the athletes' experience of burnout and individual, interpersonal, and sport-specific factors. Specifically, the original model proposed that athlete burnout would be related to athletes' personality traits (self-image & extraversion), their experience of competitive stress, level of confidence in their athletic abilities, and their perception of social support.

Hypotheses

Hypothesis 1: Competitive trait anxiety will have a direct effect on student athletes' experience of burnout.

Hypothesis 2: Athletes' reactions to their perceptions of the support of significant adults will have a direct effect on their experience of burnout.

Hypothesis 3: Athletes' general tendency to experience negative affects (neuroticism) will have a direct effect on their experience of burnout.

Hypothesis 4: Athletes' level of extraversion will have an indirect effect on their experience on burnout through the athletes' perception of support from significant adults.

Hypothesis 5: Athletes' level of neuroticism will have an indirect effect on their experience of burnout through their experience of competitive trait anxiety.

Hypothesis 6: Athletes' level of sport self-confidence will have an indirect inverse effect on the athletes'

experience of burnout through its inverse effect on the experience of competitive trait anxiety.

Hypothesis 7: Athletes' level of neuroticism will have an indirect effect on their experience of burnout through its inverse relationship with the athletes' level of self-confidence.

# METHOD

## Subjects

The subjects were 80 male and 20 female teenage amateur athletes. The subject sample was obtained from High Schools in California and Michigan and a one year post high school College Preparatory in Rhode Island. The average age of participants was 17.24 years old. Athletes who participated in this study represented: football (n=45), basketball (n=14), baseball/softball (n=17), track (n=11) and other sports (n=11). Sixty-five percent of the athletes were involved in more than one sport. The average number of years athletes were involved in their primary sport was 5.7, and the average number of years participating in organized athletics was 8.9. On average, the number of hours per week that the athletes were involved in their sport was 17. Table 1 provides some demographic information.

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Insert Table 1 about here

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## Instruments

### A. The Maslach Burnout Inventory (MBI)

Burnout was measured with The Maslach Burnout Inventory (MBI) (Maslach, & Jackson, 1986). This is a 22 item questionnaire comprised of three subscales: emotional exhaustion, depersonalization, and personal accomplishment. Scores on the MBI reflect burnout on a frequency continuum

Table 1
Demographic Characteristics
of Athlete Sample (n=100)

| | | n | cf | male | female |
|---|---|---|---|---|---|
| Gender: | Male | 80 | 80 | | |
| | Female | 20 | 100 | | |
| Age: | 15 yrs | 01 | 01 | 01 | 00 |
| | 16 yrs | 40 | 41 | 36 | 05 |
| | 17 yrs | 21 | 62 | 15 | 06 |
| | 18 yrs | 17 | 79 | 12 | 05 |
| | 19 yrs | 14 | 93 | 10 | 04 |
| | 20 yrs | 07 | 100 | 07 | 00 |
| | Average Age: | 17.25 yrs | | | |
| Race: | Caucasian: | 55 | 55 | 46 | 09 |
| | Asian: | 16 | 71 | 14 | 02 |
| | Afro American: | 16 | 87 | 13 | 03 |
| | Latin: | 09 | 96 | 05 | 04 |
| | Other: | 01 | 97 | 00 | 01 |
| | No answer: | 03 | 100 | | |
| Year in School: | Soph | 21 | 21 | 17 | 04 |
| | Junior | 25 | 46 | 21 | 04 |
| | Senior | 26 | 72 | 21 | 05 |
| | Jr College | 27 | 99 | 20 | 07 |
| | No answer | 01 | 100 | | |
| Sport: | Football | 45 | 45 | 45 | 00 |
| | Basketball | 14 | 59 | 07 | 07 |
| | Baseball/ Softball | 17 | 76 | 08 | 10 |
| | Track | 11 | 87 | 10 | 03 |
| | Other | 13 | 100 | 13 | 00 |

Average years playing primary sport: 5.7

Average years involved in organized athletics: 8.9

Average hours per week spent on the sport: 17

Percentage of participants who participate in more than one sport: 65

from "never" to "everyday" experiences.

Maslach and Jackson (1981) provided data regarding internal consistency, convergent and discriminant validity of the MBI. Internal consistency was estimated by Cronbach's coefficient alpha. The reliability for the frequency and intensity of the subscales were emotional exhaustion (alpha = .89, .86; respectively), personal accomplishment (alpha = .74, .74; respectively), and for depersonalization (alpha = .77, .72; respectively).

This study used an adapted version of the MBI. References to "work" were changed to "sport" or "practice"; and references to "recipients" were changed to "teammates" or "coaches." Revised versions of the MBI have been supported in previous investigations (Quigeley, et al., 1987; Fimian et al., 1989). Golembiewski et al. (1983) adapted the MBI to make it applicable to organizational settings. They found that changes did not affect the reliability or validity of the instrument (Golembiewski, et al., 1983). Similarly, Quigeley et al. (1987) made adaptations to the MBI so that it would be applicable to the coaching profession and found no distortions in the MBI's intent or results. Finally, Fimian et al (1989) made adaptations to the MBI for use with a student population (10 - 17 years old) and report internal consistency and validity scores.

B. The Sport Competition Anxiety Test (SCAT)

The Sport Competition Anxiety Test is a 15 item 3 point Likert scale designed for measuring a predisposition perceive competitive situations as threatening and to respond to these situations with varying levels of state anxiety (Martens, 1982). The SCAT has been tested for reliability and validity. Reliability studies have focused on test-retest and internal consistency measures (Martens, 1982). The SCAT was found to be reliable on both measures. In addition, Martens (1982) presents support for the content validity, concurrent validity, and construct validity of the SCAT.

Corcoran (1989) conducted a sociometric study of the SCAT. He examined the SCAT the responses from 55 basketball players. Using heterotrait-heteromethod analyses, Corcoran (1989) found that the SCAT does not relate to a tendency to gripe or complain (all correlations < .07); however, the SCAT related to how nervous a player saw himself/herself before the game ( r = .56) and how teammates ranked the level of nervousness of the player before the game (r = .54). From these results, Corcoran (1989) concluded that the SCAT distinguishes between anxiety and other variables, and that it appears to have both discriminant and convergent validity.

C. The Trait Sport-Confidence Inventory

The Trait Sport-Confidence Inventory is a 13 item 9

point Likert scale designed for measuring "the belief or degree of certainty individuals possess about their ability to be successful in sport" (Vealey, 1986). Vealey has demonstrated acceptable internal consistency (Cronbach's alpha = .93), test-retest reliability (.86 for 14 to 18 year old athletes), concurrent validity, and construct validity. Prapavessis and Grove (1994) report that the TSCI's concurrent validity has been demonstrated as the TSCI correlates in the theoretically appropriate direction with measures of competitive trait anxiety, external locus of control, and preceived physical ability and self-presentation. In thier analyses, they found that trait sport-confidence were associated with confusion (multiple r = .49), vigor (multiple r = .47), esteem related affect (multiple r = .59) and total mood disturbance (multiple r = .41). Martin and Gill (1991) found that the TSCI was a significant and powerful predictor of of state sport-confidence (multiple r = .64).

D. The NEO-FFI Personality Inventory

The NEO-FFI Personality Inventory is a 60 item Likert scale designed for measuring the standard five-factors of normal adult personality (neuroticism, openness, agreeableness, extraversion, and conscientiousness) (Costa, & McCrae, 1992). Costa and McCrae (1992) report that the NEO-FFI is a shortened version of the NEO-PI-R, and its scales correlate with the NEO-PI-R domain scales ranging

from .77 to .92. The NEO-FFI is reported to have internal consistency values ranging from .68 to .86 (Costa, & McCrae, 1992).

Holden and Fekken (1994) examined the psychometric properties of the NEO-FFI on a sample of 243 Canadian university women. They reported strong internal consistency for each dimension (neuroticism: alpha = .87, extraversion: alpha = .84, openness: alpha = .73, agreeableness: alpha = .75, and conscientiousness: alpha = .81). They concluded that the NEO-FFI is a reliable and structurally sound instrument.

E. The Sport Environment Questionnaire

The Sport Environment Questionnaire is a scale created by the researcher which measures athletes' perception of the costs of athletic participation, athletes' perceptions of significant adult support (parents and coaches), the athletes' reactions to significant adult support, the athletes' motivation and the athletes' cognitions about failure and adult expectations.

This scale contains 41 items which the athlete rates on a 5 point Likert scale. This measure contains 10 items related to the athletes' perceptions of significant adult support which were adopted from Turner, Frankel and Levin's (1983) Provisions of Social Relations Scale (PSR). There are 10 items related to the athletes' worries about failure, and worries about adult expectations and social evaluation

which were adopted and modified from Scanlan & Lewthwaite (1984) study. Eight items comprise the athletes' perceptions of the cost of athletic participation. Eight items measure the athletes reactions to their perception of significant adult support. Finally, five items comprise a measure of the athletes' motivation to compete.

Procedure

Data were collected by using questionnaires. All athletes completed questionnaires on their own time. Data collection occurred in the second half of the athletes' respective seasons.

First, the researcher contacted Athletic Directors from various high schools in Michigan and California and a one year post-high school College Preparatory from Rhode Island and explained the nature of the study, means to insure confidentiality and anonymity, and attempted to elicit participation. Once an institution agreed to participate, the researcher met with athletes at team meetings and explained the purpose of the study, and means to assure confidentiality and anonymity. Athletes were then be given the opportunity to participate, participation was strictly voluntary. Athletes who agreed to participate, were provided with parental consent forms (athletes above the age of 18 were allowed to sign consent forms and exchange them for the questionnaire package that day). A second meeting was arranged where the athletes exchanged signed

consent forms for research packets and then received brief verbal instructions on completing questionnaires. Finally, a follow-up meeting was arranged in which the athletes returned research packet, and had the opportunity to ask any follow-up questions.

A total of 184 athletes agreed to participate in this study. Of the 184 prospective subjects, 104 questionnaires were returned. Four of these questionnaires were disqualified from this study because the subjects responded to less than half of the items. Thus 100 subjects were included in this study, for a response rate of 55%.

Data Analysis

Initially, testing of the reliability of the measurement model was conducted. The first step consisted of an exploratory factor analysis conducted using Principal Axis with commonalities and a Varimax rotation. This provided information on the clustering of the various items. Once this was accomplished, confirmatory analyses was conducted on all the items of the various questionnaires. Using Multiple Groups Factor Analysis, the confirmatory process examined the correlations of items within groups and how well items in the same scale correlated with others measures.

The second step consisted of an analysis of the theoretical model. Correlations from the confirmatory stage were corrected for attenuation to add power to the measures.

Path analyses were conducted to determine the fit of the proposed model. Path coefficient confidence intervals were used to assess the probability that paths studied were not be equal to 0. These analyses provided statistical evidence concerning the justification of the connections proposed in this model.

# RESULTS

Based on the limited nature of the sample (n=100) and the large number of variables contained in the dependent measures employed (145 variables in five measures), some dependent measures were excluded. The determination of which measures to keep and which to discard was arrived at through the implementation of several criteria. First, a review of the literature helped to identify the most appropriate measures. Second, the current research hypotheses were reviewed and those most crucial to the overall thrust of this study were retained. These two considerations allowed for the elimination of some of the dependent measures' scales/items. Finally, an initial reliability analysis was performed on the scales of each dependent measure. Items with low or moderate item-total correlations (<.70) were removed from the analysis.

Through the elimination of a number of scales/items, a final variable set was obtained that contained 47 variables comprising 8 revised scales from 5 inventories. A list of the variables, along with their respective inventory or scale, is presented in Table 2.

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Insert Table 2 about here

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Table 2
Final Set of analysis Variables (n = 47)

| Measure | Item |
|---|---|
| **Sport Environment Questionnaire** | SSI1. No matter how well I perform, I know my parents will always be there for me should I need them. |
| | SSI10. This sport places too many physical demands on me. |
| | 11. My family lets me know they think I'm a worthwhile person. |
| | SSI20. This sport places too many emotional demands on me. |
| | SSI23. I feel frustrated and angry by my parents reactions to my performance. |
| | SSI24. My coach has confidence in me. |
| | SSI26. My coach lets me know I'm a worthwhile person. |
| | SSI35. No matter what happens, I know that my coach will always be there for me should I need him. |
| | SSI40. I know my parents will always stand by me. |
| **Sports Competition Anxiety Test** | SCAT1. Competing against others is socially enjoyable. |
| | SCAT5. When I compete I worry about making mistakes. |
| | SCAT7. Setting a goal is important when competing. |
| | SCAT8. Before I compete I get a queasy feeling in my stomach. |
| **Maslach Burnout Inventory** | |
| Emotional Exhaustion Scale | MBI1. I feel emotionally drained from my sport. |
| | MBI6. Practicing with other people is really a strain for me. |

Table 2 (cont'd)

| | |
|---|---|
| | MBI14.I feel I'm working too hard on my sport. |
| | MBI20. I feel like I'm at the end of my rope. |
| Depersonalization Scale | MBI5. I feel I treat some teammates as if they were impersonal "objects." |
| | MBI10. I've become more callous toward people since I started this sport. |
| | MBI11. I worry that this sport is hardening me emotionally. |
| **Sport Self-Confidence Inventory** | SC1. Compare your confidence in your ability to execute the skills necessary to be successful to the most confident athlete you know. |
| | SC2. Compare your confidence in your ability to make critical decisions during competition to the most confident athlete you know. |
| | SC3. Compare your confidence in your ability to perform under pressure to the most confident athlete you know. |
| | SC4. Compare your confidence in your ability to execute successful strategy to the most confident athlete you know. |
| | SC11. Compare your confidence in your ability to meet the challenge of competition to the most confident athlete you know. |
| **NEO-PI** | |
| Neuroticism Scale | NEO1. I am not a worrier. |
| | NEO6. I often feel inferior to others. |
| | NEO11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces. |
| | NEO16. I rarely feel lonely or blue. |

Table 2 (cont'd)

| | |
|---|---|
| | NEO21. I often feel tense and jittery. |
| | NEO26. Sometimes I feel completely worthless. |
| | NEO36. I often get angry at the way people treat me. |
| Extraversion Scale | NEO12. I don't consider myself especially "light-hearted." |
| | NEO17. I really enjoy talking to people. |
| | NEO22. I like to be where the action is. |
| | NEO27. I usually prefer to do things alone. |
| | NEO32. I often feel as if I'm bursting with energy. |
| | NEO47. My life is fast paced. |
| | NEO52. I am a very active person. |
| Conscientiousness Scale | NEO10. I'm pretty good about pacing myself so as to get things done on time. |
| | NEO25. I have a clear set of goals and work toward them in an orderly fashion. |
| | NEO30. I waste a lot of time before settling down to work. |
| | NEO35. I work hard to accomplish my goals. |
| | NEO45. Sometimes I'm not as spendable or reliable as I should be. |
| | NEO50. I am a productive person who always gets the job done. |
| | NEO55. I never seem to be able to get organized. |
| | NEO60. I strive for excellence in everything I do. |

Exploratory Factor Analysis

All factor analyses were conducted using the Factor Analysis module of Statistica® for Windows®, release 5.0. Two tests were initially performed to ensure the appropriateness of factor analysis. Bartlett's test of sphericity, which tests the hypothesis that the correlation matrix is an identity matrix and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy were calculated. For Bartlett's test, the observed chi-square value of 2,543 with 35 degrees of freedom ($p < .0001$) prompts us to reject the null hypothesis that the population correlation matrix is an identity matrix. Further, the observed KMO value of .63, while not spectacular, does suggest that factor analysis is appropriate.

A principal component analysis (PCA) was conducted using the 47 items listed above. Because PCA serves as the initial data reduction technique, no precise eigenvalue or number of factors is specified. The main purpose here is to extract linear combinations of variables (principal components) from a larger set of correlated variables, keeping in mind our ultimate aim of data reduction (SPSS Professional Statistics 6.1, 1993).

Three criteria were employed in deciding how many factors to retain in the final, varimax-rotated, EFA. Kaiser's criterion (1960), which suggests retaining factors with eigenvalues greater than 1.0, and a scree plot of the

eigenvalues were first evaluated. Evaluation of these measures indicated a solution containing thirteen factors, explaining 71% of the total variance (see Table 3). It has been noted that the Kaiser criterion sometimes suggests retaining too many factors, while the scree test sometimes suggests too few (StatSoft, Inc., 1995). Therefore, our third criterion, an examination of the items contained in

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Insert Table 3 about here

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the prospective factors, was performed. This interpretation of the factor structure led to the adoption of an eight factor solution. The five factors that were discarded contained less than three items each and the items did not relate to each other in a meaningful way. Because a "good factor solution [should be] both simple and interpretable" (SPSS Professional Statistics 6.1, p. 49, 1993), the acceptance of the more parsimonious eight factor solution is preferable.

A varimax-rotated EFA was then conducted on the 47 items, specifying an eight factor extraction. As noted in the table above, the final eight factor solution explained 58% of the total variance. This proportion of explained variance, while not ideal, is acceptable based on the considerations mentioned earlier.

TABLE 3

Unrotated Principal Components Analysis: Initial Statistics

| Factor | Eigenvalue | Pct. of Variance | Cumulative Pct. |
|---|---|---|---|
| 1 | 8.30 | 17.7 | 17.7 |
| 2 | 4.38 | 9.3 | 27.0 |
| 3 | 3.68 | 7.8 | 34.8 |
| 4 | 2.93 | 6.2 | 41.0 |
| 5 | 2.37 | 5.1 | 46.1 |
| 6 | 2.11 | 4.5 | 50.6 |
| 7 | 1.87 | 4.0 | 54.5 |
| 8 | 1.76 | 3.7 | 58.3 |
| 9 | 1.49 | 3.2 | 61.5 |
| 10 | 1.28 | 2.7 | 64.2 |
| 11 | 1.19 | 2.5 | 66.7 |
| 12 | 1.06 | 2.3 | 69.0 |
| 13 | 1.03 | 2.2 | 71.1 |

Table 4, below, contains the EFA summary information.

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Insert Table 4 about here

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Confirmatory Factor Analysis

Preliminary Data Analysis

As has been suggested by a number of researchers (Miller, Ellis, Zook & Lyles, 1990; Hunter, 1980), homogeneity of content, internal consistency, and parallelism should be the criteria through which we assess the unidimensionality of the scales in our confirmatory factor analysis. Assessing the homogeneity of content was accomplished by carefully examining item content within each factor. As the term implies, homogeneous items should relate to each other and the construct (factor) to which they belong in both a practically and theoretically meaningful way.

Internal consistency was evaluated through use of Cronbach's alpha (1951). Based on the average correlations of items within a test, Cronbach's alpha has several interpretations. One interpretation views the alpha as the correlation of the scale to all other scales containing the same number of items that could be constructed from an unlimited universe of items that measure the dimension in question (SPSS Professional Statistics 6.1, 1993). A second interpretation is that the alpha is the squared correlation

TABLE 4: Factor Loadings for the Varimax Rotated Eight Factor Solution (n=100)

| Item | (1) Burnout | (2) Sport Self- | (3) Competitive Trait Anxiety | (4) Poor Self Image | (5) Social Support | (6) Extraver- sion | (7) Neurot- icism | (8) Isolate |
|---|---|---|---|---|---|---|---|---|
| MB20 | **0.73** | -0.07 | 0.29 | -0.12 | -0.14 | -0.10 | -0.07 | 0.14 |
| MB14 | **0.73** | -0.14 | -0.01 | -0.11 | -0.16 | -0.09 | -0.13 | 0.07 |
| SSI1 | **0.72** | -0.13 | 0.03 | 0.07 | -0.10 | -0.04 | -0.17 | 0.17 |
| SSI2 | **0.71** | -0.20 | 0.16 | -0.03 | -0.08 | 0.03 | -0.18 | 0.06 |
| MB1 | **0.62** | -0.09 | 0.36 | -0.29 | -0.08 | -0.10 | 0.09 | 0.07 |
| MB11 | **0.61** | -0.01 | 0.04 | 0.00 | -0.17 | 0.23 | -0.06 | -0.17 |
| MB10 | **0.58** | 0.02 | -0.02 | -0.02 | -0.02 | 0.25 | 0.23 | -0.47 |
| SSI2 | **0.56** | 0.02 | -0.16 | -0.13 | -0.10 | 0.03 | -0.24 | -0.15 |
| MB6 | **0.49** | 0.23 | 0.03 | -0.09 | 0.09 | -0.20 | 0.06 | -0.09 |
| MB5 | **0.43** | -0.12 | 0.00 | -0.35 | -0.01 | -0.04 | 0.27 | -0.26 |
| SC1 | -0.08 | **0.83** | -0.14 | 0.08 | 0.06 | 0.06 | 0.01 | -0.06 |
| SC2 | -0.13 | **0.81** | -0.08 | -0.04 | 0.10 | 0.23 | 0.08 | -0.06 |
| SC3 | -0.05 | **0.81** | -0.15 | 0.11 | -0.05 | 0.17 | 0.11 | 0.04 |
| SC4 | -0.08 | **0.78** | -0.07 | 0.00 | 0.13 | 0.21 | 0.04 | 0.07 |
| SC11 | -0.03 | **0.74** | -0.26 | 0.09 | 0.14 | 0.26 | -0.03 | 0.07 |
| SCAT | -0.06 | -0.20 | **0.85** | -0.09 | -0.02 | 0.05 | 0.01 | 0.05 |
| SCAT | 0.07 | -0.12 | **0.84** | -0.12 | 0.10 | 0.00 | -0.16 | -0.17 |
| SCAT | 0.12 | -0.19 | **0.81** | 0.01 | 0.13 | -0.08 | -0.11 | -0.04 |
| SCAT | 0.15 | -0.11 | **0.80** | 0.01 | 0.00 | -0.08 | -0.04 | -0.04 |
| NO21 | 0.27 | 0.02 | **0.54** | -0.36 | -0.07 | 0.04 | -0.37 | -0.01 |
| NO10 | 0.03 | 0.06 | 0.00 | **0.72** | 0.11 | 0.00 | 0.01 | -0.10 |
| NO30 | -0.18 | -0.20 | -0.08 | **0.68** | 0.06 | -0.10 | -0.10 | 0.05 |

| Item | (1) Burnout | (2) Sport Self- | (3) Competitive Trait Anxiety | (4) Poor Self Image | (5) Social Support | (6) Extraver- sion | (7) Neurot- icism | (8) Isolate |
|---|---|---|---|---|---|---|---|---|
| NO45 | -0.21 | 0.29 | 0.06 | **0.61** | -0.07 | 0.03 | 0.07 | 0.18 |
| NO6 | 0.07 | -0.31 | 0.14 | **-0.58** | -0.02 | -0.01 | -0.43 | -0.12 |
| NO55 | -0.13 | -0.13 | -0.21 | **0.57** | 0.07 | 0.14 | 0.13 | -0.17 |
| NO26 | 0.17 | -0.12 | 0.02 | **-0.52** | -0.11 | -0.04 | -0.50 | -0.12 |
| NO25 | -0.06 | 0.11 | -0.01 | **0.48** | 0.09 | 0.44 | -0.26 | 0.19 |
| NO50 | 0.03 | 0.13 | -0.15 | **0.44** | 0.16 | 0.35 | -0.06 | 0.30 |
| SSI4 | -0.13 | 0.13 | 0.15 | 0.11 | **0.72** | 0.01 | 0.00 | -0.21 |
| SSI1 | -0.12 | 0.14 | 0.16 | 0.03 | **0.72** | 0.12 | -0.08 | -0.09 |
| SSI2 | -0.04 | 0.16 | -0.03 | 0.03 | **0.69** | 0.09 | 0.04 | 0.26 |
| SSI3 | -0.06 | -0.03 | -0.16 | 0.12 | **0.69** | 0.13 | 0.16 | 0.19 |
| SSI2 | -0.05 | -0.03 | -0.10 | 0.04 | **0.66** | 0.14 | 0.08 | 0.36 |
| SSI1 | -0.23 | -0.01 | 0.09 | 0.03 | **0.58** | 0.00 | 0.04 | -0.18 |
| NO35 | 0.02 | 0.07 | -0.07 | 0.33 | -0.02 | **0.68** | -0.08 | -0.04 |
| NO52 | 0.07 | 0.04 | 0.01 | 0.09 | 0.24 | **0.65** | 0.09 | 0.07 |
| NO22 | 0.02 | 0.18 | -0.06 | -0.14 | 0.02 | **0.64** | 0.21 | 0.12 |
| NO32 | -0.11 | 0.23 | -0.07 | -0.05 | -0.01 | **0.63** | 0.00 | 0.05 |
| NO47 | -0.09 | 0.11 | 0.09 | -0.04 | 0.06 | **0.62** | -0.10 | -0.07 |
| NO60 | 0.09 | 0.15 | -0.04 | 0.27 | 0.08 | **0.60** | 0.27 | 0.00 |
| NO17 | -0.04 | 0.15 | 0.00 | -0.15 | 0.16 | **0.57** | 0.02 | 0.44 |
| NO1 | 0.16 | -0.25 | -0.02 | 0.03 | -0.06 | -0.12 | **-0.65** | -0.04 |
| NO16 | 0.01 | 0.16 | 0.23 | 0.02 | -0.02 | -0.20 | **-0.61** | -0.04 |
| NO11 | 0.26 | -0.16 | 0.26 | -0.11 | -0.06 | 0.18 | **-0.57** | -0.03 |
| NO12 | 0.05 | -0.10 | -0.20 | 0.13 | -0.05 | 0.11 | -0.02 | **0.66** |
| NO36 | 0.24 | 0.23 | 0.03 | 0.03 | -0.16 | 0.19 | -0.39 | **-0.51** |
| NO27 | 0.05 | 0.18 | 0.06 | 0.02 | 0.06 | 0.18 | 0.14 | **0.49** |

Note: Highest loadings for each item are bolded.

between the subjects' observed and true scores. That is, the correlation between the score a subject obtains on a particular test and the score the he would have obtained if he were questioned on all possible items in the universe.

The external consistency of the variables within each factor were assessed by examining parallelism. In general, it can be said that items that demonstrate parallelism correlate "highly" with more than one factor, while other items within their respective scales do not. Failure to meet this requirement (within standard error) constitutes parallelism. In the current study, an example of parallelism is found in item MB5 of the Burnout scale. While this item had a loading of .43 on the Burnout factor, it also had a relatively high loading (.35) on the Neuroticism dimension. In addition, only one other item in the Burnout factor loaded above .13 on the Neuroticism factor.

The confirmatory factor analysis model that was tested contained 27 variables, comprising six factors. Through the evaluation of homogeneity of content, internal consistency, and parallelism as discussed above, the Isolate factor, as well as several items from the remaining factors, were dropped. Item content, factor loadings and the alpha coefficients for the scales that were retained are presented in Table 5. The CFA model proved non-significant ($\chi^2$=348.26 with 308 df, p=.061) and other indices of fit were

acceptable. Specifically, Jöreskog's Goodnes-of-Fit index

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Insert Table 5 about here

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was .81 (adjusted=.76) and the Bentler-Bonett Normed Fit index was .76 (Non-Normed=.96). Additionally, the Root Mean Square Standardized Residual (RMS) was .07. These results meet the generally accepted "rules-of-thumb" for good model fit (Kline, 1991).

In preparation for the path analysis, the correlation matrix was corrected for attenuation. As has been noted by Hunter (1987, p.52), "proper testing of path models can only be done if there is correction of the influence of error of measurement...[i.e.]correction for attenuation." Table 6 contains the means and standard deviations of the six factors as well as corrected and uncorrected correlations.

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Insert Table 6 about here

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## Path Analysis

### Preliminary Considerations

Path analysis was used to test the hypotheses and to examine the relationships among pairs of variables, entered in such a way as to assume a causal order, but controlling for relationships with other variables in the model. All path models were tested using Hunter and Lim's (1987) PATH

Table 5

Confirmatory Factor Analysis Scale Items, Factor Loadings, and Alpha Coefficients

| Item | Factor Loading |
|---|---|
| **Burnout** (alpha = .81) | |
| 1. I feel like I'm at the end of my rope. | .82 |
| 2. This sport places too many emotional demands on me. | .74 |
| 3. I feel I'm working too hard on my sport. | .74 |
| 4. I feel emotionally drained from my sport. | .71 |
| 5. This sport places too many physical demands on me. | .70 |
| 6. I feel frustrated and angry by my parents reactions to my performance. | .42 |
| 7. Practicing with others is really a strain for me. | .31 |
| **Sport Self Confidence** (alpha = .91) | |
| 1. Compare your confidence in your ability to make critical decisions during competition to the most confident athlete you know. | .87 |
| 2. Compare your confidence in your ability to perform under pressure to the most confident athlete you know. | .81 |
| 3. Compare your confidence in your ability to execute successful strategy to the most confident athlete you know. | .81 |
| 4. Compare your confidence in your ability to execute the skills necessary to be successful to the most confident athlete you know. | .79 |
| 5. Compare your confidence in your ability to meet the challenge of competition to the most confident athlete you know. | .79 |
| **Competitive Trait Anxiety** (alpha = .89) | |
| 1. Setting a goal is important when competing. | .86 |
| 2. Before I compete I get a queasy feeling in my stomach. | .85 |
| 3. When I compete I worry about making mistakes. | .80 |
| 4. Competing against others is socially enjoyable. | .79 |
| **Neuroticism** (alpha = .72) | |
| 1. I often feel inferior to others. | .79 |
| 2. Sometimes I feel completely worthless. | .75 |
| 3. Sometimes I'm not as dependable or reliable as I should be. | -.60 |
| 4. I never seem to be able to get organized. | -.41 |

Table 5 (cont'd)

**Social Support** (alpha = .78)

| | |
|---|---|
| 1. My coach has confidence in me. | .78 |
| 2. No matter what happens, I know that my coach will always be there for me should I need him. | .78 |
| 3. My coach lets me know I'm a worthwhile person. | .76 |
| 4. No matter how well I perform, I know my parents will always be there for me should I need them. | .45 |

**Extraversion** (alpha = .61)

| | |
|---|---|
| 1. I am a very active person. | .75 |
| 2. My life is fast paced. | .54 |
| 3. I like to be where the action is. | .52 |

Table 6

Revised Factor Correlations,
Means, and Standard Deviations

| Factor | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Burnout | -- | -0.36 | 0.35 | 0.53 | -0.39 | -0.13 |
| 2. Sport Self-Confidence | -0.31 | -- | -0.38 | -0.44 | 0.26 | 0.51 |
| 3. Competitive Trait Anxiety | 0.30 | -0.34 | -- | 0.36 | -0.06 | -0.08 |
| 4. Neuroticism | 0.41 | -0.36 | 0.29 | -- | -0.35 | -0.32 |
| 5. Social Support | -0.30 | 0.22 | -0.05 | -0.26 | -- | 0.54 |
| 6. Extraversion | -0.09 | 0.38 | -0.06 | -0.21 | 0.37 | -- |
| Mean | 8.89 | 33.51 | 8.89 | 6.05 | 11.19 | 9.13 |
| SD | 7.19 | 7.48 | 2.63 | 3.63 | 3.36 | 2.00 |

Note: Correlations above the diagonal are corrected for attenuation; those below the diagonal are not corrected.

computer program. Correlations corrected for attenuation (see Table 6) were used for all path analyses. Table 7 contains the original hypotheses of the path model.

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Insert Table 7 about here

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Path Analyses:

Hypothetical Model

Based on confirmation of the measurement model through the confirmatory factor analysis, a hypothesized path model was constructed (see Figure 1). This model retains as many

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Insert Figure 1 about here

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of the existing research hypotheses as possible, while taking into account the limitations identified in the confirmatory factor analysis. One additional path, representing a relationship not formally specified in the hypotheses, was added. This path, between Sport Self Confidence and Burnout, was initially identified in the confirmatory factor analysis as significant. It should be noted here that throughout the path analysis, whenever new paths were added or deleted, care was given to ensure that the modification was theoretically and methodologically sound. Table 8 contains a complete listing of path additions and deletions for the hypothesized, revised, and

Table 7

Original Hypotheses

1. Competitive trait anxiety will have a direct effect on student athletes' experience of burnout.

2. Athletes' perceptions of the support of significant adults will have a direct effect on their experience of burnout.

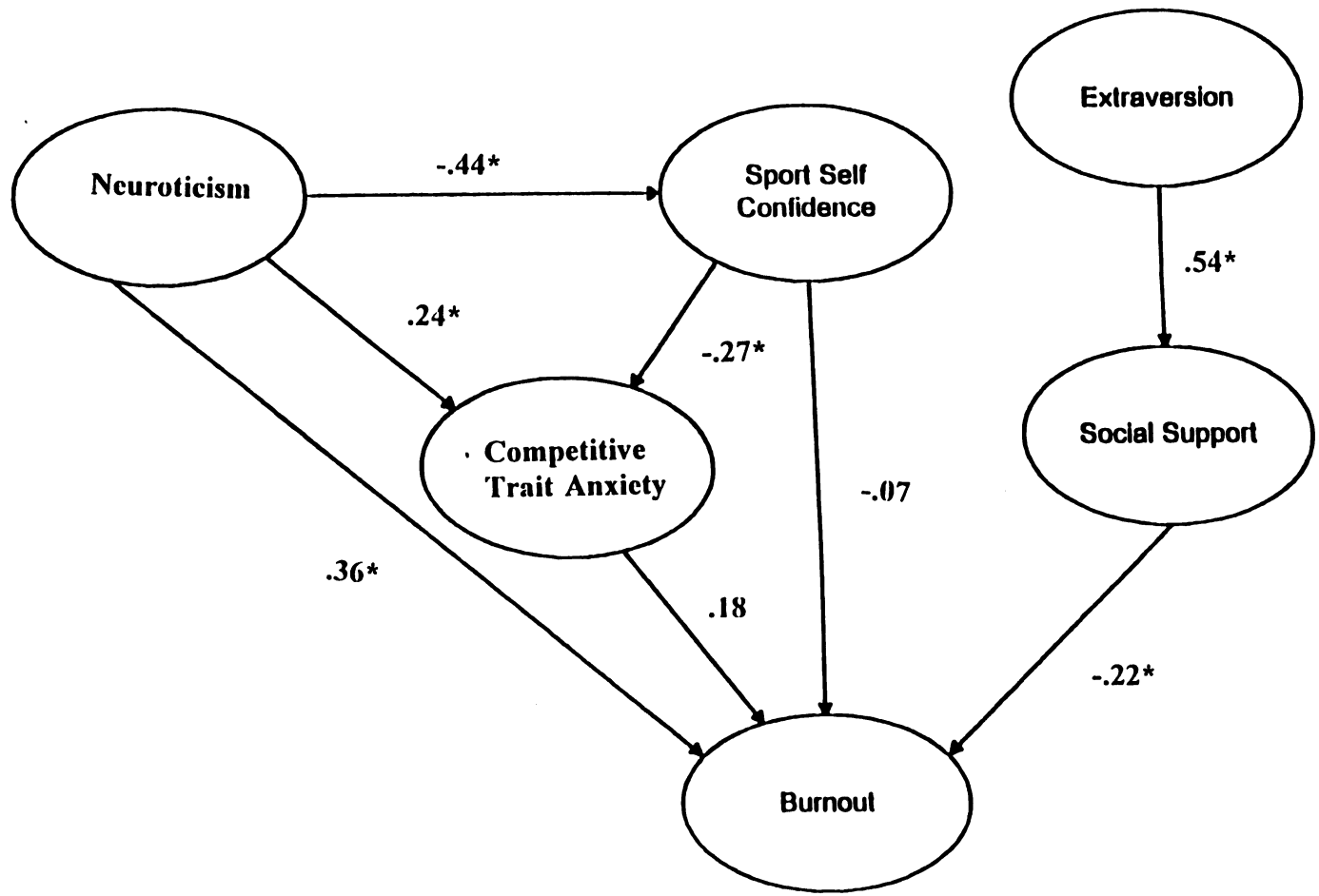
3. Athletes' general tendency to experience negative affects (neuroticism) will have a direct effect on their experience of burnout.

4. Athletes' level of extraversion will have an indirect effect on their experience on burnout through the athletes' perception of support from significant adults.

5. Athletes' level of neuroticism will have an indirect effect on their experience of burnout through their experience of competitive trait anxiety.

6. Athletes' level of sport self-confidence will have an indirect inverse effect on the athletes' experience of burnout through its inverse effect on the experience of competitive trait anxiety.

7. Athletes' level of neuroticism will have a indirect effect on their experience of burnout through its inverse relationship with the athletes' level of self-confidence.




*p<.01.

**Figure 1 Hypothetical Path Model**

final path models.

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Insert Table 8 about here

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From this initial analysis, six of the eight paths for the Hypothetical model proved significant (see Figure 1). Specifically, these were the Extraversion to Social Support (path coefficient = .54; $p < .01$), Social Support to Burnout (path coefficient = -.22; $p < .01$), Neuroticism to Burnout (path coefficient = .36; $p < .01$), Neuroticism to Competitive Trait Anxiety (path coefficient = .24; $p < .01$), Sport Self Confidence to Competitive Trait Anxiety (path coefficient = -.27; $p < .01$), and Neuroticism to Sport Self Confidence (path coefficient = -.44; $p < .01$) paths. The two remaining paths, Sport Self Confidence to Burnout and Competitive Trait Anxiety to Burnout, proved non-significant (path coefficient = -.07, and b = .18 respectively). Model revisions suggested by the residuals and path coefficients are discussed below, in the Revised model section.

Investigation of the fit indices indicate that this model is a good fit to the data. Kline (1987, p.476) has noted that for a model-fit to be considered "good," "factor loadings should be high, correlations among latent variables should not be excessively high, path coefficients should be significant...(and) the general fit of the whole model to the sample data should be high." This, was the essential

Table 8

Path Additions and Deletions

| Model Change | Redirected paths | Deleted Paths | Added Paths |
|---|---|---|---|
| Hypothesized to Revision | Extra--Socsup to Socsup--Extra | SSC--BO (.07) | Extra--BO (.19) |
| | | CTA--BO (.18) | Socsup--N (.35)** |
| | | | Extra--SSC (.51)** |
| Revision to Final Model | | Extra--BO (.19) | CTA--BO (.20)* |

* p < .05; ** p < .01. Note that path coefficients without asterisks are NOT significant. Extra = Extraversion; Socsup = Social Support; SSC = Sport Self-confidence; BO = Burnout; CTA = Competitive Trait Anxiety; N= Neuroticism

criteria used to evaluate the path models.

In addition, the appropriateness of various model revisions was evaluated using standard, commonly accepted, methods (Dillon & Goldstein 1984; Miller et. al., 1990; Pedhazur, 1982). Specifically, the model residuals and significance of the paths (as determined by *t* ratios) were examined. In addition, decomposition of the effects was conducted. R-squared values for the endogenous variables were calculated to determine the amount of explained variance associated with the endogenous variables within each model. These results are presented in Table 9.

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Insert Table 9 about here

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Historically, various criteria have been used in evaluating the chi-square to degrees of freedom ratio. Schmitt (1978), has observed that ratios as high as 10 to 1 are inadequate. And, at the other end of the spectrum, he notes that ratios of less than 1 are just as lacking, for they indicate the model fits the data too well. Others, (Jöreskog & Sörbom, 1979; Miller *et. al.*, 1990; Loehlin, 1987) have suggested ratios of 5 or 6 to 1 as appropriate indicators of a good fit. The chi-square to degrees of freedom ratio of 1.08 associated with the Hypothetical model ($\chi^2 = 6.47$, df = 6) indicates a good fit.

Table 9

Fit and Variance Statistics for Path Models

| Model Change | Redirected paths | Deleted Paths | Added Paths |
|---|---|---|---|
| Chi-square | 6.47 | 10.57 | 1.69 |
| Degrees of Freedom | 6 | 7 | 6 |
| R-squared for: | | | |
| Extraversion | -- | .29 | .29 |
| Sport Self-Confidence | .19 | .26 | .35 |
| Neuroticism | -- | .12 | .12 |
| Competitive Trait Anxiety | .19 | .19 | .19 |
| Burnout | .37 | .36 | .36 |

Revised Model

Even though Model 1 provided a good fit to the data, a second model was constructed in an attempt to see if a stronger model could be constructed. As noted in Table 8, above, two paths were deleted and three were added to the Revised model. Additionally, the path from Extraversion to Burnout was reversed. This model allowed for the retention of the original research hypotheses discussed earlier, with the exception of hypothesis 1 (the Competitive Trait Anxiety to Burnout path was removed, affecting the exploration of this hypothesis). As the path between Extraversion and Social Support was reversed, research hypothesis 4 was also modified in terms of the direction of the predicted association.

With the exception of the Extraversion to Burnout link (path coefficient = .19, ns), all paths in the Revised model proved significant (see Figure 2). The investigation of model

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Insert Figure 2 about here

---

fit indicated a good fit. The chi-square to degrees of freedom ratio of 1.51 associated with the Revised model ($\chi^2$ = 10.57, df = 7) is acceptable. Decomposition of the effects for the Revised model indicated a moderate amount of variance was accounted for by the Revised model (see Table

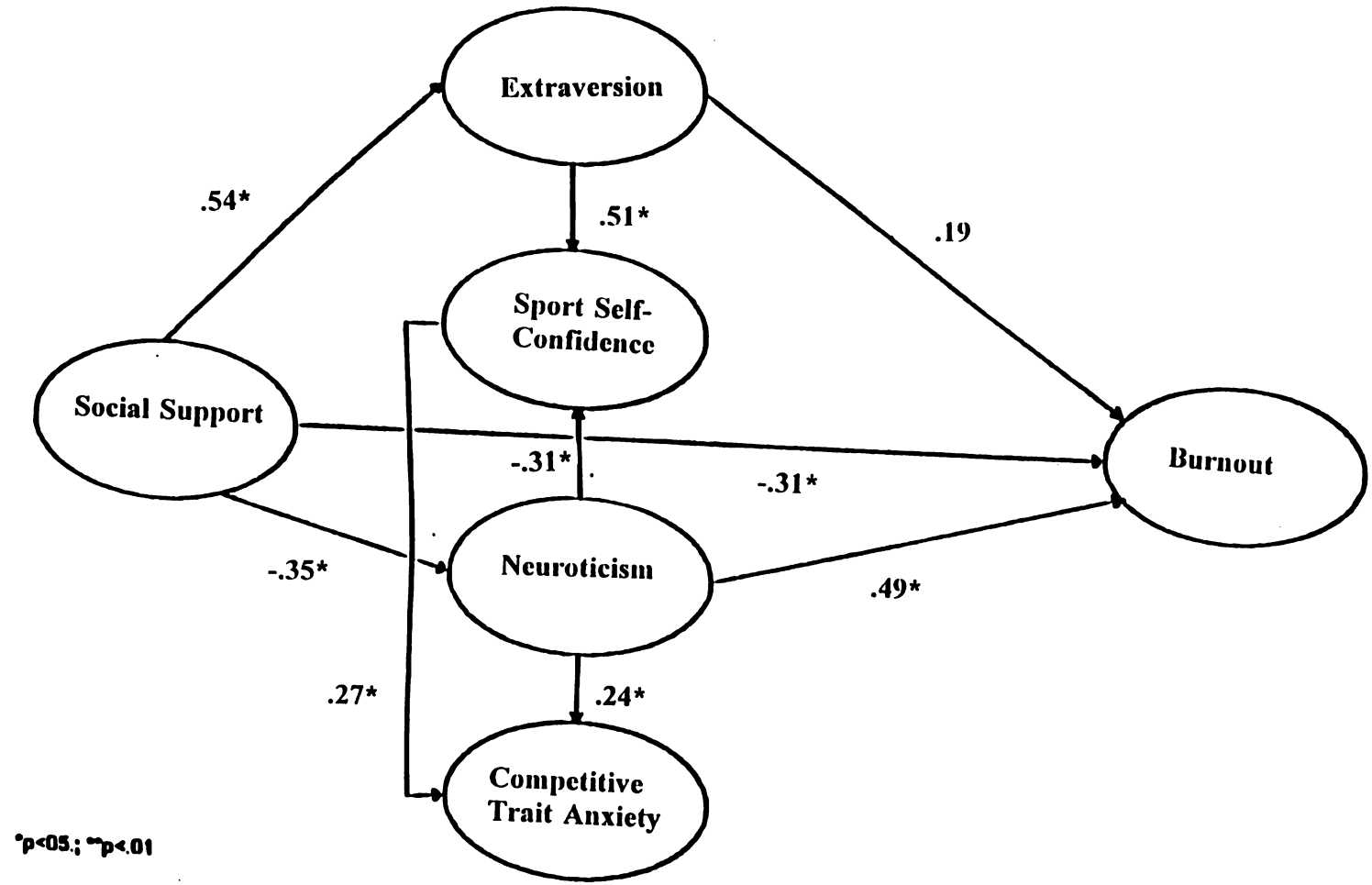


**Figure 2 Revised Path Model**

9). Despite the goodness of fit, the Revised Model fit did not provide as strong a fit as that of the Hypothetical model.

Final Model

As suggested by examination of the Revised path model analysis, one path was deleted and one added in the Final path model. Specifically, the Extraversion to Burnout path was removed and the Competitive Trait Anxiety to Burnout path was reinstated (it had been removed in the Revised model analysis, see Table 8). The inclusion of this path allowed for the exploration of all of the research hypotheses specified earlier.

All paths in the Final model proved significant (see Figure 3). Investigation of model fit indicated that the

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Insert Figure 3 about here

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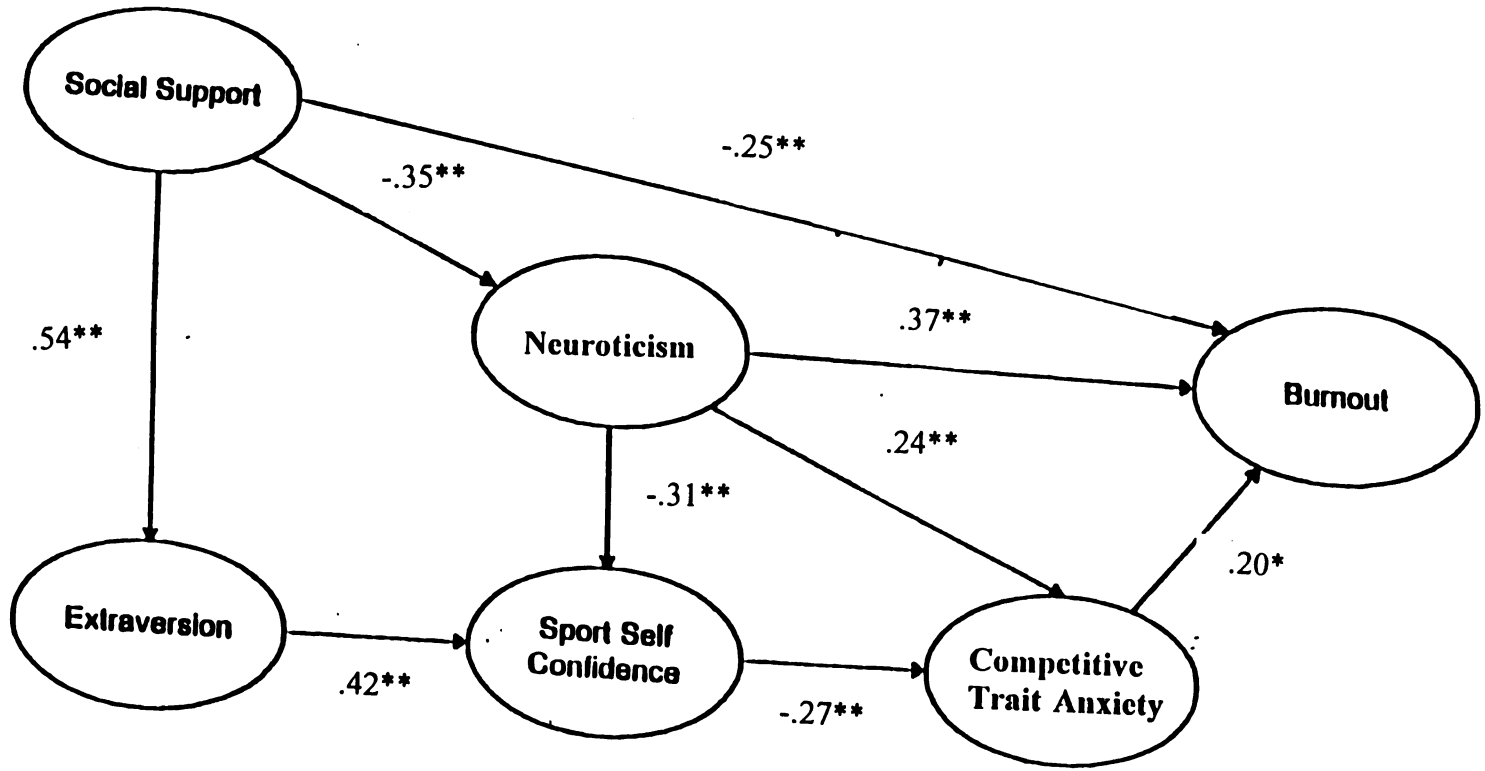
Final model provided an arguably better fit to the data than did either the Hypothetical model or the Revised model. The chi-square to degrees of freedom ratio for the Final model was .28 ($\chi^2$ = 1.69, df = 6); was extremely solid and indicated a very significant fit. Decomposition of the effects for the Final model demonstrated a similar pattern as that found in the investigation of fit indices. A moderate amount of variance was accounted for by Burnout ($R^2$ = .36), Extraversion ($R^2$ = .29), and Sport Self Confidence




*p<05.; **p<.01

**Figure 3 Final Path Model**

($R^2$ = .34). Taken in conjunction with the significance of all paths in the Final model, it was determined that this model provided the best overall fit and was viewed as significantly better than either of the earlier models.

## DISCUSSION

This investigation sought to develop a model which examined the relationship between the athletes' experience of burnout and individual, interpersonal, sport specific factors. In the final path model, athlete burnout was defined as a response to chronic stress of athletic competition that can be characterized by feelings of emotional exhaustion. Overall, analyses of the data indicated that athletes' perception of social support, level of neuroticism, level of extraversion, level of confidence in their athletic abilities, and experience of competitive trait anxiety had statistically significant direct (and/or indirect) effect on athletes' experience of burnout.

In this section the writer discusses the results of data analyses from both theoretical and methodological perspectives. First, this section examines the final path model of student athlete burnout in light of the literature in the areas of sport psychology and occupational burnout. Then, the methodological limits of this study are explored, and their implications are discussed. Finally, this section attempts to tie the two together and take a general look at future research in this area.

### A Model of Student Athlete Burnout

The analyses of the data produced a path model which reflects a combination interaction among individual, interpersonal, and sport specific factors as they relate to

athletes' experience of burnout (see Figure 3). With respect to the interpretation of path models in general, Burke (1987) modified the age-old axiom that "correlation is not causation" by noting that "arrows imply, but do not prove causality" (p. 182). In much the same vein, Pedhazur (1982) reminded us that "although...statements will be made about a theory or a causal model being consistent with data, such statements should always be understood to mean that the theory withstood the test; that it has not been disconfirmed" (p. 578-579). It is with these admonitions in mind that the interpretation of the final path model will be conducted.

The most important dimension of burnout in predicting other model variables was social support. The direct path between athletes' perception of social support and their reporting symptoms of burnout was substantial (path coefficient = -.25, $p < .01$). While the mechanism explaining this path is not known, it can be hypothesized that a solid reliable support system either immunized the athletes from experiencing burnout or provided them with another coping resource which assisted them in dealing with the stress of athletic situation. In either case, this direct relationship is substantial and deserves attention in future research.

In addition, athletes' perceptions of social support were found to have an indirect effect on their experience of

burnout through the athletes' perception of their level of extraversion and their level of neuroticism (negative affects). Specifically, the athletes' perception of social support was found to have a significant direct impact on the level of extraversion in athletes (path coefficient = .54, $p < .01$) and their experience of negative affects (path coefficient = -.35, $p < .01$). These results reflect that the more support an athlete perceives the less likely he/she is to endorse items which reflected a poor self-image, and the more likely he/she is to see himself/herself as extraverted (i.e. active and outgoing).

Overall, the results from the interpersonal dimension are consistent with findings which have come out of the literature on occupational burnout and sports psychology. Research in the area of occupational burnout has consistently demonstrated that professionals' perceptions of support from supervisors and/or family members is related to the prevention and alleviation of burnout (Burke, 1987; Cherniss, 1980; Jackson et al., 1987; Leiter, 1990; Miller et al., 1990; Rimmerman, 1989; & Russell et al., 1987). Along similar lines, anecdotal reports from sports psychologists have widely documented the relationship between athletes perception of the lack of social support and the development of burnout (Dale & Weinberg, 1990; Gould & Weinberg, 1995). Recent empirical studies have also suggested that one type burnout occurs in athletes who find

themselves placed in situations where they perceive significant psychological pressures from others (Cohn, 1990; Gould et al., 1996b). Both the previous research and the present results fit the conclusion that student athletes' perceptions regarding social support are a primary determinant of burnout.

With respect to individual (personality) variables individuals' level of neuroticism and extraversion were found to predict athletes' experiences of burnout. An athletes' level of neuroticism was found to have a significant direct effect on burnout (path coefficient = .37, $p < .01$). This means that athletes who reported experiencing higher levels of negative affects were more likely to endorse items reflecting burnout. This finding provides substantiation for, and parallels, empirical findings from occupational burnout literature which have consistently indicated that the experience of burnout is associated with such factors as the individual's negative emotions and worries about competence (Cherniss, 1980). Further, it extends conclusions that have come out of the competitive stress literature which have linked negative emotions and doubts about one's competence to the experience of competitive stress (Scanlan et al., 1991).

The athletes view of their level of neuroticism predicted their experience of burnout through their reports of sport self-confidence (path coefficient = -.31, $p < .01$)

and competitive trait anxiety (path coefficient = .24, $p < .01$). These results suggest athletes who portray higher levels of negative affects also tend to report experiencing greater competitive stress, less confidence in their athletic abilities, and ultimately burnout. Given previous research findings in the area of competitive stress (Scanlan et al., 1991), it is no surprise that athletes reported a link between their negative affect and their experience of competitive trait anxiety. As such, these findings are not only consistent with previous research which has linked neuroticism with the experience of competitive stress and self-confidence, but they also take the next conceptual step and empirically link these variables to the athletes' experience of burnout.

Analyses regarding the relationship between extraversion and burnout prove interesting. Athletes' perception of their level of extraversion was found to indirectly effect their level of burnout through sport self-confidence (path coefficient = .42, $p < .01$). This result suggests that athletes who viewed themselves as more outgoing and active were more confident in their athletic abilities and less likely to experience competitive trait anxiety and burnout (the connection between sport self-confidence and burnout is discussed below).

What is interesting to note about these results is the lack of a significant path between extraversion and burnout

in the revised model. Researchers agree that individuals at a "high risk" for experiencing burnout share common characteristics. Among these characteristics are high motivation, perfectionism with high ideals, and enthusiasm (Pines, 1983; Feigley, 1984; Gould et al., 1996). However, in the current analysis, athletes who described themselves as active and outgoing were found to indirectly decrease the likelihood that they would experience burnout. The strong path between social support and extraversion (path coefficient = .54, $p < .01$) may account for the lack of a significant direct effect. On the other hand, it may be that such factors such as an individuals' level of enthusiasm and motivation are not being measured in this extraversion scale and that the athletes who perceive themselves as active and outgoing were also more confident in themselves and their abilities.

Overall, the results focusing on individual factors suggest that there is a substantial relationship between personality variables and burnout. Neuroticism and extraversion were found to have a strong relationship with both social support and burnout. Future research focusing on the impact that personality characteristics have on athletes' experience of burnout should prove to be fruitful from both empirical and clinical perspectives.

Within the dimension of sport specific variables, competitive trait anxiety and sport self-confidence were

found to be related to burnout. First, the athletes level of competitive trait anxiety was found to be directly related to their experience of burnout (path coefficient = .20, $p < .05$). This indicates that athletes who experience higher levels of competitive trait anxiety are more prone to experience burnout in the long run. This certainly makes sense when considered in the context of the process model of burnout (Cherniss, 1980) in which burnout is conceptualized as developing over time and is the results of, among other variables, chronic stress.

Unlike the present study, recent research has not reported a significant link between competitive trait anxiety and burnout in competitive junior tennis players (Gould et al., 1996). However, Gould et al. (1996) speculated that their inability to find a significant relationship may have been related to common variance that was found to exist between competitive anxiety and perfectionism (which was found to be related to burnout). In addition, Gould et al. (1996) used a measure of burnout that is relatively new and whose psychometric properties have not been firmly establishes. Further, research on burnout with coaches (Vealey et al., 1992), has established a significant relationship between burnout and competitive trait anxiety. While the results of the present results support a link between competitive anxiety and burnout, it is important to note that the research in this area is in

its early stages and further studies are needed before the relationship between competitive trait anxiety and burnout in athletes can be firmly established.

The second area in which sport specific factors were found to impact a student athletes' experience of burnout was the level of confidence the athletes' had in their athletic abilities. Analysis of the data indicates that the athletes' level confidence in their abilities indirectly affected their experience of burnout through competitive trait anxiety ($b = -.27$, $p < .01$). This means that athletes who reported high levels of confidence in their abilities were less likely to report experiencing competitive trait anxiety and thus less likely to experience burnout in the long run.

Once again, the interesting thing to note here is the lack of a significant direct path between athletes' level of confidence and burnout. Based on the literature regarding the significant link between perceptions of competence and the development of burnout, one would expect to find a significant direct path occurring between the athletes' level of perceived confidence and burnout. One could speculate that these results are accurate and that confidence in ones athletic abilities and perceptions of competence are two different constructs. If that is the case than it may be that self-confidence is more directly related to competitive trait anxiety than to burnout. On

the other hand, it may be that the lack of a direct relationship between sport self-confidence and burnout is related to shared variance between self-confidence and self-image (as was discussed above). In either case, the fact that an athlete's level of confidence in his/her abilities does indirectly effect his/her experience of burnout leaves room for further research and validation.

From a conceptual perspective, a number of factors from the current model of athlete burnout can be viewed within the framework of Smith's (1986) cognitive-affective model of athletic burnout. Within Smith's (1986) framework "burnout represents the manifestations or consequences of the situational, cognitive, physiological, and behavioral components of stress" (p.42). In the current investigation, factors on the situational, cognitive, and physiological levels are reflected in the final model of athlete burnout.

One situational factor in Smith's (1986) model that was theorized to be related to burnout was low social support. Results from the current study indicate that an athletes' perception of social support is a key factor associated with the experience of burnout. It may be that social support acts as a buffer which protects the athletes from experiencing the harmful effects of competitive stress. On the other hand, as Smith's (1986) model suggests, it may be that social support reduces the demands and costs of competitive stress and thus prevents the development of

burnout. In either case, the results from this investigation appear to substantiate the connection between social support and burnout. Researchers may wish to further our understanding of the impact of social support on burnout by exploring the mechanisms of this interaction.

The athletes' level of neuroticism was found to be an important predictor of burnout in both the current investigation and the physiologic dimension of Smith's (1986) model. Within in Smith's (1986) model, the athlete's cognitive appraisal of the demands, resources, and consequences could result in negative affects such as tension, anxiety, depression, and irritability. The athlete who eventually experiences burnout was conceptualized to feel overwhelmed, experiences negative affects, and as a result experience a devaluation of the self. The current investigation provided support for this aspect of Smith's (1986) model. The results suggest that athletes with high levels of neuroticism were more likely to experience low confidence in their abilities, greater competitive stress, and a greater likelihood of burnout.

Finally, the findings regarding the relationship between competitive trait anxiety and burnout can be viewed in terms of Smith's physiological dimension. Smith (1986) contends that bodily sensations serve to prompt and reinforce appraisals of overload, helplessness, and devaluation. Naturally, this appears to create a cycle in

which athletes who tend to experience greater levels of stress experience less self-confidence and self-esteem which, in turn, leads to even greater levels of competitive stress. As the cycle progresses it is reasonable to assume that the end result is burnout.

As one can see, whether it is at a conceptual level or empirical level there is a complex interaction of variables which contribute to the development of burnout in student athletes. Overall, in examining the results of the current study, and in trying to develop a useful theoretical and clinical model of student athlete burnout, the conclusions reached by Gould et al. (1996) seem applicable. These researchers have noted that "the key to understanding burnout, then, is to view it not as a personality weakness, but as an interaction of player characteristics and situational demands" (Gould et al., 1996, p.336). With this admonition in mind, researchers and sport psychologists might be able to further our understanding of this complex concept and develop effective strategies for prevention and treatment.

Methodological Issues

Given a scarcity of empirical research in the area of athlete burnout and the exploratory nature of the current investigation, the results of this study should be viewed as somewhat tentative. While this study yielded a viable model of student athlete burnout, the final model was the product

of a number of revisions. Some of the original hypotheses were slightly altered as a result of methodological factors. In order to have a more complete understanding of the final model these methodological difficulties need to be considered.

The primary methodological difficulty in this study was sample size. Due to any number of reasons (lack of incentive to return questionnaires, forgetfulness, low motivation, etc.) there was a moderate attrition rate from the general data pool, which resulted in a relatively small sample (n=100). This relatively small sample size impacted the variable to the subject ratio which in turn effected the ability to completely explore all the hypotheses. Specifically, based on the limited nature of the sample (n=100) and the large number of variables contained in the dependent measures employed (145 variables in five measures), some dependent measures were not included in the analysis (see results section). As such, some of the original thrust of this investigation was diminished in the early stages of data analysis.

Another methodological factor which should be considered when interpreting the results is the attrition effects. The population from which this study drew its subjects consisted of over 184 athletes. Of this population 100 subjects completed their commitment and returned usable research packets (yielding a 55% attrition rate). With this

type of attrition consideration should be given to the possibility for sample bias. One could speculate that athletes who returned the research packets reflect a small proportion of the population who are more psychologically minded and effected by the variables studied in the current investigation. This group may differ from the general population of athletes and that there responses can not be generalized to the population of athletes as a whole. Further research exploring the type of athletes who agree to participate in psychological research would be helpful in determining whether this bias exists.

Similarly, sample bias may have occurred as a result of the athletic programs who agreed to participate in this study. While a number of programs agreed to participate in this study, there were five schools that were contacted in which athletic directors did not wish to participate in the study for various reasons (e.g. did not want to burden the athletes and/or coaches, did not like the idea of any type of psychological testing). There is a chance that there are differences in the type of athletic programs who agreed to participate and those who did not. As such, sample bias based on institutional factors can not be ruled out, and the generalizability of the current findings may be limited.

In general, the methodological difficulties in the present study play had their most significant impact in the early stages of data analysis. These difficulties played a

role in limiting the extent of the focus of this study. Attrition and sample size had a tremendous impact on the hypotheses examined, the analyses of the data, the ability to establish a extensive model of athlete burnout, and the final product of this study. While it is difficult to speculate as to the influence that these difficulties had on interpreting the final model, the writer believes that combination of these factors had an impact on the overall thrust of the investigation and that these problems pose serious impediment in extensively interpreting and understanding the results of this study.

Conclusion

The current study took the ambitious approach of investigating an area that lacks a firm empirical foundation. This is the area of burnout in student athletes. This study was designed to investigate individual, interpersonal, and sport-specific factors which contribute to the development of burnout in student athletes, and to develop a empirically based model of student athlete burnout. The results of data analyses elucidated factors which contribute to the development of burnout in student athletes an produced a viable model of student athlete burnout.

Given the paucity of empirical research in this area, the current study is important in several ways. First, it can be viewed as making a contribution to the current state

of knowledge about burnout. It also established empirically based parallels between the research conclusions from the occupational burnout and conceptual speculations from sports psychologists. Within the field of sport psychology, this study provides support for speculative conclusions drawn from autobiographical and anecdotal reports of athletes. Further it validates and extends conclusions which have come out of recent studies examining burnout and athletes (Cohn, 1990; Gould et al., 1996). Finally, it provides an empirically based model of athlete burnout which is similar to, and validates portions of, Smith's (1986) cognitive-affective model. As such, the current investigation can be viewed as making important contributions in clarifying factors that contribute to student athlete burnout, and in developing an empirically based model which begins to elucidate the process by which individual, interpersonal, and sport-specific factors interact in the process of burnout.

Despite these contributions, the current investigation was exploratory. Due to the lack of research into athlete burnout and the exploratory nature of this study, further research is needed to validate and extend the results of this analysis.

The current investigation has identified a number of areas which may further our understanding of athlete burnout if explored in greater depth. Studies which examine more

interpersonal, situational, and interpersonal factors and their interactions would serve to broaden our understanding of burnout. Continued empirical research into Smith's (1986) model will not only prove to validate the model; but will also serve to elucidate how the various dimensions interact and result in the experience of burnout. Longitudinal research, though difficult to conduct, may prove useful information regarding the process of burnout and how athletes develop symptoms of burnout over time. Studies which focus on the prevention and/or treatment of burnout may provide useful information regarding the clinical aspects and further our general understanding of burnout. In any case, the field of burnout with student athletes is rich with opportunities for researchers, continued research will impact not only the area of sport psychology but also our general understanding of the process of burnout.

In conclusion, there is still much to be learned about burnout with athletes. The costs of burnout are great not only to the athlete but to the people around them and their athletic programs. Hopefully, the current investigation will provide a basis for future investigations. It is important to remember that it is through empirical validation of conceptual/theoretical models that progress can be made and effective programs to prevent, and/or alleviate, burnout can be designed.

# APPENDICES

# APPENDIX A

## APPENDIX A

RESEARCH CONSENT FORM

We at Michigan State University are conducting a study on adolescent athletes' reactions to the competitive sport environment. Specifically, we are examining factors that have been associated with the prevention and/or development of competitive stress, and the impact these factors have on the athletes' views of sport participation. The purpose of this study is to identify areas that are of concern to athletes, to gain insight into factors that have a positive and negative effect on the athletes sport experience, and to gain insight into the athletes reactions to competitive stress.

Participation in this study is purely voluntary. You can refuse to participate in any part of this study without penalty. As a participant in this study, you will be asked to fill out a series of questionnaires on your own time. This task should take approximately 30 minutes. The questionnaires, answer sheets, and envelopes contain no information which could identify you. All questionnaires will by filled out anonymously and returned to the researcher in sealed envelopes. All responses will be held in strict confidence with only primary researcher having access to the data. In order to insure anonymity, signed consent forms will be returned to the researcher in a separate envelopes; these forms will be kept separately from questionnaire responses and in a locked file cabinet. If you have any questions concerning this study feel free to contact Alexis Vlahos at (203) 536-2463.

If you are willing to participate in this study, please sign the statement below. You indicate your voluntary agreement to participate by completing and returning this questionnaire.

I hereby give my permission to participate in the above mentioned study. I grant this permission with the understanding that questionnaires will be filled out anonymously and all information will be held in strict confidence.

_____
Signature of Parent(s) or
Legal Guardian

_____
Athlete's Signature

Date _____

# APPENDIX B

## APPENDIX B

## ATHLETES QUESTIONNAIRE PACKET

**The purpose of this questionnaire packet is to discover how athletes view their sport and the people with whom they work closely.**

**On the following pages there are some questionnaires related to many aspects of your athletic life. Please read the instructions to each questionnaire carefully and then answer all questions. Do not spend too much time on any one statement. This task should take you approximately 45 minutes.**

**There are no right or wrong answers to any of the questions. Do not place your name on any of the forms. All answers will be kept completely confidential.**

**Please answer the following questions:**

1. Your sex:
   _____ (1) male _____ (2) female

2. Your Age:
   _____ years

3. Are you (check only one group)
   _____ (1) Freshman _____ (2) Sophomore
   _____ (3) Junior _____ (4) Senior

4. Are you (check only one group)
   _____ (1) Asian, Asian America
   _____ (2) Black or Afro-American
   _____ (3) Latino, Hispanic, Mexican American
   _____ (4) Native American, American Indian
   _____ (5) White, Caucasian
   _____ (6) Other (please specify: _____)

5. Please indicate your sport:
   _____

6. Please indicate how long you have been participating in this sport:
   _____ years _____ months

7. Please indicate the number of years that you have participated in any type of organized sport:
   _____ years

8. Do you participate in more than one sport:
   _____ YES _____ NO (If so specify: _____)

9. On the average how many hours per week do you spend on your sport (include meetings, practices, games, and workouts):
   _____ per week

**SSI**

**Below are some statements concerning various aspects of athletes lives. Read each statement carefully and decide if it is VERY MUCH LIKE YOUR EXPERIENCE, MUCH LIKE YOUR EXPERIENCE, SOMEWHAT LIKE YOUR EXPERIENCE, NOT VERY MUCH LIKE YOUR EXPERIENCE, NOT AT ALL LIKE YOUR EXPERIENCE. Place your response in the space before the statement. There are no right or wrong answers. Remember to choose the statement that describes your experience.**

**A = VERY MUCH LIKE MY EXPERIENCE**
**B = MUCH LIKE MY EXPERIENCE**
**C = SOMEWHAT LIKE MY EXPERIENCE**
**D = NOT VERY MUCH LIKE MY EXPERIENCE**
**E = NOT AT ALL LIKE MY EXPERIENCE**

1. _____ No matter how well I perform, I know my parents will always be there for me should I need them.
2. _____ I worry about letting my coach down.
3. _____ My parents involvement in my sport makes me feel good.
4. _____ I always want to be the best at my sport.
5. _____ I worry about being injured from participating in my sport.
6. _____ I know my coach will always stand by me.
7. _____ I think about how pleased my parents will be about my performance.
8. _____ I feel frustrated and angry by my coaches reactions to my performance.
9. _____ I worry about making mistakes.
10. _____ This sport places too many physical demands on me.
11. _____ My family lets me know they think I'm a worthwhile person.

| | |
|---|---|
| **A = VERY MUCH LIKE MY EXPERIENCE;** | **D = NOT VERY MUCH LIKE MY EXPERIENCE;** |
| **B = MUCH LIKE MY EXPERIENCE;** | |
| **C = SOMEWHAT LIKE MY EXPERIENCE;** | **E = NOT AT ALL LIKE MY EXPERIENCE** |

12. _____ I think about how pleased my coach will be about my performance.

13. _____ My parents make me uptight and nervous about my performance.

14. _____ I can enjoy my sport even if I make a lot of mistakes.

15. _____ I feel that I put in too much time practicing.

16. _____ My coach provides me with help in finding solutions to my problems.

17. _____ I worry about what my parents will say if I do not perform well during a game.

18. _____ I feel supported and cared about by my coach, and this feels good.

19. _____ I would practice extra hours if it meant that I could improve my performance.

20. _____ This sport places too many emotional demands on me.

21. _____ My parents have confidence in me.

22. _____ I think about how bad it will feel to lose.

23. _____ I feel frustrated and angry by my parents reactions to my performance.

24. _____ My coach has confidence in me.

25. _____ The time and effort I put into my sport cause me to constantly re-evaluate whether I want to continue to participate.

26. _____ My coach lets me know I'm a worthwhile person.

27. _____ I think about the best ways to try to beat my opponent.

**A = VERY MUCH LIKE MY EXPERIENCE; D = NOT VERY MUCH LIKE MY EXPERIENCE;**
**B = MUCH LIKE MY EXPERIENCE;**
**C = SOMEWHAT LIKE MY EXPERIENCE; E = NOT AT ALL LIKE MY EXPERIENCE**

28. _____ My coach makes me uptight and nervous about my performance.

29. _____ I would rather play against a very competitive opponent that someone less challenging.

30. _____ I feel bored and frustrated at having to practice the same things over and over.

31. _____ My parents provide me with help in finding solutions to my problems.

32. _____ I worry about what my coach will say if I do not perform well during a game.

33. _____ I feel disappointed with my parents involvement in my sport.

34. _____ I worry about being injured from participating in my sport.

35. _____ No matter what happens, I know that my coach will always be there for me should I need him.

36. _____ I worry about letting my parents down.

37. _____ My coach makes participation in this sport fun.

38. _____ I participate in my sport primarily for fun.

39. _____ I feel that all the work and effort I put into my sport is not worth the rewards I receive.

40. _____ I know my parents will always stand by me.

41. _____ I think about performing well during a game.

**ILLINOIS COMPETITION QUESTIONNAIRE**
**Form A** (SCAT)

**Directions: Below are some statements about how persons feel when they compete in sports and games. Read each statement and decide if you HARDLY-EVER, or SOMETIMES, or OFTEN, feel this way when you compete in sports and games. If your choice is HARDLY-EVER, place an 1 in the space before the statement, if your choice is SOMETIMES, place a 2 in the space before the statement, if your choice is OFTEN, place a 3 in the space before the statement. There are no right or wrong answers. Do not spend too much time on any one statement. REMEMBER to choose the word that describes how you USUALLY feel when competing in SPORTS AND GAMES.**

**1 = HARDLY EVER**
**2 = SOMETIMES**
**3 = SOMETIMES**

1. _____ Competing against others is socially enjoyable.
2. _____ Before I compete I feel uneasy.
3. _____ Before I compete I worry about not performing well.
4. _____ I am a good sportsman when I compete.
5. _____ When I compete I worry about making mistakes.
6. _____ Before I compete I am clam.
7. _____ Setting a goal is important when competing.
8. _____ Before I compete I get a queasy feeling in my stomach.
9. _____ Just before competing I notice my heart beats faster than usual.
10. _____ I like to compete in games that demand considerable physical energy.
11. _____ Before I compete I feel relaxed.
12. _____ Before I compete I feel nervous.
13. _____ Team sports are more exciting than individual sports.
14. _____ I get nervous wanting to start the game.
15. _____ Before I compete I usually get up tight.

**ATHLETES SURVEY**
(MBI)

**On the following pages there are 22 statements of sport-related feelings. Please read each statement carefully and decide if you ever feel this way about your sport. If you have never had this feeling, write 0 (zero) in the space before the statement. If you have had this feeling, indicate how often you feel it by writing the number (from one to 6) that best describes how frequently you feel that way. An example is shown below.**

**EXAMPLE:**

_____

**HOW OFTEN:**

**0 = NEVER**
**1 = A FEW TIMES A SEASON OR LESS**
**2 = ONCE A MONTH OR LESS**
**3 = A FEW TIMES A MONTH**
**4 = ONCE A WEEK**
**5 = A FEW TIMES A WEEK**
**6 = EVERY DAY**

_____

| HOW OFTEN 0-6 | Statement: |
|---|---|
| _____ | I feel depressed at practice. |

**If you never feel depressed at practice, you would write a 0 (zero) under the heading "HOW OFTEN." If you rarely feel depressed (a few times a year or less), then you would write a "1." I your feelings of depression are fairly frequent (a few times a week, but not daily) you would write "5."**

**ATHLETES SURVEY**

**HOW OFTEN:**

| | |
|---|---|
| **0 = Never;** | **4 = Once a week;** |
| **1 = A few times a season or less;** | **5 = A few times a week;** |
| **2 = Once a month or less;** | **6 = Every day** |
| **3 = A few times a month;** | |

| HOW OFTEN 0 - 6 | Statements: | |
|---|---|---|
| 1. | _____ | I feel emotionally drained from my sport. |
| 2. | _____ | I feel used up at the end practice. |
| 3. | _____ | I feel fatigued when I get up in the morning and have to face another day of practice. |
| 4. | _____ | I can easily understand how my teammates feel about things. |
| 5. | _____ | I feel I treat some teammates as if they were impersonal "objects." |
| 6. | _____ | Practicing with other people is really a strain for me. |
| 7. | _____ | I deal very effectively with the problems of my teammates. |
| 8. | _____ | I feel burned out from my sport. |
| 9. | _____ | I feel I'm positively influencing other people's lives through my sport. |
| 10. | _____ | I've become more callous toward people since I started this sport. |
| 11. | _____ | I worry that this sport is hardening me emotionally. |
| 12. | _____ | I feel very energetic. |

**ATHLETES SURVEY**

**HOW OFTEN:**

| | |
|---|---|
| **0 = Never;** | **4 = Once a week;** |
| **1 = A few times a season or less;** | **5 = A few times a year;** |
| **2 = Once a month or less;** | **6 = Every day** |
| **3 = A few times a month or less** | |

**HOW OFTEN**

**0 - 6** **Statements:**

13. _____ I feel frustrated by my sport.

14. _____ I feel I'm working too hard on my sport.

15. _____ I don't really care what happens to some of my teammates.

16. _____ Practicing with other people puts too much stress on me.

17. _____ I can easily create a relaxed atmosphere with my teammates.

18. _____ I feel exhilarated after working closely with my teammates.

19. _____ I have accomplished many worthwhile things in this sport.

20. _____ I feel like I'm at the end of my rope.

21. _____ In my sport, I deal with emotional problems very calmly.

22. _____ I feel my teammates blame me for some of their problems.

**SPORT SELF-CONFIDENCE INVENTORY**

**Think about how self-confident you are when you compete in sport.**

**Answer the questions below based on how confident you generally feel when you compete in your sport. Compare your self confidence to the most self-confident athlete you know.**

**Please answer as you really feel, not how you would like to feel. Please write the number that corresponds to your feelings in the space before the statement.**

**When you compete, how confident do you generally feel?**

| **Low** | | | | **Medium** | | | | **High** |
|---|---|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |

1. _____ Compare your confidence in your ability to execute the skills necessary to be successful to the most confident athlete you know.

2. _____ Compare your confidence in your ability to make critical decisions during competition to the most confident athlete you know.

3. _____ Compare your confidence in your ability to perform under pressure to the most confident athlete you know.

4. _____ Compare your confidence in your ability to execute successful strategy to the most confident athlete you know.

5. _____ Compare your confidence in your ability to concentrate well enough to be successful to the most confident athlete you know.

6. _____ Compare your confidence in your ability to adapt to different game situations and still be successful to the most confident athlete you know.

7. _____ Compare you confidence in your ability to achieve your competitive goals to the most confident athlete you know.

| Low | | | Medium | | | | | High |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

8. _____ Compare your confidence in your ability to be successful to the most confident athlete you know.

9. _____ Compare your confidence in your ability to consistently be successful to the most confident athlete you know.

10. _____ Compare your confidence in your ability to think and respond successfully during competition to the most confident athlete you know.

11. _____ Compare your confidence in your ability to meet the challenge of competition to the most confident athlete you know.

12. _____ Compare your confidence in your ability to be successful even when the odds are against you to the most confident athlete you know.

13. _____ Compare your confidence in your ability to bounce back from performing poorly and be successful to the most confident athlete you know.

**Read each statement carefully. Place the letter that best represents your opinion in the space next to the statement.**
(NEO-FFI)
**FILL IN:**

**A = if you STRONGLY DISAGREE or the statement is definitely false**
**B = if you DISAGREE or the statement is mostly false**
**C = if you are NEUTRAL on the statement, you cannot decide, or if the statement is about equally true and false**
**D = if you AGREE or the statement is definitely true**
**E = if you STRONGLY AGREE or the statement is definitely true**

1. _____ I am not a worrier.
2. _____ I like to have a lot of people around me.
3. _____ I don't like to waste time daydreaming.
4. _____ I try to be courteous to everyone I meet.
5. _____ I keep my belongings neat and clean.
6. _____ I often feel inferior to others.
7. _____ I laugh easily.
8. _____ Once I find the right way to do something, I stick to it.
9. _____ I often get into arguments with my family and co-workers.
10. _____ I'm pretty good about pacing myself so as to get things done on time.
11. _____ When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.
12. _____ I don't consider myself especially "light-hearted."
13. _____ I am intrigued be the patterns I find in art and nature.
14. _____ Some people think I'm selfish and egotistical.

**A = STRONGLY DISAGREE;** **D = AGREE;**
**B = DISAGREE;** **E = STRONGLY AGREE**
**C = NEUTRAL;**

15. _____ I am not a very methodical person.

16. _____ I rarely feel lonely or blue.

17. _____ I really enjoy talking to people.

18. _____ I believe letting students hear controversial speakers can only confuse and mislead them.

19. _____ I would rather cooperate with others than compete with them.

20. _____ I try to perform all the tasks assigned to me conscientiously.

21. _____ I often feel tense and jittery.

22. _____ I like to be where the action is.

23. _____ Poetry has little or no effect on me.

24. _____ I tend to be cynical and skeptical of others' intentions.

25. _____ I have a clear set of goals and work toward them in an orderly fashion.

26. _____ Sometimes I feel completely worthless.

27. _____ I usually prefer to do things alone.

28. _____ I often try new and foreign foods.

29. _____ I believe that most people will take advantage of you if you let them.

30. _____ I waste a lot of time before settling down to work.

31. _____ I rarely feel fearful or anxious.

**A = STRONGLY DISAGREE;** **D = AGREE;**
**B = DISAGREE;** **E = STRONGLY AGREE**
**C = NEUTRAL;**

32. _____ I often feel as if I'm bursting with energy.

33. _____ I seldom notice the moods or feelings that different environments produce.

34. _____ Most people I know like me.

35. _____ I work hard to accomplish my goals.

36. _____ I often get angry at the way people treat me.

37. _____ I am a cheerful, high-spirited person.

38. _____ I believe we should look to our religious authorities for decisions on moral issues.

39. _____ Some people think of me as cold and calculating.

40. _____ When I make a commitment, I can always be counted on to follow through.

41. _____ Too often, when things go wrong, I get discouraged and feel like giving up.

42. _____ I am not a cheerful optimist.

43. _____ Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement.

44. _____ I'm hard-headed and tough-minded in my attitudes.

45. _____ Sometimes I'm not as spendable or reliable as I should be.

46. _____ I am seldom sad or depressed.

47. _____ My life is fast paced.

**A = STRONGLY DISAGREE;** **D = AGREE;**
**B = DISAGREE;** **E = STRONGLY AGREE**
**C = NEUTRAL;**

48. _____ I have little interest in speculating on the nature of the universe or the human condition.

49. _____ I generally try to be thoughtful and considerate.

50. _____ I am a productive person who always gets the job done.

51. _____ I often feel helpless and want someone to solve my problems.

52. _____ I am a very active person.

53. _____ I have a lot of intellectual curiosity.

54. _____ If I don"t like people, I let them know it.

55. _____ I never seem to be able to get organized.

56. _____ At times I have been so ashamed I just wanted to hide.

57. _____ I would rather go my own way than be a leader.

58. _____ I often enjoy playing with theories or abstract ideas.

59. _____ If necessary, I am willing to manipulate people to get what I want.

60. _____ I strive for excellence in everything I do.

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