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Burnout in sport : A comparative analysis between South African gymnasts tennis players

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Although there seems to be interest in athlete burnout, hardly any empirical research has been conducted on the topic. The reason attributed to the paucity of research has been the lack of a valid sport specific objective measure. The present study endeavours to investigate athlete burnout empirically in the two sports by comparing tennis players with gymnasts. The study will make use of a number of objective measures including the MBI, in the investigation. The primary objectives of the study will be to determine whether burnout occurs more readily in one sport as opposed to the other and to identify certain sport specific factors that could relate to athlete burnout.

Introduction

Stress and its pervasive effects have become a major concern in today's society. One potential reaction to chronic stress is burnout, a term used loosely to encompass a variety of feelings, behaviours and symptoms. In a general sense burnout is understood as a reaction to chronic stress entertaining an interaction between environmental and personal characteristics (Perlman & Hartman, 1982; Smith, 1986).

Although burnout has been in evidence for a long time, it first appeared in the professional literature in Freudenberger's (1974) article focusing on staff burnout. The concept was expanded by Maslach (1976) to encompass the human service and helping professions. However, it has been difficult to identify or establish the antecedents of burnout since researchers and practitioners often disagree about the components and definition of the syndrome. Due to the complexity and individuality of burnout, it has been conceptualised as a complex interaction among a number of components that produce physical, behavioural, cognitive, affective and emotional signs and symptoms (Smith, 1986). Maslach (1982a, 1982b, 1982c) and Cherniss (1980b) argue for a concept variously encompassing three clusters of components: emotional exhaustion; depersonalisation; and reduced personal accomplishment. The basic concept underlying burnout focuses on an imbalance between resources and demands, causing an immediate short term emotional response to this imbalance and characterised by feelings of anxiety, tension, fatigue and exhaustion (Cherniss, 1980b). The increased stress and pressure, whether real or perceived, is typically job related. The human service and helping professions have received the most attention due to the close personal contact and interaction that makes emotional stress prevalent among these workers (Perlman & Hartman, 1982).

More recently, there has been increa[illegible]nterest in how burnout affects individuals participating in competitive sports including athletes and coaches. Elite athletes as well as top level coaches have dropped out of sports at the peak of their careers maintaining that they were burned out and that their participation was no longer fun and rewarding (Smith, 1986). In addition, there has been increased concern about the number of young athletes who have discontinued their participation in competitive sport due to the intense pressure and demands placed on them by coaches and parents (Orlick & Botterill, 1975).

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ABSTRACT

Research on burnout has typically focused on individuals in the human service or helping occupations. More recently studies and conceptual models have appeared investigating burnout in the athletic environment. The bulk of research on athletic burnout has been conducted on coaches and, consequently, there is a dearth of empirical research on athlete burnout. The present study compared tennis players with gymnasts to determine which group is more likely to experience a higher incidence of burnout. The study also sought to investigate whether any relationship was evident between sport specific factors on the one hand, and burnout, tedium and psychological distress on the other. Three objective questionnaires consisting of the Maslach Burnout Inventory (MBI), Tedium measure and General Health Questionnaire 28 item scale (GHQ-28), as well as a sport specific questionnaire developed by the author, were used to collect data from 20 provincial and national tennis players (10 male and 10 female) and 20 provincial and elite gymnasts (10 male and 10 female). Statistical analysis of the questionnaires revealed a number of important findings. It was found that sport group was not a significant factor in the assessment of athlete burnout. Gender, however, was highly significant with females more likely to experience burnout than males. It was shown that females experience low levels of sport enjoyment, social support and personal accomplishment and high levels of sport pressure, emotional exhaustion, depersonalisation, tedium and psychological distress. Key relationships were further identified between the sport specific variables of sport enjoyment, social support and sport pressure, and the burnout, tedium and psychological distress variables. Negative sport performance such as low enjoyment and social support and heightened feelings of sport pressure were strongly related to high levels of burnout, tedium and psychological distress. Recommendations for future research are made on the basis of these findings.

Question:

How many burned out athletes does it take to change a light bulb?

Answer

A minimum of seven:

* one who was too upset and another who was too depressed to notice the bulb was out;

* two who wouldn't do it because they were arguing over who didn't do it last time;

* one who broke an arm attempting to change the bulb (that was after another had dropped the new bulb);

* finally the bulb was changed by an exasperated coach with high blood pressure, prior to his heart attack.

(Adapted from the epilogue to: Work stress and burnout, 1982, edited by Paine)

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DECLARATION

I hereby declare that this dissertation
is my own unaided work. It is being submitted for the degree of
Master of Arts, to the University of the Witwatersrand, Johannesburg.
It has not been submitted before for any degree
or examinatio \ in any other university.

E.D Abrahamson

BURNOUT IN SPORT: A COMPARATIVE ANALYSIS BETWEEN SOUTH AFRICAN GYMNASTS AND TENNIS PLAYERS

EARLE DEREK ABRAHAMSON

Dissertation submitted to the Faculty of Arts, University of the Witwatersrand, Johannesburg, in Fulfilment of the Requirements for the Degree of Masters of Arts.

Johannesburg, 1996



Demands, constraints, and resources may be internal or external to the person. For example, internal demands may reflect the person's needs and expectations, but external demands may arise from the nature of the work that the person does, or the technology with which he or she does it, or the environment in which it is done. The individual's appraisals of his/her situation may drive his/her coping behaviour and other more general responses, the success of which feed back into appraisal processes.

A work situation that is typically perceived and experienced as stressful is one in which individuals' resources are not well matched to the level of demand, and where there are constraints on how the individual can cope and little social support for coping. In addition to any consideration of its situational antecedents or cognitive and perceptual elements, the state of stress is often defined by the individual's experience of negative emotion, and general discomfort, and in the slightly longer term by changes in general well-being. Feeling worn out, and possibly uptight and tense, may result not only from the experience of stress but also from the effects of attempts at coping. At the same time, such feelings feed back and partly determine the experience of, and response to, stress (see figure 1).

The concept of stress represents, at one level, a general notion of distress; at another, a process by which distress occurs; and at a third, the psychological/experiential state that is central to that process and is a dynamic of that process. A similar type of analysis, by level of explanation, can be applied to the burnout concept. It can be deconstructed, in moving from the level of everyday discourse to that of scientific analysis, into its component parts: emotional exhaustion, depersonalisation, and lack of personal accomplishment. In turn, these components of burnout may be mapped onto the appropriate level of analysis of work stress.

In terms of the transactional model, the burnout concept can be seen to be a particular slice across the stress process. The burnout literature appears more concerned with the situational antecedents of the phenomenon than with its individual determinants. This reflects the origins of the concept in social psychology and the empirical evidence that consistently finds burnout to be more strongly correlated with organisational than with individual differences. Leiter (1992) cites several different types of demand that appear particularly relevant to the aetiology of burnout, including issues of work overload, routine nature of work, and interpersonal conflict through work.

Work stress has been defined as the psychological state that is or represents an imbalance or mismatch between the individual's perceptions of the demands on him/her (relevant to work) and his/her ability to cope with those demands (Cox, 1978, 1985, 1990). This process of appraisal may also take into account the resources and supports available to the individual for coping and the constraints placed on coping and on the individual's control over the situation.

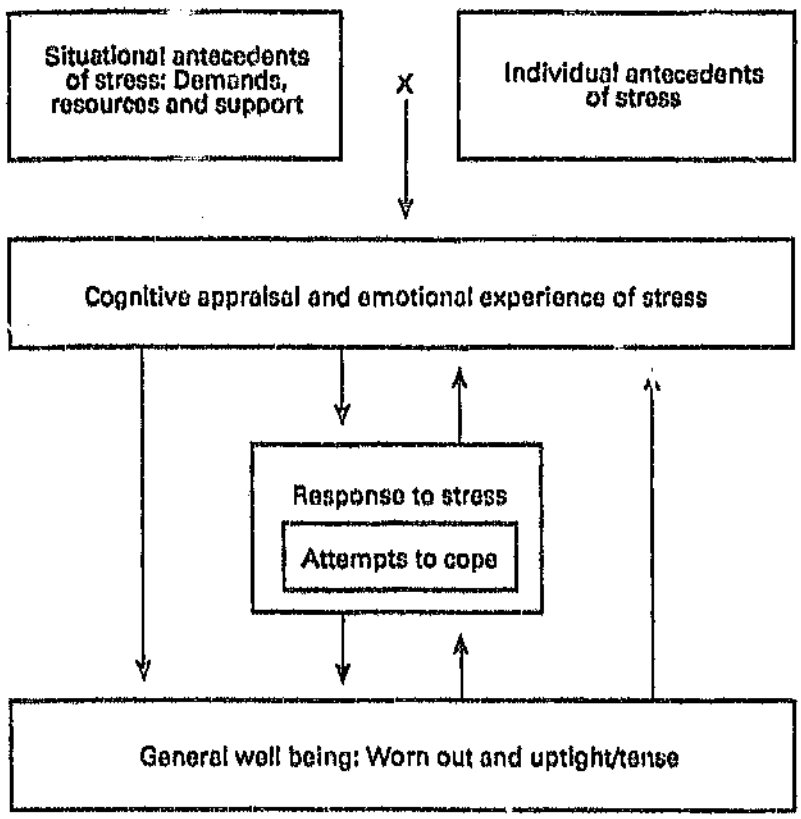

Figure 1: Transactional Model of Stress (Cox, 1978, 1985, 1990)

However, the evidence that stress causes burnout needs to be carefully considered at two levels: 1) conceptually and 2) empirically. Conceptually there are three issues.

First, the study of any possible relationship between stress and burnout can be carried out empirically, but it is better practice to test priori models. Such models require the theoretical exploration of possible relationships before data collection.

Second, both stress and burnout can be defined at various levels of explanation: the level of common discourse and a lower (more detailed) level appropriate for scientific definition and measurement. Some studies on the relationship between stress and burnout appear to have operated at the second level in terms of the latter concept, using the MBI to measure its component parts, but have operated at the higher (more general) level in terms of the former. This mixing of levels of explanation must lead to confusion.

The third issue relates to the nature of the measures used in relation to that of the concepts being measured. It cannot necessarily be assumed that there is effective equivalence of nature of measure on the one hand and concept, on the other and that all possible forms of relationship are therefore possible.

1.3.1 Theoretical Integration: Burnout and Stress

At the theoretical level, Leiter (1992) argued that organisational stressors (demands) determine levels of emotional exhaustion, especially when organisational supports, such as social support and skill utilisation, are lacking. Such an approach can be easily mapped onto the transactional model of work stress and health developed by Cox (1978, 1985, 1990).

The concept of work stress is one that offers an economy of explanation in relation to the complex perceptual and cognitive processes that underpin the individual's interactions with his/her work environment and his/her attempts to cope with the demands of that environment (Cox, 1990). It is a concept that is obvious in everyday discourse, and which at that level attracts a variety of related meanings, but which at the level of scientific analysis takes on a more precise meaning and in doing so deconstructs into a number of component parts.

monotonous or boring such as tennis and gymnastics (Jackson et al, 1986).

Burnout as measured by the MBI cannot be validly distinguished from related constructs such as distress and tedium. Emotional exhaustion the scale that is most reliable and that displays the strongest convergent validity, is the least specific dimension of burnout, showing considerable overlap with these related constructs (Jackson et al., 1986). In order to distinguish, and to avoid confusion, between the different constructs, the present study will make use of a tedium, distress and burnout scale in the assessment of athlete burnout.

Before discussing athlete burnout in greater depth, it is imperative to review the existing literature on burnout and stress.

1.3 Burnout and Stress

Both feelings of emotional exhaustion (burnout) and feelings of being worn out have been variously linked to the experience of work stress, both as contributing factors to that experience and as possible outcomes (Cox, 1990). The dominant view in burnout research is that a causal chain exists in which the experience of stress contributes to the aetiology of burnout, which in turn is related to negative job perceptions, lack of organisational commitment, and withdrawal behaviour (Leiter, 1992).

Table 2: A comparison of symptoms: Stress and Burnout

Stress	Burnout
1. Fatigue	1. Chronic fatigue
2. Anxiety	2. Unfulfilled need for recognition
3. Job dissatisfaction	3. Job boredom and cynicism
4. Less commitment	4. Detachment/denial of feelings
5. Moodiness	5. Impatience/irritability, paranoia, and feelings of omnipotence
6. Guilt	6. Depression
7. Poor concentration/forgetfulness	7. Disorientation/forgetfulness
8. Physiological changes (eg. increased blood pressure)	8. Psychosomatic complaints

(Niehouse, 1981: 28)

aversive source of stress.

It is important here to distinguish between two closely associated but often confusing concepts, namely: burnout and dropout.

The term, "dropout", is often employed in association with sport and is sometimes difficult to differentiate from burnout (Dale & Weinberg, 1990). Studies have illustrated that many children abandon athletic activities for a variety of reasons, such as having other things to do, that friends no longer participate, that they are too time-consuming, and parental pressure (Gould & Horn, 1984). Robinson and Carron (1982) studied personal and situational factors to determine if they were predictive of dropping out from or maintaining sport participation. Variables which determined whether athletes continued or dropped out were: group climate, attitudes toward competition, socialization factors, attribution following athletic events and leadership behaviour of the coach. However, the most common reason given for discontinuing participation was 'other things to do' and this applied to other sports, hobbies, work and involvements (Gould et al, 1982; Robinson & Carron, 1982; Groenspan, 1983; Gould & Horn, 1984). Individuals who experience burnout can, according to Dale and Weinberg (1990), be differentiated from those who drop out due to the psychological and emotional exhaustion that is experienced with burnout. A further distinction is the detachment (in the case of dropping out) or resentment (in the case of burnout) demonstrated towards the former activity (Smith, 1986). According to Dale and Weinberg (1990), one reason why athletes drop out could be because they are burned out; however, there are a number of other causes of dropout which are unrelated to burnout. Burnout might accordingly be considered just one determinant of dropout.

A concept closely associated with burnout is tedium (Pines et al., 1981). Tedium can be described as the general experience of physical, emotional and attitudinal exhaustion. Pines and Aronson (1981) differentiate burnout from tedium by specifying that while in symptomatology they are similar, in origin they are different. Where burnout is the result of constant or repeated emotional pressure associated with intense involvement with people over long periods of time, tedium lacks the interpersonal factor and is merely the result of any prolonged chronic (mental, physical or emotional) pressures. Exhaustion presumes prior states of high arousal, in contrast to tedium more likely to be experienced in sports where work is

emotional exhaustion-depersonalisation relationship ($F = 4.15$, $df = 1$, $N = 93$, $p < .05$). The data suggested that a linear relationship only existed between the two measures when the meaningfulness of work was perceived to be low.

The evidence reviewed suggests the centrality of emotional exhaustion in the burnout concept. First, it is what defines burnout to the subject. Second, it is what correlates most strongly with global measures of burnout. Third, it is what determines, in some sort of temporal sequence, at least one other component of the MBI: depersonalisation. If emotional exhaustion is central to the burnout concept, it is significant as it is this component that defines burnout for the athlete (Smith, 1986). Leiter (1992) contends that the MBI can and should be applied across different samples; however, one needs to modify the scale for different populations.

The application of burnout concepts to the sporting world is a recent development, and the earliest work focused on burnout in coaches (Feresse & Mayerberg, 1984; Wilson et al., 1986; Dale & Weinberg, 1990) and athlete trainers (Capel, 1986). One reason for the focus on these populations was the similarity of job requirements of helping professions which had been previously studied and those of coaches and trainers.

In the athletic community, burnout is a term which is used quite frequently but is seldom precisely defined. At times it is viewed as a flaw in the personality of a player or a mental weakness that signifies a lack of mental toughness. At other times, burnout is viewed as being synonymous with the discontinuance in sport involvement.

In the psychological and sport psychological literature burnout has a different and more precise meaning. Burnout is defined as a psychological, emotional and physical withdrawal from a formerly pursued and enjoyable sport as a result of extreme exhaustion and excessive stress which acts on the athlete over time (Smith, 1986). It is the manifestation or consequence of the situational, cognitive, physiological and behavioural components of excessive stress. Hence, burnout is not viewed solely as a component of one's personality, but is thought to result from a reciprocal interaction of personal and situational factors. Similarly, not everyone who discontinues sport involvement burns out. However, when burnout does occur in the sporting context, a previously enjoyable activity becomes an

should focus on this component. The other two components, he suggests, are more appropriate for study in other contexts. Leiter (1992), for whom the depersonalisation and personal accomplishment components enhance the syndrome's use as a social psychological construct, contends that the three components of burnout should be considered together if their analysis is to be guided by a theoretical model of their interrelationship.

Leiter (1992) has described the possible pattern of relationships between emotional exhaustion and the other two components of burnout as defined by the MBI. His study of health care workers in a Canadian mental hospital suggested a strong association between emotional exhaustion and depersonalisation, and their relative independence from personal accomplishment. Analysis of his data using LISREL further suggested that work demands such as work overload and interpersonal conflict, combined with an underutilization of skill, created feelings of emotional exhaustion, which in turn led to depersonalisation. Depersonalisation was also shown to be influenced by the co-worker's age, a lack of co-worker support, the lack of control coping strategies, and a tendency toward escape coping. Somewhat by contrast, personal accomplishment was determined by skill utilization, co-worker support, control coping, and a tendency away from escape coping.

A study at Nottingham (Cox et al., 1991) considered the factor structure for the MBI in a sample of British nurses and the relationship between their scores on the scales that emerged from that analysis. The application of principal components analysis to these data suggested a three-factor model of burnout, not dissimilar to that described by Maslach and Jackson (1982a, 1986) for the MBI. It accounted for 51% of the data variance. The most robust of the three factors, in terms of its exact replication across the study, was the emotional exhaustion scale with the personal accomplishment scale being influenced by the nurses who experienced psychological distress.

Anecdotal evidence suggested that feelings of personal accomplishment or something similar might moderate the relationship between emotional exhaustion and depersonalisation. This possibility was formally tested using hierarchical regression analysis (Cox & Ferguson, 1991). The data revealed no such moderating function for personal accomplishment. However, the original suggestion was supported in a subsequent analysis in which a measure of "the meaningfulness of work" (six items: Cronbach's $\alpha = .75$) was shown to moderate the

represents the undimensional model; second, correlations between the former scales and assessments of respondents' degree of burnout made independently by others; third, the component profiles of those who declare themselves to be burned out.

First, there appear to be at least two studies (Stout & Williams, 1983; Corcoran, 1986) that have administered both the (multidimensional) MBI and the (unidimensional) Burnout Measure (BM) to their subjects. They report that both the emotional exhaustion and depersonalisation scales of the MBI were moderately correlated with the BM (r=.50).

Second, Maslach and Jackson (1981) compared the scores of police officers the MBI with the descriptions of the officers offered by their wives. Although emotionally exhausted police officers were described by their wives as coming home upset and anxious, the other two MBI scales appeared unrelated to behaviour at home. Ezrahi (1987) compared teachers' MBI scores with structured observations of the teacher's classroom behaviour and the assessment of burnout by their superiors. Only the emotional exhaustion scale was validated the reason attributed to this was that emotional exhaustion is best associated with work conditions; i.e., work dissatisfaction and work distress. Emotional exhaustion is seen as a function of continued exposure to recipients' problems within a context of a professional interaction which is non-reciprocal, emotionally demanding, intellectually and/or physically taxing, incurring work responsibility.

Third, Pick and Leiter (1991) reported a relatively small study which administered the MBI to subjects who reported to the authors as a result of a local advertisement requesting volunteers who were burned out through work. The scores of these subjects on the three MBI subscales were compared with available North American norms (Maslach & Jackson, 1986). Although the subjects' scores on the personal accomplishment and depersonalisation scales were not noteworthy in terms of their distributions, their scores on the emotional exhaustion scale were more than two standard deviations above the normative mean. It would appear that these subjects were defining their feelings of being burned out in terms of extreme emotional exhaustion.

Based on this evidence, Shirom (1989) and Leiter (1992) have argued that emotional exhaustion is the defining feature of burnout. Shirom (1989) has argued that future research

it should best be measured.

Most of the better known models, such as those based on the Maslach Burnout Inventory (MBI: Maslach, 1982a, 1982b, 1982c) or the work of Cherniss (1980b), argue for a concept variously encompassing three clusters of symptoms, or components:

1) Exhaustion (intellectual, emotional, or physical) and lack of enthusiasm;
2) Depersonalisation and emotional detachment;
3) Reduced personal accomplishment, helplessness, and low self-esteem.

Usually clusters of symptoms such as these have been given independent status in multidimensional models (for example, in the MBI: Maslach, 1982a) Sometimes they have been more simply grouped together in unidimensional models (e.g., the Tedium Measure: Pines et al, 1981). The scientific status of the burnout concept varies with the type of model adopted.

For multidimensional models, burnout is a "global" term and offers an economy of description as a combination of factors interrelated on an additive basis: the whole is the sum of its parts. Here the way in which the term is employed is somewhat analogous to its use in everyday discourse. A general meaning may be sufficient but it needs more careful consideration for the purposes of scientific study (Pick & Leiter, 1991). This has been provided through the MBI (Maslach & Jackson, 1981, 1984a, 1986), which is the most widely used multidimensional instrument for measuring burnout. For unidimensional models, burnout represents a single psychological state. Its different aspects are integrated to define a new entity: the whole is greater than the sum of its parts. Here the term doubles for both popular discourse and scientific study.

Questions arise in relation to the structure of multidimensional models and their core meaning: is one of the components referred to above more representative of the global concept, or of the concept as used in everyday discourse, than the others? Furthermore, if there is a key component, what are the structural relationships between that component and the others.

Three different types of evidence may be considered in relation to the above question: first, correlations between the scales that represent the multidimensional models and that which

when, somewhat paradoxically, their budgets were being trimmed yet public and political expectations of their role were increasing (Faber 1983). It was useful for them to have a notion both socially and scientifically acceptable, and one which pointed to the effects of this paradox, but without "blaming" those who were affected.

Despite its popularity, however, certain questions need to be answered concerning the nature of the burnout concept. On careful examination, there would appear to be some conceptual overlap, at least superficially, between the notion of burnout and others, such as depression and work stress. Indeed various theoretical perspectives predict that burnout is related to these concepts. It has been claimed by Freudenberger (1980) that reactive depression is most often accompanied by guilt, whereas burnout generally occurs in the context of anger. Freudenberger (1980) argues that distinct differences exist between the concepts of burnout and depression. Burnout tends to occur in work specific situations, whereas depression occurs in a much broader and more general context. Moreover, Freudenberger poses the question as to what point the relationship between burnout and depression becomes so strong that both are understood as a manifestation of the same idea. The distinction becomes even harder to make when measurement and methodological problems are taken into account. For instance, a high correlation between two conceptual variables can be due to several factors (e.g., common method variance), whereas a poor correlation might be caused by unidentified confounding variables. However the real question is whether these different concepts are redundant or whether they are different and can be usefully reconciled. Answering this question requires consideration of the definition and measurement of burnout.

1.2 Definition and Measurement of Burnout

The burnout concept was adopted from its lay use to describe a certain group of negative attitudes and emotions that human service workers held toward their jobs (Maslach & Jackson, 1986). The origin of the concept may have contributed to later problems of definition, including vagueness and lack of substance, lack of consensus, and overinclusion. These criticisms have also been applied to many other concepts, including work stress. They are often fair when considering popular literature on the level of everyday discourse, but less so when the focus is narrowed to levels of explanation appropriate to scientific analysis. Notwithstanding this, there are different schools of thought on the nature of burnout and how

Table 1: Signs and symptoms of burnout identified in the literature (Muldary, 1983, p6)

PHYSICAL	PSYCHOLOGICAL	BEHAVIOURAL
Fatigue	Feelings:	Dehumanization of patients
Sleep disturbances	* anger	Victimization of patients
* difficulty sleeping	* boredom	Fault finding
* difficulty getting up	* frustration	Blaming others
	* depression	Defensiveness
Stomach ailments	* discouragement	Impersonal stereotyped
Tension headaches	* disillusionment	communication with patients
Migraine headaches	* despair	Applying derogatory labels
Gastrointestinal problems	* apathy	to recipients
Frequent colds	* guilt	Physical distancing from recipients
Lingering colds	* anxiety	Withdrawal
Frequent flu	* suspicion / paranoia	Isolation
Backaches	* helplessness	Stereotyping recipients
Nausea	* pessimism	Postponing contact with recipients
Muscle tension	* irritability	Going increasingly by the book
Shortness of breath	* resentment	Living for breaks
Malaise	* hopelessness	Absenteeism
Frequent injuries	Attitudes:	Making mistakes
Weight gain	* cynicism	Unnecessary risk taking
Weight loss	* indifference	Substance abuse
Stooped shoulders	* resignation	Marital & family conflict
Weakness	* self-doubt	Conflict with co-workers
Changed eating habits	Other:	Workaholism & obsessiveness
	* loss of empathy	Use of humour as buffer from emotions
	* difficulty concentrating	Decreased work efficiency
	* low morale	Suicide
	* moodiness	Overcommitment or undercommitment
	* impoverished self image	

1. Review of the Literature

1.1 Understanding Burnout

Burnout is a colloquial term describing an emotionally depleted state experienced by individuals in the helping profession. The notion of burnout has caught the imagination of both researchers and practitioners, particularly in relation to the human service occupations. Its continuing popularity is witnessed both in the volume of research and in the diversity of its application. Pines and Aronson (1988), in their book *Career Burnout: Causes and Cures*, noted the wide range of different fields to which the concept of burnout has been applied from advanced pathology in schizophrenic patients (McGinness, 1987), through loss of motivation among college students (Meier & Schmeck, 1985), people in the helping occupations (Burke,1987), and athletes (Smith, 1986).

There are two reasons for the rapid growth in the popularity of the concept (Shirom, 1989).

First, unlike other possibly related concepts, such as depression or work stress, it does not stigmatize the person, and is thus more conducive to diagnosis and intervention than those that have such a tendency. Burnout manifests as an extremely variable amalgam of symptoms, behaviours and attitudes, developing as a response to heightened stress over time (Cherniss, 1980a, 1980b; Golembiewski et al., 1983). Based in psychological, interpersonal, organisational and social phenomena, the aetiology of burnout is complex (Farber, 1983). While there appears to be a popular belief that burnout and work stress are intrinsically related, they are not synonymous. Work stress appears to be a necessary pre-condition for burnout to occur (Muldary, 1983). Burnout may constitute the end-point of the occupational stress continuum (Golembiewski et al., 1983). Burnout may be the consequence of stress that has not been moderated by variables such as social support (Farber, 1983). Contemporary theories of work stress focus on the interaction between the individual and the environment. The individual is assigned a more active role in theories of stress than in theories of burnout. As a result, in the case of stress, individuals appear to share more responsibility for their condition (or experience) than in the case of burnout as a social psychological phenomenon.

Second, and not unrelated, the concept of burnout has provided the social and helping services with what is perceived to be a useful explanation of their own situation during a long period

predictor of burnout. In addition, interpersonal and role culture conflicts were also positively related to burnout with the greater the conflict the higher the perceived burnout. The advantage of Taylor's (1988) model is that it attempts to account for a feedback loop from affective responses to perceived stress.

1.5.2 Burnout and Coaches

Caccese and Mayerberg (1984) were among the first researchers to study empirically perceived burnout in coaches, specifically focusing on the potential relationship between burnout and gender. A random sample of 375 Division I college coaches was used. The coaches completed the MBI. The results indicated that female coaches scored higher than male coaches on emotional exhaustion and lower on personal accomplishment. However, depersonalisation did not differ significantly between the genders. A variety of explanations were given for why the females were more burned out than their male counterparts, including fewer years experience, less time to learn to cope with stress and, indirectly, females were found to be too idealistic and too expectant (Caccese & Mayerberg, 1984). One drawback to Caccese and Mayerberg's (1984) study was that only means and standard deviations were reported. In order to establish the incidence of burnout among the sample of coaches, frequency data are needed (Smith, 1986).

Wilson et al (1986) studied burnout in Canadian university coaches. They found that full-time coaches experiencing a losing season and a high number of contact hours with athletes were suffering higher levels of burnout. Results also revealed that other professions reported higher levels of burnout than coaches. The authors felt that environmental variables, were more important in predicting burnout than personal variables although their interaction always needed to be considered.

In a follow-up investigation, Wilson et al., (1986) studied Canadian national coaches. The results of this study indicated that Canadian coaches were less burned out and have a higher feeling of personal accomplishment than American coaches. However, there was no significant difference found between male and female coaches. This is contrary to Haggerty's (1982) study of Canadian coaches in which he found that female coaches had a higher level of perceived burnout than male coaches. Specifically, female coaches had feelings of lower

research on athlete burnout under a single heading of research findings, the research in this area being so eclectic. Separate headings will accordingly be used for discussing research findings regarding burnout amongst trainers, coaches and athletes.

1.5.1 Burnout and Athletic Trainers/Officials

Capel (1986) investigated role conflict and role ambiguity in athletic trainers to determine if these psychological and organizational variables were related to burnout. A regression analysis was conducted using role conflict, role ambiguity, locus of control, number of athletes in trainer's direct care, and number of hours per week as predictor variables. He used frequency and intensity of emotional exhaustion, depersonalisation and personal accomplishment as dependent variables. Results indicated that role conflict was the best predictor of burnout, high role ambiguity being associated with low personal accomplishment. In addition, the findings showed that an individual with an internal locus of control experienced less burnout than individuals with external loci of control.

Gieck et al. (1982) studied burnout in athletic trainers. They took a case study approach which focused on some of the causes and effects of burnout as well as potential mediating variables. Specifically, using case studies as the source of data, Gieck et al. (1982) found that athletic trainers experience an immense amount of stress on the job in that they are asked to fulfil several different roles and are also time stressed. A further finding of the study was that trainers with a type A personality (e.g., excessive anxiety about time and urgency) were more prone to burnout.

Taylor (1988) investigated potential stressors and organisational variables related to burnout in officials. Officials have generally been neglected in the sport psychology literature but are certainly placed under a great deal of stress with few rewards other than the satisfaction of a job well done. The study involved youth soccer officials who completed a modified version of the MBI (frequency dimension only) and the Ontario Soccer Officials Survey which included demographic, background variables and potential sources of officiating stress. Taylor (1988) utilizes a path analysis model of burnout derived from an organisational psychology model of turnover. This path analysis found that perceived stress was more strongly related to burnout than intent to quit. Specifically, the stressor, fear of failure, was the strongest

of behavioural coding systems. Likewise, the level of social support on a team may be measured by behavioural assessment of interaction patterns among players.

Individual difference variables have received less empirical attention than situational factors in burnout research, and few consistent relationships have been established (Perlman & Hartman, 1982). Burnout is but one potential response to stressors, yet little is known about individual differences that are associated with burnout as opposed to other possible responses, such as somatic problems or aggressive outbursts.

Research has generally suggested that individual coping strategies are either unrelated or positively related to burnout (Pines et al., 1981). This may be due to the fact that many of the strategies examined in these studies were attempts to cope with stress and burnout through avoidance of feelings and the work situation. In contrast, Shinn et al. (1984) found that problem-focused strategies such as seeking to increase competence and changing one's approach to the job were related (though not significantly) to lower levels of experienced stress.

Rosenbaum and Ben-Ari (1985) found that subjects who report having self-control skills are more resistant to experimental conditions designed to produce learned helplessness. Moreover, stress management training programmes designed to teach individuals cognitive and somatic coping skills have been found to be promising methods for reducing stress and increasing feelings of self-efficacy in a variety of populations (Meichenbaum, 1977).

Studies of coping and prevention strategies related to athletic burnout are capable in my view of making substantial contributions to what is known about burnout in general. The athletic environment offers unusual opportunities to study interaction of situational and personal factors and to relate them to a variety of meaningful response measures, including performance and physiological indices.

From the aforegoing, it is evident that an enormous volume of research has been conducted on burnout. However there is still a growing need for researchers to examine specific areas of concern such as sport specific factors and interactions between personal and situational factors especially when researching athlete burnout. It is virtually impossible to classify

The loss of a sense of significance in, and a subsequent devaluation of, an activity were cognitive characteristics of burnout identified by Pines et al. (1981). Juba (1986) contested that burned out athletes would begin to question the value and significance of their efforts and begin to perceive their situation as an aversive treadmill.

At a physiological level, chronic stress, fatigue and irritability are all factors associated with burnout. Victims of burnout begin to feel emotionally depleted and have difficulty experiencing positive emotions. Sleep-related disorders increased susceptibility to physical illness and lethargy tends to occur (Freudenberger, 1980). The behavioural factors associated with burnout involve a decreased level of efficiency and a psychological, if not physical, withdrawal from the activity. These physiologic factors are clearly depicted in Smith's (1986) model.

Much of the present research on the causal factors in burnout relates to situational variables (Farber, 1983). Organisational climate and workload variables which increase demands and lower autonomy, role definition, and social support, in turn decreasing available resources, are clearly implicated. One might expect that, by analogy such variables as training and competitive demands, poor coach-player relationships and low levels of social support from peers would be related to athletic burnout. On these grounds, research has suggested that burnout is expected to occur with higher frequency in highly competitive and individual sports such as tennis and gymnastics. The rationale is that such sports are usually demanding in terms of time and effort requirements, that the repetitive nature of training can produce boredom, and that the individual nature of the sport reduces the level of social support.

One of the limits of burnout research is that situational factors are often measured on the basis of self-reports of those who are burned out (Smith, 1986). Given the reciprocal nature of physiological and appraisal processes, there is the possibility that ratings of causal factors are affected in unknown ways. Such measures, though valid in terms of reflecting the perceptions of the individual, may not be accurate representations of the actual situation. Smith (1986) suggests that independent assessment of situational factors may be accomplished through the use of unobtrusive measures such as statistics of various types (number of competitive events, length of practices, performance statistics, etc.) and by direct situational and behavioural assessment. For example, coach-player relationships may be studied directly through the use

In order to recognise the value of each of the above models, and appreciate the contribution that each model makes towards the understanding of athlete burnout, different aspects of the models will be extracted and used for the conceptual basis of the study. For example Smith's conceptualisation of burnout as a possible outcome of the stress process is vital to one's understanding and analysis of athlete burnout. Silva's integration of physical and psychological elements in analysing athlete burnout is important as it gives an added dimension to research in this field. Coakley's interpretation of stress as a symptom of burnout provides a useful alternative to researching and ultimately understanding athlete burnout.

1.5 Research Findings

Studies of young athletes identify as sources of athlete burnout such factors as difficulties with coaches and interpersonal difficulties with peers (low social support), high competitive demands, time and energy demands, insufficient skills and boredom (Gould et al., 1982). In young adults, regimentation and lack of personal autonomy have been attributed to attrition in sport (Jones, 1981). Similarly, lack of autonomy created by autocratic coaches and low solidarity and social support are among the factors associated with dropout and consequently burnout, in high school athletes (Robinson & Carron, 1982). All of these factors are capable of increasing the demands and costs of athletic participation for the athletes, and these factors may also relate in a direct manner to the stresses experienced by other members of the athletic community such as coaches, administrators and trainers. On the other hand, low levels of success and accomplishment may clearly reduce the reward value of participation (Gould et al., 1982).

Feigley (1984), according to his experience as a sport psychologist, identified perfectionism, a lack of assertiveness skills and the need to please others as variables related to burnout in gymnasts. Juba (1986) identified excessive training workloads, parental pressure and the repetitive nature of the sports as major causes of burnout in tennis and gymnastics. Juba (1986) went so far as to classify tennis and gymnastics as high incident burnout sports. In this light tennis players and gymnasts have been selected for the present study. Smith (1986), in discussing tennis from a parental perspective, identified inconsistent coaching practices, overuse injuries from excessive practice and excessive time demands as major sources of burnout.

> "There is no doubt that stress is associated with burnout, and that the coping strategies called for by stress based models sometimes delay burnout. However, my conclusion is that the roots of burnout among young athletes go far beyond chronic stress, beyond individual stress management abilities, beyond the emotional demands and consequences of sport competition, and beyond individual psychological resources. In other words, burnout is best explained and dealt with as a social problem rather than a personal failure...[W]hen burnout is conceptualised as a social problem rather than a personal failure, it suggests a need for changes far beyond the treatment of stress."
>
> (Coakley, 1992, p.275)

Coakley argues that the causes of athlete burnout are tied to the social organisation of high performance sport and effects on identity and control issues in athletes. Regarding the identity of the athlete, Coakley contends that burnout occurs because the structure of high performance sport (e.g., time demands) inhibits the athlete from developing a normal multifaceted identity (e.g., no time to spend with peers). Instead, identity foreclosure occurs where the athlete's identity is solely focused on sport success. In many cases (e.g., when injury or performance failure occurs), this sole identity focus on being an athlete causes stress, ultimately leading to burnout.

The Coakley model was developed as an alternative to the stress-based models of burnout and is important for the emphasis it places on the athlete's social environment. Moreover, specific recommendations for preventing burnout are offered and include changing the social structure of high performance sport and the manner in which the sport experience is integrated in an athlete's life, and structuring the relationships between significant others and athletes in differing ways.

A major limitation inherent in all of the above models is that they fail adequately to recognise the influence of sporting factors, such as the nature of the sport, in contributing to athlete burnout. While there are elements of sporting factors suggested in the models, the fundamental focus of the models is on personal and stress related issues.

It is important to realise that conceptual models are developed in order to focus on one particular aspect of a broader problem (Smith, 1986). Therefore, it would be extremely difficult to isolate and use a single model for the conceptual framework of the study, as no one model can adequately explain all factors that contribute to the athlete burnout syndrome.

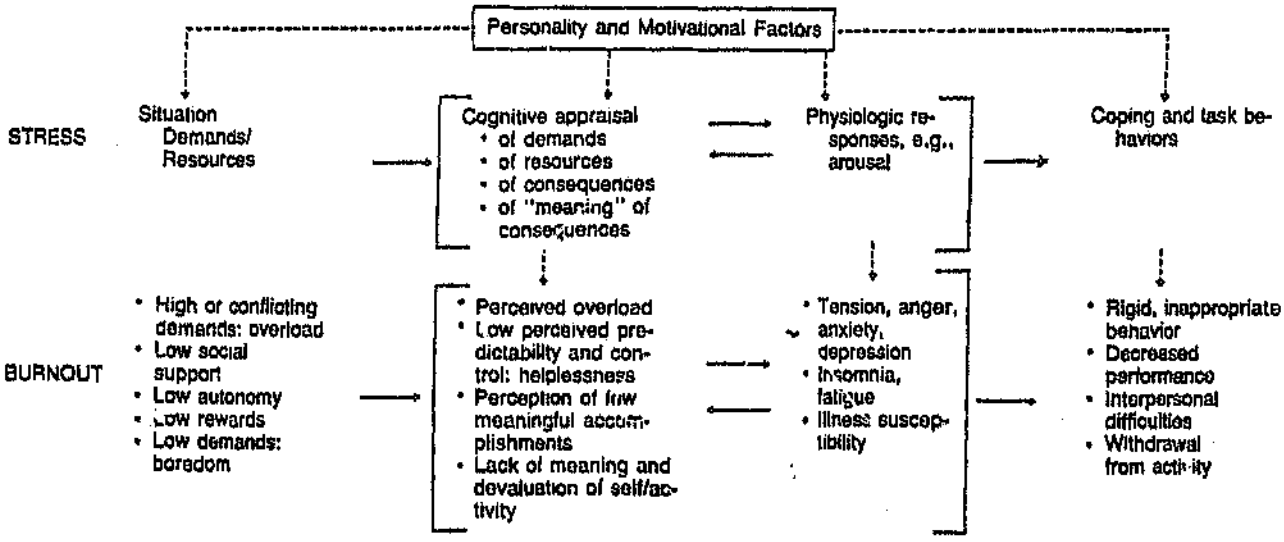

Figure 2: Smith's 1986 Cognitive-Affective Model of Athletic Burnout (From Smith 1986)

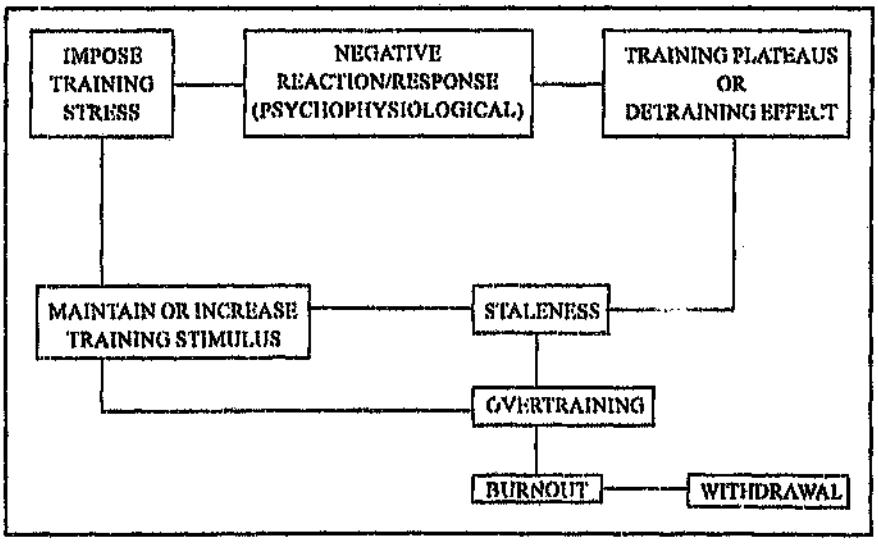

Figure 3: Silva's 1990 Negative Training Stress Response Model (From Silva 1990)

training (e.g., in weight training one purposely overloads the body and the body in turn adapts by becoming stronger). As figure 3 below demonstrates, too much training results in negative adaptation. This negative adaptation is hypothesised to lead to negative training responses moving on a continuum from staleness "an initial failure of the body's adaptive mechanisms to cope with psychophysiological stress", (Silva, 1990, p. 10), to overtraining "detectable psychophysiological malfunctions characterised by easily observed changes in the athletes mental orientation and physical performance", (Silva, 1990, p. 10), and finally to burnout, an exhaustive psychophysiological response exhibited as a result of frequent, sometimes extreme, but generally ineffective efforts to meet excessive training and sometimes competitive demands", (Silva, 1990, p. 11).

The advantage of Silva's (1990) model is the conceptualisation of burnout as a negative bodily adaptation, one that is brought about as a result of overtraining and stress. Silva does well to integrate the physical determinants of burnout with the psychological effects. In this light the model parallels Smith's (1986) model as both models acknowledge and integrate the physical with the psychological, a fundamental integration in the context of athletes. Silva's model describes burnout as the specific outcome of a stress-overtraining process. By defining burnout in this manner, Silva fails to acknowledge other factors that could lead to withdrawal from a sport, contrary to the Smith model that considers burnout as a possible outcome of the stress process. Silva's model regards burnout as the outcome and in this sense, the model is limited.

1.4.3 Coakley's (1992) Unidimensional Identity Development and External Control Model

While the Smith (1986) and Silva (1990) burnout models focus primary attention on stress, Coakley (1992) developed an alternative view. Coakley agrees that stress is definitely involved in burnout. He argues, however, that it is not the cause of burnout - only a symptom:

(Lazarus, 1976).

When appraisal indicates the threat of harm or danger, the third component, physiological arousal, occurs as part of the mobilization of resources to deal with the situation. Arousal in turn provides feedback concerning the intensity of the emotion being experienced, thereby contributing to the process of appraisal or reappraisal (Lazarus, 1966).

The fourth component of the model consists of the output behaviours that constitute the person's attempt to cope with the situation. These include task-oriented, social and other classes of coping behaviours that are affected by the demands of the situation, cognitive appraisal processes and whatever physiological responses occur.

Smith (1986) makes many theoretical points relevant for both research on and intervention in athlete burnout. Smith notes that sport might have distinct causal burnout factors and cautions against over-reliance on work-based models. He argues for the development of sport specific burnout scales and behaviour-based ratings of burnout effects and causal variables. Perhaps the most important contribution of Smith's research is its integration of ideas from the general stress-coping literature into the study of athlete burnout, as well as the premise that individuals stop participating in sports for many reasons other than burnout (McCann, 1995).

Despite its intuitive appeal and precisely identified relationships, Smith's model has failed to generate burnout research. It does, however, provide a good framework for conceptualising athletic burnout, and further supports the notion that athlete burnout is best understood as one particular outcome of the stress process.

1.4.2 Silva's (1990) Negative Training Stress Response Model

Although recognising the importance of psychological factors, Silva (1990) developed a model to explain burnout that focused more attention on responses to physical training. In particular, Silva contended that physical training stresses the athlete and can have both positive and negative effects. Positive adaptation is a desirable outcome and a primary objective of

withdra- ' from an activity due to burnout and withdrawal from an activity for other reasons. Thibaut and Kelley's model (1959) assumes that human behaviour is primarily governed by the desire to maximize positive experiences and to minimize negative ones. An individual will continue an activity depending on the outcome evaluated by comparing it to an alternative activity. It is hypothesized that any activity falling below the comparison level of an alternative activity will be discontinued. This comparison level is extremely individualised and is based on past experiences, observations of others, and momentary need states along with contributing factors such as situational demands that exceed personal and environmental resources causing stress due to overload (Smith, 1986; Dale & Weinberg, 1990).

Smith's (1986) model (see fig. 2.), encompasses relationships among situational factors, cognitive appraisal of interaction between the person and the situation, physiological responses and behavioural responses. Each of these components is in turn influenced by individual differences such as level of motivation and personality. Since burnout, according to Smith (1986), is typically a reaction to chronic stress, the model specifies the parallel relationships assumed to exist among situational, cognitive, physiologic and behavioural components of stress and burnout.

The first component of the model, the situation, involves interactions between environmental demands and personal and environmental resources. Stress results from an imbalance between demands and resources. Demands can be external, as when an athlete confronts a strong opponent in an important contest, or they can have an internal origin in the form of desired goals, personal standards of behaviour relating to values or commitments, or unconscious motives and conflicts. When demands are not met, costs in the form of anxiety, guilt, anger and self-degradation may occur.

Through their own thought processes, people create the psychological reality to which they respond. The second component of the model, cognitive appraisal processes, play a central role in understanding stress because the nature and intensity of emotional responses are a function of at least four different appraisal elements: appraisal of the demands, appraisal of the resources available to deal with the demands, appraisal of the nature and likelihood of consequences if the demands are not met, and the meaning of those consequences for the person. The meanings attached to the consequences derive from the person's belief system

states that arise from similar organisational contexts. Any correlations are due to their shared organisational antecedents. The extent of such sharing may vary across studies. This model is similar to that proposed by Leiter (1992) regarding the relationship between emotional exhaustion and personal accomplishment. The two dimensions may have little direct impact on one another, but both arise in response to aspects of an impoverished organisational environment.

Third, the relationship between the various components of burnout and work stress processes may be complex and dynamic, as theoretically suggested. Thus, differences in the strength and directionality of the various findings reflect the reality of the situatio The weakness of the correlations may reflect the failure to identify important moderating factors (Cox, 1990).

From the above evidence of burnout and stress it becomes clear that burnout needs to be seen as one particular outcome of the stress process. In the athletic community burnout is defined as the result of chronic stress (Smith, 1986). According to Shirom (1986), chronic stress is only one possible outcome of a process of stress. In this light th* present study will investigate athlete burnout as a possible outcome of the stress process. Having framed this conceptually, models of athlete burnout can now be investigated.

1.4 Models of Athletic[1] Burnout

Although the empirical literature on sport burnout is sparse, several models of burnout have been developed. These include Smith's (1986) cognitive-affective stress model, Silva's (1990) negative training stress response model, and Coakley's (1992) unidimensional identity development and external control view.

1.4.1 Smith's (1986) Cognitive tive Stress Model

Smith (1986) proposed a cognitive affective model of athletic burnout which parallels Thibaut and Kelley's (1959) Social Exchange Model. Smith attempted to differentiate between

[1] The term "athletic", is used here in its holistic sense to refer to all sporting codes and not primarily to athletics.

Nevertheless, the necessary theoretical overlap between the concepts of stress and burnout suggests that the latter might occur in a particular work context and to some extent may follow from the human service workers' appraisal of their work situation. Such a model is capable of generating specific hypotheses about the relationship between components of the more general stress process and those related to burnout across workers in human services and other groups. To this extent, it is testable. However, most of the studies that have considered the relationship between stress and burnout have not used this type of approach, let alone this particular model. Indeed, most have failed to recognise and deal with the issue of equivalence of levels of explanation.

1.3.2 Empirical Evidence: Burnout and Stress

What are the available data and, if taken at face value, how might they be interpreted? There are many simple correlational studies relating negative features of work to the experience of burnout. For example, in the Pines et al. (1981) review of research on burnout, there are reports relating burnout to 32 different work-related antecedent conditions, including organisational climate. However, the directionality of this link has been questioned by the data from (limited) longitudinal designs using cross-lagged correlations. The data from Shirom's (1986) study of Israeli teachers failed to support a causal chain leading from stress to burnout; indeed, for two of his five measures of stress, the reverse appeared to be true. Similarly, in an earlier study by Wolpin (1986) of 245 school-based educators in Canada, burnout appeared to be a precursor to stress. Furthermore, although significant, the size of the correlations between stress and burnout in many of these studies has been unimpressive (Shirom, 1989).

Why are these data equivocal given the possibility that theories of burnout and work stress can be theoretically reconciled? Several possibilities exist. The first is that there is actually no relationship between the experience of burnout and work stress; the weak correlations are due to unidentified confounding variables. This would seriously challenge the theoretical reconciliation offered above. However, the concepts may be related theoretically but actually unrelated in terms of the measures currently used to tap into them.

Second, burnout and work stress, as generally measured, may be fairly distinct subjective

administered screening test focusing on the respondent's psychological components of ill-health, leading to an understanding about the respondent's current psychological state, in terms of non-psychotic disturbances and their severity (Cook, et al., 1981).

The version of the GHQ that is used in the present study is the 28-item scale which has a variable 4-point Likert-type response scale. In the present study only a final GHQ-28 score will be used as opposed to subscale scores High GHQ scores will indicate high levels of psychological distress. While it will be useful to analyse the different subscales in terms of understanding the composition of the distress this is not the aim of the study, however, future research should consider subscale analysis.

The source article (Goldberg, 1972), reports an internal split-half reliability coefficient of 0.83. This value is high, indicating that the sub-items of the GHQ have similar content. Goldberg (1972) reports that the GHQ yields a test-retest (six month) reliability coefficient of 0.73, a relatively high value which implies relative stability of test scores over administrations. In addition, the GHQ has been shown to yield comparably satisfactory validity scores to those found for longer versions of the scale (Goldberg, 1972). The GHQ has been shown to differentiate between clinically and non-clinically disturbed patients (Goldberg, 1972).

From the aforegoing it is evident that the GHQ is a useful, accurate and consistent assessor of psychological distress this is reflected in the high coefficient values above. The advantage of using the GHQ to assess psychological distress as opposed to other indices, is that it can be used on any sample of individuals and still yield reliable and valid results.

Sport Specific Questionnaire

This questionnaire was designed by the researcher and contains fifteen items with a 5-point Likert response scale. The questionnaire is divided into 3 components which are presented to the respondent in random order namely:

1) Sport enjoyment (9 questions);
2) Social support (3 questions);
3) Sport pressure (3 questions).

one's work and one's life (Pines et al. 1981). The measure was developed from a study on tedium using 30 samples of participants varying between 9 to 724 people; from a variety of professions and geographical locations.

The tedium scale differs from the burnout scale in that it encompasses an added dimension of mental exhaustion over and above physical and emotional exhaustion. The MBI focuses primarily on physical and emotional exhaustion.

The tedium scale comprises a 21-item questionnaire. The items represent three aspects of tedium:

1) Physical exhaustion: being tired, being physically exhausted, feeling wiped out, feeling run down, being weary, feeling weak and feeling energetic;

2) Emotional exhaustion: feeling depressed, being emotionally exhausted, feeling burned out, feeling trapped, being troubled, feeling hopeless and feeling anxious;

3) Mental exhaustion (negation of one's life, self and others): being happy, having a good day, feeling worthless, feeling optimistic, feeling disillusioned and resentful about people, feeling rejected.

These items are presented in random order and are each evaluated on a 7-point Likert scale. The scale has the following anchors: 1- never, 2- once, 3- rarely, 4- sometimes, 5- often, 6- usually, 7- always. The overall tedium score is the mean value of the responses to the items, with four items reversed (feeling energetic, being happy, having a good day and feeling optimistic).

There is high test-retest reliability of the measure. It was 0.89 for a one-month interval, 0.76 for a two-month interval, and 0.66 for a four-month interval. Internal consistency was assessed by the alpha coefficient for most samples studied; the values of the coefficient ranged between .91 and .93 (Pines, et al., 1981). This indicates that the measure is a extremely reliable in the assessment of tedium.

Psychological Distress: General Health Questionnaire (GHQ) (Golberg, 1972)

The GHQ measures psychological distress, and has been extensively used (Tennant & Andrews, 1978; Frydman, 1981; Cohen et al., 1983). The GHQ was designed to be a self-

inventory was designed with the express purpose of measuring burnout experienced by human service professionals (HSPs). The MBI measures the deterioration in the quality of work provided by the HSP, and HSPs' attitudes towards their deterioration in the quality of work provided by the HSP, and the HSPs' somatic, social, psychological and behavioural well-being (Maslach & Jackson, 1981). There are three components to the MBI, viz. emotional exhaustion (measured by items 1 to 9), feelings of low personal accomplishment (items 10 to 17) and depersonalisation (items 19 to 22). The MBI consists of 22 items which are scored on a 7-point Likert-type scale. These items are recorded on two dimensions, viz., frequency and intensity. The frequency dimension scores range from never (1) to every day (7), while the intensity dimension is rated from very mild or barely noticeable (1) to very strong or major (7).

The scale was modified for the present study. Work or work environment was replaced by the word sport. The recipients for the original measure of the MBI refer to clients, patients, students, or other consumers of service. For the present study recipients referred to other athletes, coaches, parents, family members and friends.

The MBI is reported to have high internal reliability and validity (e.g., in determining the internal reliability of the MBI, Maslach and Jackson (1981) report that in a sample of 420 subjects the internal reliability coefficient was 0.83 (frequency) and 0.84 (intensity) for the 22-item MBI. Internal reliability coefficients for the three frequency subscales were reported as 0.89 - emotional exhaustion, 0.77 - depersonalisation and 0.71 - personal accomplishment).

Evidence for the validity of the MBI is reported by Maslach (1982). Burnout scores increase in stressful work environments and may predict job turnover. The MBI demonstrates both internal and temporal consistency (Maslach & Jackson, 1981). In other words the MBI is an accurate measure of burnout and as such is used in a variety of occupational settings.

The Tedium Measure (Pines et al., 1981)

The tedium measure was developed based on definitional attributes (Pines et al., 1981). Tedium is the experience of physical, emotional and mental exhaustion. It is characterised by emotional and physical depletion and by the negation of one's self, one's environment,

enjoyment components of the sport specific questionnaire will have high ratings on the burnout, tedium and distress measures. Emotional exhaustion will impact significantly on work dissatisfaction and work distress, feelings of low personal accomplishment will be influenced by feelings of psychological distress and social support and age will be inversely related to depersonalisation.

3. Method

3.1 Sample

A sample of 40 participants was used for the study, 20 participants per sport group. Each sport group consisted of 10 male and 10 female respondents. All respondents for the study were white and English speaking and were recruited from clubs, unions and private coaches in the Gauteng area. Only club, provincial and elite levels of participation were considered for the study. The respondent's ages for the study ranged from 18 to 25 years {mean ages and standard deviations for males = 20.3, 2.36 (N=20); females = 19.45, 1.64 (N=20); for male gymnasts = 20.3, 2.36 (N=10); for female gymnasts = 19.4, 1.57 (N=10); for male tennis players = 20.3, 2.49 (N=10) and female tennis players = 19.5, 1.78 (N=10)}.

3.2 Psychometric Instruments

To assess athlete burnout, the present study made use of three separate objective measuring scales and a sport specific questionnaire developed by the researcher. The scales assessed levels of burnout, tedium, psychological distress and sport specific factors. The three objective scales and sport specific questionnaire are described below (see appendix 1 for questionnaire format). The Cronbach reliability coefficients calculated for each scale in the present study, which were all statistically satisfactory, are detailed in the results section of this dissertation.

Burnout: The Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981)

The MBI constitutes the operationalisation of Maslach and Jackson's (1981) definition of burnout. Burnout is defined as a three factor syndrome comprised of emotional exhaustion, depersonalisation and reduced personal accomplishment (Maslach & Jackson, 1981). The

2.2 Rationale

Despite the interest in burnout among athletes, there are few empirical studies investigating this phenomenon. What is known is that tennis and gymnastics are high incident burnout sports (Juba, 1986), and female athletes are more likely to experience burnout than their male counterparts (Gould et al., 1994). Conceptual models of athlete burnout have focused to a large extent on personal and stress related variables leading to burnout. In so doing these models have not adequately investigated the interactions between situational and personal factors. By considering the interaction between variables certain relationships will emerge that will afford one the possibility to study sport specific factors that could impact on athletes and lead to a potential burnout syndrome.

The present study, by using tennis players and gymnasts will have a more representative sample of athletes who are likely to experience burnout as opposed to athletes from different sport codes. If tennis and gymnastics are high incident burnout sports as asserted by Juba (1986), similar responses would be expected on the three objective scales and sport specific questionnaire from the respondents of the two sport groups. The use of both male and female athletes for the study will allow the researcher to investigate gender differences within and between the two groups. By further classifying tennis and gymnastics as high incident burnout sports it is suggested that certain sport specific factors are responsible for this classification.

2.3 Hypotheses

Hypothesis 1

Differences in responses by the respondents of the tennis and gymnastic groups on the burnout, tedium, psychological distress and sport specific questionnaires, are to be expected.

Hypothesis 2

Sport specific factors such as sport enjoyment, social support, and pressure associated with the sport will correlate with the burnout, tedium and distress measures. Similarly, respondents with high ratings on the pressure component and low ratings on the social support and

burnout is a specific outcome of the stress process. However recent research articles question the plausibility of such definitions and argue for the position that athlete burnout should be defined as one possible outcome of the stress process. The present study has accepted the latter definition of athlete burnout and will investigate burnout amongst tennis players and gymnasts in order to ascertain which of these two groups if any, is more likely to experience a higher incidence of burnout. The present study will further investigate whether any relationship is evident between sport specific factors on the one hand and tedium, burnout, and psychological distress on the other.

2. Aims, Rationale and Hypotheses

2.1 Aims

Research into the syndrome of burnout is prolific (Jackson et al., 1986). However, research into athlete burnout is a relatively new field of academic enquiry. The athletic environment provides a perfect opportunity to research a plethora of dynamic and diverse factors. It is imperative for sport psychology that researchers begin to develop sport specific research in order to enable the development and advancement of both the field of sport psychology and the study of athlete burnout. One cannot simply assume that athlete populations are equivalent to other populations on which burnout research has been conducted. In making such an assumption, one presupposes that athletes share general burnout symptomology, thereby classifying athlete burnout under general burnout definitions. On the other hand athlete burnout might share many of the core features of general burnout but there are also distinct differences such as the type of sport, issues regarding gender, conceptual models and definitions, and scales of measurement, all of which need to be considered (Smith, 1986).

In considering these factors the present study has the following aims:

1) To compare tennis players with gymnasts, in order to determine whether any differences will emerge in responses from the two groups on the three objective scales and sport specific questionnaire;

2) To determine whether any relationship is evident between sport specific factors from the sport specific questionnaire on the one hand and the data obtained from the tedium, psychological distress and burnout measures on the other.

The Gould et al (1994) study only focused on personal and situational factors associated with athlete burnout but failed to examine the interaction between the two sets of variables. Had Gould et al. (1994) considered the interactions between the two sets of variables, certain sport specific factors would have emerged. The present study will investigate sport specific factors related to athlete burnout.

In an exploratory study on sources of stress and athlete burnout in youth golf, Cohn (1990) concluded that too much practice or playing, lack of enjoyment, having no goals to strive for, going into a slump, low social support and pressure to do well were the most frequently reported reasons for feeling burned out. The study further identified tedium and psychological distress as important predictor variables within the stress burnout process. Cohn (1990) argues that few studies have examined tedium and distress when investigating athlete burnout. One situational factor in Smith's (1986) model predicted to contribute to burnout is tedium.

Cohn's (1990) study made use of interviews to extract relevant information regarding athletes' perceptions of burnout. A major limitation of the study was the lack of definition of the burnout construct. Cohn (1990) assumed a congruency of burnout definitions amongst the different respondents. Despite this limitation the study produced important considerations for future research on athlete burnout. Firstly, the study highlighted the need to investigate both tedium and psychological distress as important variables when examining athlete burnout. Secondly, the study identified certain factors that could be described as sport specific such as sport enjoyment level, social support, and pressure to achieve in the sport.

Research on athlete burnout is a relatively new and challenging field of inquiry. Researchers are still experimenting with methods of data collection and analysis as well as identifying fundamental variables that will best predict burnout in athletes. Current researchers have done well to isolate and recommend areas that need consideration. Their research findings indicate the need to investigate different sports and sport factors so as to ascertain which athletes are more prone to experiencing burnout as well as to identify the causes of their burnout. A controversial issue regarding research in this area centres around an appropriate definition of athlete burnout. The majority of sport psychological research on burnout, defines athlete burnout as the withdrawal from a formerly pursued and enjoyable activity that results from chronic stress. By defining athlete burnout in this manner one exclusively accepts that

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approach. In the first phase of the study, subjects were monitored for burnout. The second phase of study used individuals who were classified as burned out from phase one. These individuals were then required to complete a number of questionnaires and undergo an intensive interview process. In this way, the study combined qualitative and quantitative methodologies. The problem with such an approach is that time is of premium importance. Interviews need to be analysed on the basis of content analysis, an extremely subjective and time consuming procedure with which to gain relevant data. Nonetheless, the study produced important findings. Not only was it found that athletes burn out from tennis, but two types of burnout were found to exist. Some players burned out of tennis, discontinuing their involvement entirely. Others, however, were better thought of as "active burnouts". According to the authors, these individuals experienced as much stress as those players who ally discontinued their involvement, but did not leave the sport. Instead, they physically or psychologically decreased their involvement: for example, they played less often, switched from more competitive junior tennis singles to high school doubles, or played at a recreational level, or reduced their efforts or made excuses not to practice. These findings show that while all players who experience burnout curtail their involvement in some way, they may not always discontinue participation altogether. Burnout here implies a temporary state of exhaustion that need not lead to withdrawal from the sport. This is contrary to Silva's (1990) model which stresses that burnout leads to withdrawal. Gould et al., (1994) thus confirm that athlete burnout should be considered as a possible outcome of the stress process.

Another important finding emerging from the study focused on the identification of symptoms of burnout in junior tennis players. A number of varied symptoms were identified ranging from increased aggressiveness on and off the court to feelings of embarrassment and shame. Frequently cited symptoms included: a lack of motivation, frustration, moodiness irritability and a lack of energy. Further, it was found that female tennis players experienced a higher incidence of burnout than their male counterparts. The reason attributed to this was that males learn to cope with their emotions and often demonstrate bad tempers, swearing and racquet abuse, whereas females are taught to hide their feelings and exercise feminine qualities on and off the court. These findings supplement the findings from Juba's (1986) study which identified lack of motivation, heightened aggression, frustration, boredom, irritability and stress as factors associated with burnout in tennis players and gymnasts, especially among females.

as the advancement of research in the field. Murphy (1995) attributes the dearth of empirical research on athlete burnout to researchers' excuses that there are no objective scales available to measure the construct, and hence the tendency to avoid the topic altogether.

1.5.3 Burnout and Athletes

Of all the individuals associated with competitive sport, the athlete has received the most attention, at least from an anecdotal point of view (Henschen, 1986). Flippin (1981) points out that burning out applies to athletes who quit or lose competitive drive before they reach full athletic development. Athletes are often placed in situations where they are expected to place excessive demands on themselves (Bunker et al., 1985). These high expectations often place athletes under a great deal of pressure, causing reactions such as fear of failure, anxiety, frustration with coaches, pressure to perform and depression.

Henschen (1986) reports one potential series of events that may eventually lead to athletic burnout. First, there is a slump, an extended period of relatively low personal performance. There is no detectable performance execution problem but the outcome is not up to normal personal standards. The athlete begins to develop a negative attitude or tries to over-compensate with more training and eventually a vicious circle begins to develop, overtraining in turn leading to staleness (see Silva's 1990 model). It is important to note that burnout is not analogous to staleness. Whereas burnout is generally related to emotional and mental demands, staleness occurs as a result of the physical demands of increased training (Morgan et al., 1987). The final outcome, when severe enough, is burnout.

Almost all reports on athlete burnout are anecdotal or autobiographical in nature with no attempt systematically to address the causes and effects of burnout (Flippin, 1981; Greenspan, 1983; Feigley, 1984; Fender, 1989). The anecdotal stories of athletes who have experienced some level of burnout appear to share some common threads: typically, they have competed for a long time, they have trained extremely hard or have felt pressure from coaches and parents to perform at high levels (Henschen, 1986).

In one of the few empirically based studies on athlete burnout, Gould et al., (1994) investigated burnout in competitive junior tennis players. The study used a two phase

season, and still others at the end of the season. According to Smith (1986) this could have an impact on a coach's perceived burnout since situational pressures may exert a strong impact on his or her feelings at any point.

An interesting result emerging from a variety of studies (Berkeley Planning Associates, 1977; Caccese & Mayerberg, 1984; Dale & Weinberg, 1989) was that age is negatively related to burnout. This is surprising since older individuals, surviving burnout, have remained in their activity or profession, while the younger respondents are the more likely victims of burnout. A linear increase in burnout as a function of time has yet to be revealed, indicating that participants who could not deal with the stress have probably left the profession while the respondents to many studies are the survivors who have learned to cope (Caccese & Mayerberg, 1984).

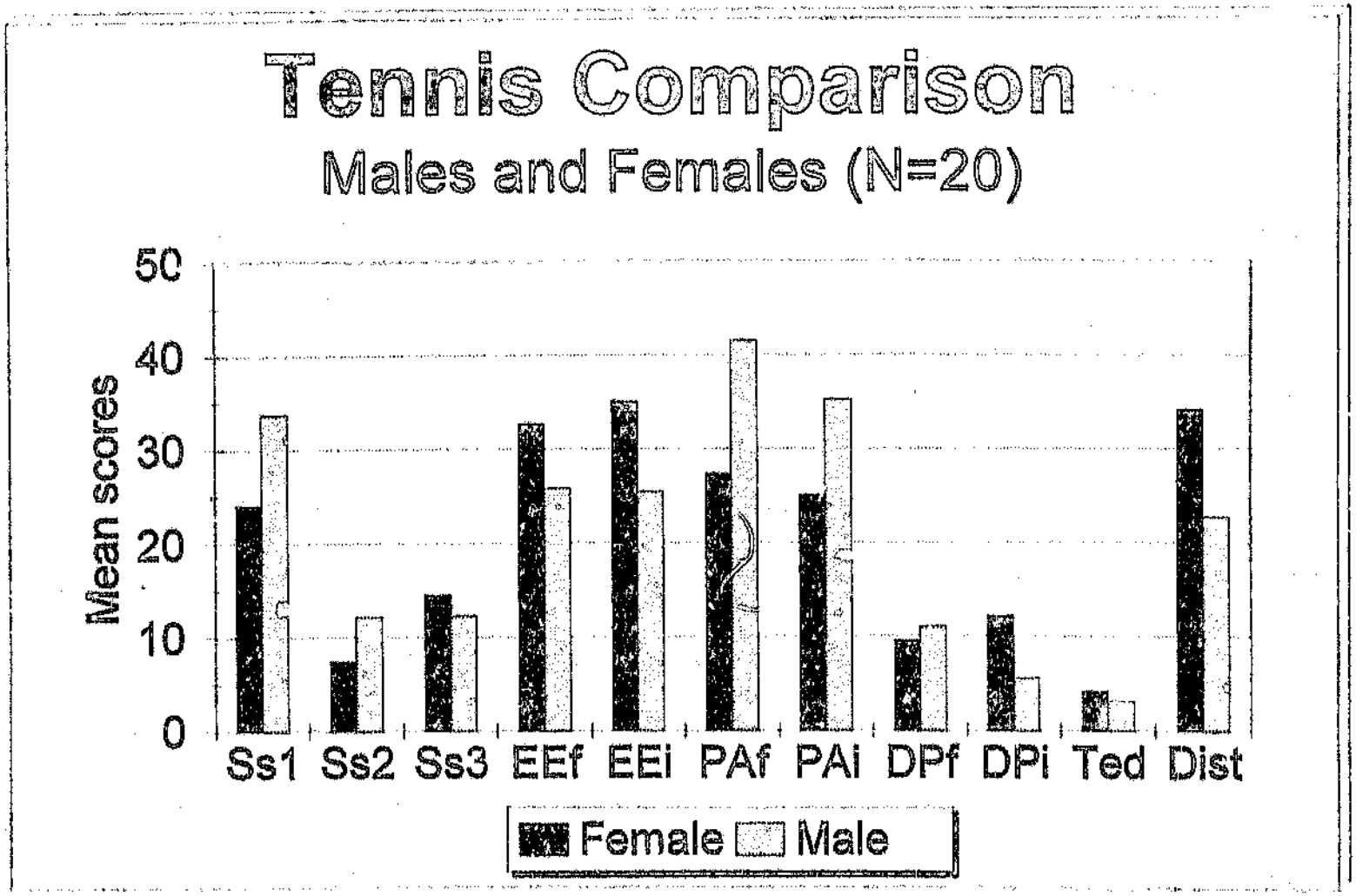
The aforegoing studies have identified a plethora of variables both personal and situational associated with athletic burnout. The majority of the studies has made use of the MBI in measuring burnout and in doing so has focused on different components of the MBI as core measures of burnout. Capel (1986) associated high role ambiguity with low feelings of personal accomplishment and thus his study focused on personal accomplishment as the primary determinant of burnout as measured by the MBI. These studies have further used a variety of methodologies ranging from empirical objective assessment (with modification of objective measures) to case study subjective assessment of athletic burnout. Contrary to this, a review of research findings regarding burnout and athletes indicates that researchers have approached the field from a subjective perspective with little focus on empirical studies. The major reason attributed to the paucity of empirical research on athlete burnout is the lack of an appropriate objective measuring scale. The MBI until recently was not considered appropriate for the assessment of athlete burnout as athletes did not experience the same stressors as HSPs' (Smith, 1986). Attempts were made to develop athlete specific burnout scales. Eades (1991) developed the Eades Athletic Burnout Inventory (EABI), a 36-item self report inventory that has been patterned after general burnout inventories. The EABI was considered for use in the present study but there is no substantial validity and reliability information available. Murphy (1995) argues that if general burnout measures such as the MBI are modified and applied to athletes, varied and interesting research findings would begin to emerge leading in turn to the development of more sport specific burnout scales as well

personal accomplishment than their male counterparts.

Capel et al. (1987) found that role ambiguity and role conflict were consistently related to burnout in high school basketball coaches. High role conflict and role amb.guity were associated with feelings of extreme emotional exhaustion although role ambiguity was the best predictor of depersonalisation. The most accurate prediction of the level of personal accomplishment was found to lie in the variable as to the period of time over which subjects had been the head coach, the more years in service being proportional to higher levels of personal accomplishment.

One of the first studies to investigate the relationship between personality and burnout was conducted by Dale and Weinberg (1989). Specifically, they investigated high school and college coaches to determine if an initiating structure or a consideration style of leadership behaviour was related to burnout. Results indicated that coaches with a consideration style of leadership (caring, people-oriented) scored significantly higher on both the frequency and intensity dimensions of the emotional exhaustion and depersonalisation subscales of the MBI than initiating structure coaches. An initiating structure style of leadership behaviour tends to be more goal-oriented and authoritarian; these types of coaches might not develop close personal ties with their athletes which in turn leads to less burnout. Coaches who have a consideration style of leadership behaviour were further found to exhibit higher levels of burnout than the norms.

In addition to the above-mentioned results, certain demographic variables were found to be related to burnout. For example, age was negatively related to perceived burnout and male coaches scored higher than female coaches on the depersonalisation subscale of the MBI. Thus, in terms of gender and burnout, the results appear equivocal, some studies indicating that females have a higher level of perceived burnout (Haggerty, 1982; Caccese & Mayerberger, 1984), others indicating no difference (Wilson et al., 1986), while still others reporting higher levels of burnout in males (Dale & Weinberg, 1989). This discrepancy might in part be attributed to the different samples employed in the various studies since high school, college, national team and age group coaches were all utilised. In addition, another methodological problem concerns the time of the season when the burnout scales were administered. Some studies were conducted at the beginning of the season, others at mid-



Graph 1: Comparison between male and female tennis players on the 3 objective scales and sport specific questionnaire

SS1 = Sport Enjoyment
SS2 = Sport/Social Support
SS3 = Sport Pressure
EE = Emotional Exhaustion
PA = Personal Accomplishment
DP = Depersonalisation
Ted = Tedium
Dist = Psychological Distress
(f) denotes the frequency dimension of burnout
(i) denotes the intensity dimension of burnout

Table 6: T-test comparison between males and females (N=40)

Variable	Males Mean (SD)	Females Mean (SD)	*T*	*P*
Age	20.3 (2.4)	19.4 (1.6)	-1.32	N/S
Sport Enjoyment	33.7 (6.4)	24.05 (8.1)	-4.17	*
Sport Support	12.1 (2.8)	7.4 (2.6)	-5.57	*
Sport Pressure	12.2 (2.2)	14.4 (0.8)	4.4	*
Emotional Exhaustion (f)	25.9 (11.2)	32.7 (9.1)	2.1	**
Emotional Exhaustion (i)	25.4 (14.1)	35 (8.6)	2.6	**
Personal Accomplishment (f)	41.5 (5.8)	27.3 (13.2)	-4.4	*
Personal Accomplishment (i)	35.2 (7.6)	25 (8.8)	-3.8	*
Depersonalisation (f)	11 (6.5)	9.6 (3.0)	-0.9	N/S
Depersonalisation (i)	5.5 (4.9)	12.1 (4.7)	4.3	*
Tedium	3.01 (0.7)	4.13 (0.4)	6.2	*
Psychological Distress (GHQ)	22.7 (10.7)	34.2 (11)	3.3	**
Length of time in sport	10.4 (2.6)	10.9 (1.4)	0.7	N/S
Number of practice hours/week	12.9 (2.1)	14.1 (3.6)	1.2	N/S

* $p < 0.01$;** $p < 0.05$; N/S Not Significant

Note: (f) denotes the frequency dimension of burnout
Note. (i) denotes the intensity dimension of burnout

5.1.3 T-test Analysis

The results of this analysis are detailed in Table 6. From Table 6 it is evident that distinct gender differences exist.

Male respondents achieved significantly higher mean scores than the female respondents on sport enjoyment, sport support and the personal accomplishment (frequency and intensity) dimension of the MBI.

Female respondents, on the other hand, obtained significantly higher mean scores on sport pressure, emotional exhaustion (frequency and intensity) dimension of the MBI, the depersonalisation (intensity) dimension of the MBI, tedium and psychological distress.

This T-test analysis produced interesting results showing that males enjoy their sport, receive support and feel a sense of personal accomplishment and self worth from their sport; as opposed to their female counterparts who experience pressure, emotional exhaustion, stronger feelings of emotional detachment, boredom and psychological distress. As with the Anova analysis, length of time in the sport, number of practice hours per a week and age do not contribute significantly to these gender variations.

A similar pattern of gender differences is further visible amongst male and female tennis players and male and female gymnasts. These differences are highlighted in Graph 1 and 2.

5.2 Canonical Correlation Analysis

The results of this analysis are detailed in Table 7 illustrating that three separate and independent clusters of factors were extracted from the sport specific variables on the one hand and the burnout, tedium and psychological distress variables on the other, to explain the relationship between sport performance and burnout.

Factor one is best described as a general negative sport performance/burnout factor. Negative values have been assigned to positive sport variables such as enjoyment and social support and a positive value is assigned to the negative variable of sport pressure. Similarly positive

Table 5: Analysis of Variance for Gender

Variable	F	P
Age	1.66	N/S
Sport Enjoyment	16.61	*
Sport/Social Support	31.26	*
Sport Pressure	18.58	*
Emotional Exhaustion (f)	4.22	**
Emotional Exhaustion (i)	6.47	**
Personal Accomplishment (f)	18.39	*
Personal Accomplishment (i)	14.49	*
Depersonalisation (f)	0.77	N/S
Depersonalisation (i)	18.39	*
Tedium	36.69	*
Psychological Distress	10.48	*
Length of time in Sport	0.53	N/S
Number of practice hours/week	1.61	N/S

*** p<0.01; ** p<0.05; N/S Not Significant**

NOTE: (f) denotes the frequency dimension of burnout
(i) denotes the intensity dimension of burnout

Psychological distress is coupled with high levels of tedium, evidenced by a strong positive correlation.

Other significant positive correlations are evident between the frequency and intensity dimensions of the depersonalisation scale, personal accomplishment scale and emotional exhaustion scale of the MBI. This signifies that regular and strong feelings of a particular scale are interrelated. A moderate positive correlation exists between age and length of time in the sport thus signifying that older athletes have been in the sport for longer periods of time as opposed to younger athletes.

5.1.2 Analysis of Variance

An Anova was carried out to determine statistically the differences between the two groups of the study.

The results of this procedure (presented in Table 5) indicate that gender is significant for the majority of the variables but the group variable and the interaction between group and gender variables are not.

Gender was significant for the following variables:
1) sport enjoyment 2) sport support 3) sport pressure 4) emotional exhaustion (frequency and dimension) 5) personal accomplishment (frequency and dimension) 6) depersonalisation (intensity dimension only) 6) tedium and 7) psychological distress.
This indicates that male and female respondents differ significantly in their responses to the sport specific questionnaire and three objective measuring scales, irrespective of their sport. There were no significant gender differences between age, length of time in the sport, number of practice hours per week and depersonalisation (frequency dimension).

In order to determine which gender yielded significant results it was necessary to carry out a two sample T-test analysis.

Table 4: Spearman correlations for all variables of the study (N = 40)

	MEAN	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1) Age	19.9	2.1													
2) Sport Enjoyment	28.9	3.7	-0.03												
3) Sport Support	9.8	3.6	0.14	0.54*											
4) Sport Pressure	13.3	1.9	-0.06	-0.54*	-0.48**										
5) Emotional Exhaustion (f)	29.3	10.7	0.25	-0.41**	-0.35*	0.35*									
6) Emotional Exhaustion (i)	30.2	12.5	0.27	-0.47**	-0.34*	0.3	0.72**								
7) Personal Accomplishment (f)	34.3	12.3	0.26	0.24	0.16	-0.4*	0.21	0.25							
8) Personal Accomplishment (i)	30.1	9.6	0.26	0.21	0.31	-0.29	0.31	0.14	0.71**						
9) Depersonalisation (f)	10.3	5.1	-0.03	-0.28	-0.14	0.29	0.2	0.1	0.003	0.18					
10) Depersonalisation (i)	8.9	5.8	0.11	-0.31	-0.45**	0.41**	0.36	0.28	-0.03	-0.1	0.43**				
11) Tedium	3.6	0.8	-0.26	-0.35	-0.63	0.52	0.43	0.34	-0.31*	-0.38*	0.09	0.58**			
12) Psychological Distress (GHQ)	28.4	12.2	-0.04	-0.36	-0.40	0.45	0.24	0.26	-0.2	-0.28	0.35*	0.46**	0.7**		
13) Length of time in sport	10.7	2.1	0.54*	-0.21	-0.08	0.07	0.21	0.25	-0.13	-0.13	-0.04	0.42	0.19	0.2	
14) Number of practice hours/week	13.5	2.9	0.04	0.05	-0.1	0.02	0.09	-0.09	-0.2	-0.03	-0.17	0.04	0.12	0.04	0.11

* $p < 0.01$; ** $p < 0.05$

Note: (f) denotes the frequency dimension of burnout
(i) denotes the intensity dimension of burnout

5.1 Comparative Statistics

5.1.1 Correlation Analysis

The results of this procedure (depicted in Table 4) indicate that meaningful correlations are evident between certain variables of the study.

Sport enjoyment, the first sport specific factor, showed significant positive correlation with sport support, the second sport specific factor. Sport pressure, the third sport specific factor, and emotional exhaustion (frequency and intensity) dimensions were seen to have moderately significant negative correlations with sport enjoyment. Thus high levels of sport enjoyment and social support are related to low levels of sport pressure and low feelings of emotional exhaustion.

Sport support was significantly negatively correlated with sport pressure, emotional exhaustion (frequency and intensity) dimensions and depersonalisation (intensity) dimension only. Low levels of social support are thus associated with sport pressure which in turn produce feelings of emotional exhaustion and strong feelings of depersonalisation and helplessness

Moderately significant positive correlations are evident between sport pressure, the emotional exhaustion (frequency) dimension and the depersonalisation (intensity) dimension whereas a moderately significant negative correlation is apparent between sport pressure and the personal accomplishment (frequency) dimension. Sport pressure is accordingly connected with regular feelings of emotional exhaustion, emotional detachment and self helplessness.

The personal accomplishment subscale of the MBI is moderately significantly and negatively correlated with tedium. High feelings of personal accomplishment are therefore coupled with a reduced level of tedium.

Depersonalisation (frequency) dimension shows a significant moderate positive correlation with psychological distress, whereas depersonalisation (intensity) dimension has a significant positive correlation with tedium and psychological distress. Regular feelings of emotional detachment are related to psychological distress and strong feelings of emotional detachment are associated with high levels of tedium and psychological distress.

Table 3: Descriptive statistics and internal consistency of measuring instruments

	N of ITEMS	ITEM RESPONSE RANGE	MAX POSSIBLE SCORES	SUBJECT RESPONSE SCORES	MEAN	SD	ALPHA
Emotional Exhaustion (f)	9	1 - 7	63	11 - 46	29.3	10.7	0.90
Emotional Exhaustion (i)	9	1 - 7	63	2 - 52	30.2	12.5	0.90
Personal Accomplishment (f)	8	1 - 7	56	8 - 52	34.3	12.3	0.84
Personal Accomplishment (i)	8	1 - 7	56	12 - 46	30.1	9.6	0.86
Depersonalisation (f)	5	1 - 7	35	4 - 26	10.3	5.1	0.77
Depersonalisation (i)	5	1 - 7	35	0 - 21	8.9	5.8	0.81
Tedium	21	1 - 7	5.85	1.7 - 4.85	3.6	0.8	0.78
Psychological Distress (GHQ-28)	28	1 - 4	112	10 - 60	28.4	12.2	0.90

NOTE: (f) denotes the frequency dimension of burnout
(i) denotes the intensity dimension of burnout

The Sport Specific Questionnaire is not included in this table as it is not a recognised objective scale.

on (Kim & Mueller, 1986). Canonical correlation operates along similar lines to a factor analysis, in that the procedure extracts a number of factors to explain the intercorrelation between the variables. However factor analysis extracts factors from one set of variables whereas canonical correlation has two sets of variables and factors are extracted from each set. The sets of variables are independent of one another. By further calculating the F values one is able to determine the level of significance of a given factor and ascertain the usefulness of that factor in interpreting the data from the canonical correlation analysis.

5. Results

All data of the study were analysed using the SAS system.

Reliability of Psychometric Instruments

The internal consistency for each psychometric measure used in the study was computed and is reported in Table 3. The reliability of all scales is satisfactory, with alpha values ranging from 0.77 - 0.90 indicating that the scales have adequately measured the constructs that they are designed to measure.

The results of the study will be reported and discussed in two parts.

The first set of results will pertain strictly to the primary objective of the study, that is comparative statistics between the two groups of the study (tennis players and gymnasts). Within this section correlational statistics, analysis of variance and T-test statistics will be discussed.

The second section of the results will focus on the statistics related to the second objective of the study, that is determining the relationship between the sport specific factors and the data obtained from the MBI, Tedium and GHQ-28 measures. In this analysis, results from the canonical correlation procedure will be discussed.

number of variables are weighted in terms of their linear combination effects.

When a statistically significant canonical correlation is identified, there is a need to interpret the canonical function to determine the extent to which the various variables contributed to the identified multivariate relationship (Thompson, 1984).

A squared canonical structure coefficient represents the proportion of variance linearly shared by a variable with the canonical composite of that variable. This fact is not intuitively obvious, since canonical mathematics have historically been presented in matrix algebraic form. This makes the technique difficult to grasp. Since the variables in a given variable set are seldom perfectly uncorrelated with each other, and because structure coefficients are particularly helpful in interpreting canonical results in terms of the contribution of each variable to the canonical solution, these correlation coefficients are computed as a supplementary aid to the interpretation of a canonical correlation analysis.

Canonical structure coefficients form the basis for two other canonical coefficients. Since canonical functions, like principal components or factors, are uncorrelated with each other, the sum of all of a squared structure coefficient of a variable equals a canonical **communality coefficient** (Thompson, 1984). These values indicate the usefulness of each variable in defining the canonical solution. The average of all the squared structure coefficients for the variables in one set with respect to one function represents a canonical variate **adequacy coefficient**. These coefficients indicate how "adequately", on average, a given set of canonical variate scores perform with respect to representing all the variance in the original, unweighted set of variables.

In analysing canonical correlations one needs to know the eigenvalues. Eigenvalues are the roots obtained from the solutions of the simultaneous linear equations computed during a canonical correlation analysis. The sum of all eigenvalues is equal to the number of variables in the analysis. Thus, if the first eigenvalue is divided by the number of variables, the proportion of variance explained by a given factor is obtained. An eigenvalue of greater than + 1 implies that the correlation between variables is greater than, or equal to zero. The largest eigenvalue represents the amount of variance explained by the first factor. The second largest eigenvalue represents the amount of variance explained by the second factor, and so

different variables. This procedure allowed for a more comprehensive analysis of the direction and strength of relationship between the variables of the study. As the data in the study were ordinal in nature, a Spearman's as opposed to a Pearson's correlation was carried out. According to Rosenthal and Rosnow (1991), most of the useful correlation coefficients are product-moment correlations and are generally special cases of the Pearson *r*. When the data is in ranked form, a Spearman's correlation is applied, which is nothing more than a Pearson *r* computed on numbers that happen to be ranks. However, because ranked numbers are more predictable, a simpler computational formula for ranked scores is achieved.

The primary objective of the study is to compare the two sports groups on their responses to the three objective scales and sport specific questionnaire. An Anova was used initially to determine the probability that the mean scores of the two sports groups deviated from one another merely by sampling error. The results of this procedure (depicted in the result section of the dissertation) indicated that gender was significant for a majority of the variables in the study, but failed to indicate which gender was significant. A two sample t-test procedure was therefore carried out to determine the exact differences between the groups.

Multivariate Analyses

The second objective of the study is to determine how the responses on the sport specific questionnaire relate to the responses obtained from the burnout, tedium and psychological distress measures. This was achieved through the use of canonical correlation. Canonical correlation is a correlational technique used to determine the relationship between two or more dependent variables (criteria) on the one hand and two or more independent variables (predictors) on the other (Thompson, 1984).

In essence, there are two linear combinations: one of *Y* variables and one of *X* variables. These composites are weighted in such a way that the maximum possible correlation is achieved between the two sets of variables. This is the canonical correlation (R_C), and R_C^2 is the estimated amount of common association (shared variance) between the two linear composites of these variables (Thompson, 1984). Canonical correlation is not dissimilar to multiple regression and multiple regression is often considered as a special case of canonical correlation. The shared similarity between the two techniques centre around the fact that X

Other questions concern information regarding the respondent's sport, such as level of competition, length of time involved in the sport, age, age when they started the sport, hours of practice, gender, marital status and level of education.

3.3 Design

The research uses a cross-sectional, correlational field design. The dependent variables of the study comprise: age, length of time involvement in the sport, weekly hours of practice, decrements to general health, tedium with the sport, and sport specific factors. The independent variables of the study are the three components of burnout, viz., emotional exhaustion, low feelings of personal accomplishment and depersonalisation.

3.4 Procedure

Gymnastic and tennis clubs, unions and private coaches were approached and a covering letter explaining the nature of the study was given to the organisational bodies concerned (see appendix 1). Voluntary participation was emphasised. Prior to their participation in the study all subjects were alerted to the fact that the completed research document would be housed in the University's library, thereby making the research publically available.

The data was collected over a three week period with a daily assessment of 2-3 athletes. Testing was conducted after a practice session, in a quiet environment. After being assessed respondents were requested to disclose their feelings about the questionnaires to the researcher. The respondents remained anonymous as they were not required to disclose their names. All subjects were required to complete the three objective scales and the sport specific questionnaire.

4. Statistical Analysis

Univariate Analyses

Various univariate analysis techniques were used in the study. Apart from the general descriptive statistics which yielded mean and standard deviation scores for the two groups of the study, a correlation analysis was carried out to determine the relationship between the

distress experienced in the sport, are often used to describe the athlete burnout syndrome.

6.3.1 Theoretical implications of the findings

6.3.1.1 Emotional exhaustion as the core measure of burnout

Although the Spearman's correlation disclosed no significant evidence supporting the hypothesis that emotional exhaustion should be the key measure of burnout, the canonical correlation showed that emotional exhaustion was the most robust and consistent component of the three MBI components in determining an overall athlete burnout index. This supports the view that burnout may be satisfactorily measured by emotional exhaustion alone.

Emotional exhaustion is the one dimension of burnout for which there is the greatest definitional consensus (Garden, 1987) and validatory support (Shirom, 1989). Emotional exhaustion is also considered to be the core dimension of the burnout syndrome (Golembiewski et al., 1983; Garden, 1987; Shirom, 1989). The finding that burnout may be appropriately and satisfactorily measured by emotional exhaustion is congruent, with many elements of the definitions of burnout in the literature.

Implicit in some of the definitions of burnout and emotional exhaustion is that depersonalisation and feelings of low personal accomplishment may be sub-sets of emotional exhaustion (e.g., Gaines & Jermier, 1983; Garden, 1987). For example, the depersonalisation of recipients has been indicated as a method of reducing the high levels of emotional detachment aroused through interaction with recipients. According to Garden (1987) depersonalisation may indicate, or be symptomatic of, emotional exhaustion. Examples of feelings of low personal accomplishment as implicit in definitions of emotional exhaustion are varied, and include the reduced ability to cope with the emotional demands of work (Golembiewski et al., 1987).

If emotional exhaustion is defined as the core component of burnout, depersonalisation may in fact comprise an antecedent coping behaviour, and feelings of low personal accomplishment may constitute the sequelae of burnout (Shirom, 1989). Furthermore, emotional exhaustion may frequently provide the first indication of burnout (Jackson, 1984). From a sport psychological perspective, Smith (1986) suggests that emotional exhaustion is central to the

has confirmed that the relationship between sport specific variables (which may be classified as interaction variables between personal, sport and social environments) and the burnout, tedium and psychological distress variables in fact exists and needs to be considered in future research.

6.3 Discussion of the MBI

Hypothesis 2 posited that emotional exhaustion would relate to psychological distress and dissatisfaction. The results, however, do not support this hypothesis. Emotional exhaustion demonstrated the most powerful relationship with the sport specific factors especially sport enjoyment, indicating that lack of enjoyment leads to emotional exhaustion. Depersonalisation was further identified as the focal component of burnout to which age and social support would inversely relate. The study did not provide support for age, but did for social support. The depersonalisation (intensity) dimension was significantly negatively related to social support, signifying that strong feelings of depersonalisation result from insufficient social support and suggesting, significantly, that depersonalisation does not only result from individual or personal factors but also from sport and social factors.

Decrements to psychological well-being were hypothesised to relate to feelings of low personal accomplishment. Support was not found for this hypothesis. Feelings of low personal accomplishment (frequency and intensity dimensions) related positively to psychological distress but the relationship was not significant and the correlation coefficients were extremely small. One possible explanation as to why psychological distress did not relate significantly to personal accomplishment could be because findings supporting the use of the MBI have been drawn from non-athletic populations. The present study is one of the first empirical studies to have used th I for the assessment of athlete burnout. Despite the fact that psychological distress did not relate significantly to feelings of personal accomplishment it did show a positive relationship to depersonalisation. This is interesting as it suggests that depersonalisation measures psychological distress in a significantly different manner to the other burnout components for which there were no significant correlations with psychological distress. Within the ambit of depersonalisation fall descriptions of psychological distress i.e., emotional detachment and withdrawal. It is interesting that psychological distress should relate to depersonalisation since withdrawal from a sport, and

as this implies that athletes experience burnout as emotional and mental depletion as opposed to physical exhaustion. This provides important information regarding the treatment of athlete burnout. Because athlete burnout manifests as emotional exhaustion one needs to access and deal with the burnout at a psychological level and not solely at a physical level. Although the syndrome may give rise to physical symptomology, the underlying aetiology rests with the psychological, and, as such, psychological intervention should be considered for the treatment of athlete burnout.

Conceptually, Smith's (1986) and Silva's (1990) model are useful for comprehending this sport/burnout relationship. Smith (1986) emphasises that enjoyment and pressure are principal criteria for describing the athlete burnout syndrome, whereas Silva (1990) suggests that pressure, or the inability to meet demands causes psychological distress and consequently leads to burnout. Juba (1986) supports Silva's suggestion in that Juba contends that the inability to meet demands results from unrealistic goal planning. Accordingly athletes often set unreachable goals. The inability to reach these goals leads to failure, and a fear of failure may in turn lead to withdrawal from the sport and consequently burnout.

Past research identified a host of variables predictive of or associated with athlete burnout. However, these studies focused to a large extent on certain clusters of variables e.g., Gould et al. (1994) relied on analysis of personal variables to explain the effects of athlete burnout, whereas Smith (1986) examined both personal and situational variables independent of each other in order to conceptualise athlete burnout. While these studies produced important findings, they failed to acknowledge that interactions between sets of variables would not only yield interesting results but would ultimately advance current knowledge of the field. In this sense there is a need to rethink conceptual models of athlete burnout and to develop models that include an understanding of relationships between variables.

Research that claims to have examined the interaction between sets of variables has done so from a largely speculative and subjective base. The methodologies employed to verify the findings have relied solely on interviews with little or no empirical substantiation (e.g., Cohn's 1990 study).

The present study through, statistical analysis and specifically the use of canonical correlation,

Not only was it shown that important relationships exist between the sport specific variables, but that the sport specific variables relate to the burnout variables. Emotional exhaustion related positively to sport pressure and inversely to sport enjoyment and social support. Depersonalisation related inversely to social support and positively to psychological distress and tedium, which were positively related to one another. Personal accomplishment showed a negative relationship to sport pressure and tedium. In other words, as sport pressure and tedium increase, feelings of personal accomplishment diminish. This interestingly suggests that personal accomplishment may be an inverse function of pressure and tedium

Apart from identifying relationships between the variables, the study further identified interesting patterns of relationships. It was found that positive sport factors such as enjoyment and social support related positively to the positive elements of the MBI such as personal accomplishment; and the negative sport variable of pressure related positively to emotional exhaustion, depersonalisation, tedium and psychological distress. This significantly suggests that positive sport performance results in a healthy development of personal accomplishment and self esteem, whereas a negative sport performance leads to feelings of burnout and psychological distress. Thus athletes who experience negative sport performance may be potential burnout candidates.

The canonical correlation produced three factors to explain the relationship between the two sets of variables. Only one factor, however, was found to be significant in explaining the relationship. Not only was it shown that a general negative sport experience exemplified by low enjoyment, lack of social support and pressure is predictive of feelings of burnout, tedium and psychological distress, but also that certain variables contribute more significantly to the relationship than others. Sport enjoyment and sport pressure were extremely important in determining the relationship. It was evident, further, that the emotional exhaustion subscale was the most consistent over the other MBI subscales.

This finding parallels the findings reported in Cohn's (1990) study. Cohn (1990) concluded that lack of enjoyment and pressure from self and others to do well were the most commonly reported reasons for athlete burnout, the latter defined in terms of emotional strain and exhaustion. This supports the contention that negative sport experience leads to burnout. It is interesting that the nature of the burnout results predominantly from emotional exhaustion

6.1.3 Age

Research on burnout and coaches has found that age is negatively related to burnout with older coaches experiencing higher incidences of burnout than younger coaches (Berkeley Planning Associates, 1977; Caccese & Mayerberger, 1984; Dale & Weinberg, 1989). Research on athlete burnout has failed to produce any significant findings regarding this relationship. The subjective manner in which the bulk of research on athlete burnout has been conducted has most probably hampered the identification of such a relationship. The present study did not yield any significant relationship between age and burnout. This is surprising as the literature reports that increased age, if understood in the context of the positive apperception of prevailing stressors, must contribute toward greater success in coping with burnout, especially emotional exhaustion. The only relationship which was evident was a positive one between age and length of time spent by the athlete in the sport, simply indicating that older athletes have spent more time in the sport.

Similarly the study did not produce any meaningful results regarding number of practice hours. Number of practice hours per week did not prove to be a function of athlete burnout. This is contrary to Silva's (1990) model that claims that physical exertion and increased physical training over time results in a negative bodily adaption which eventually leads to burnout.

6.2 Relationship between sport specific variables and burnout, tedium and psychological distress variables

In relating the sport specific variables to the burnout, tedium and psychological distress variables, the study found that sport enjoyment was strongly related to social support, and inversely related to sport pressure. Social support was further found to be inversely related to sport pressure. In other words, an athlete who enjoys the sport, receives sufficient social support from family, friends and significant others is less likely to experience pressure to achieve at the sport as opposed to an individual who lacks enjoyment and social support.

It would seem therefore that an important factor to consider in the study is the relationship between enjoyment, social support and pressure.

instrumental in identifying certain sport specific factors associated with athlete burnout such as sport pressure, enjoyment and social support. Negative elements of these factors were associated with female sport performance and positive with male performance. This result can be viewed in terms of Smith's (1986) model:

> We might expect that such variables as training and competitive demands, poor coach-player relationships, and low levels of social support would be related to athlete burnout. Thus, burnout might be expected to occur with higher frequency in individual sports such as tennis and gymnastics. The rationale for this hypothesis is that such sports are usually demanding in terms of time and effort requirements, the repetitive nature of training can produce boredom, and the individual nature of the sport reduces the level of social support. (p. 46)

Smith's model foregrounds tedium and social support as important factors that are predictive of athlete burnout. When the demands of the situation outweigh the individual's resources to cope, an imbalance may result possibly leading to burnout. The repetitive nature of the sport places great demands upon the individual to the extent that his or her coping abilities are exceeded, and burnout ensues. This was evident among the female respondents of the study who showed high ratings on the tedium scale.

The perceived pressure from others to excel places a great burden on the individual to the point where the demands may exceed the rewards. In Smith's (1986) model, this relates to a "perceived overload" in which the demands of the sport exceed the individual's appraisal of their coping ability. When unable to cope with the pressure from others to excel in the sport (identified in the present study by sport pressure) the activity loses its appeal and the athlete is forced to withdraw from the activity. Although the present study found no differences between the groups in terms of the sport, Smith's explanation of certain factors such as pressure and tedium is useful and valid in understanding athlete burnout. The study has shown that athletes (predominantly female) who experience pressure and tedium with the sport also display increased feelings of emotional exhaustion, depersonalisation and psychological distress and low feelings of personal accomplishment. Once again this supports the need to investigate athlete burnout in terms of interactions between sets of variables.

variables as they enjoy their sport, receive social support, cope with the pressure to achieve and have strong feelings of personal accomplishment. This interesting finding suggests that female athlete burnout needs to be studied in terms of interactions between variables and not primarily from particular clusters of variables such as personal or situational.

The exact causes of athlete burnout were not investigated by the study but, judging from the results it would appear that burnout manifests differently for males and females.

Numerous studies conducted on burnout and coaches have identified gender as a significant predictive variable of burnout. Haggerty (1982) and Caccese and Mayerberg (1984) found that female coaches had higher levels of perceived burnout and feelings of lower personal accomplishment than their male counterparts. Although few empirical studies on athlete burnout have recognised gender as a important variable, two studies have reported meaningful findings.

Gould et al. (1994) found that female tennis players experienced a higher incidence of burnout than did males. The primary reason ascribed to these differences was differences in coping styles. Male players were seen to cope more effectively and displayed their emotions more freely by swearing and by displaying bad temper and racquet abuse. According to the authors, this explosion of emotion allowed the male to confront his feelings, concentrate better on his game and ultimately reduce the probability of experiencing burnout. Females on the other hand tended to hide their emotions and exercised feminine characteristics on and off the court. Such avoidance rather than confrontation behaviour led the female to heightened feelings of stress and burnout. This finding implies that males are admired for aggressive and impetuous behaviour, whereas if females were to display a similar pattern of behaviour, it would inevitably be construed as unlady-like. Gender stereotyping may well be an important factor to consider in the study of athlete burnout for these reasons.

Juba (1986) further supports the contention that females are more likely than males to experience burnout. Juba identified a plethora of factors associated with burned out female tennis players and gymnasts, such as tedium, stress, heightened aggression, frustration and irritability. The present study confirmed that tedium and psychological distress were crucial factors related especially to female athlete burnout. Apart from this finding, the study was

adequate social support, the athlete could experience reduced enjoyment and consequently burnout. The repetitive nature of tennis and gymnastics leads to boredom. Increased boredom could lead to withdrawal from the sport and may lead to burnout. Furthermore the competitive nature of the two sports places enormous pressure on athletes to perform at consistently high standards. Parental involvement may encourage athlete achievement; too much parental involvement and pressure to achieve may cause the athlete to identify solely with the sport. Failure in the sport induces stress leading to withdrawal and burnout (Juba, 1986; Smith, 1986; Fender, 1989). This is supported by Coakley (1992) who contends that athlete burnout occurs especially in sports such as tennis and gymnastics because the structure of these sports (e.g, time demands) inhibit the athlete from developing a normal multifaceted identity. Instead, identity foreclosure occurs where the athlete's identity is solely focused on sport success. This focus on being an athlete causes stress, ultimately leading to burnout.

Tennis and gymnastics are thus similar in terms of the stressors experienced by the athletes. Although the study found similarities in questionnaire responses between the groups, important gender differences were identified.

6.1.2 Gender

Males and females responded differently to the questionnaires. Females achieved high scores on the negative sport specific factor of sport pressure, the overall burnout index which included the emotional exhaustion and depersonalisation scales of the MBI, the tedium and the GHQ-28 scales, and low scores on sport enjoyment, social support and personal accomplishment. In contrast, males had high scores on the positive sport specific factors of enjoyment and social support and the personal accomplishment scale of the MBI, and low scores on the negative sport factor of pressure, the emotional exhaustion, depersonalisation, tedium and psychological distress scales.

The study showed that for female athletes burnout tends to result from an interaction of sport specific variables and tedium, psychological distress and burnout variables, and not solely from a personality weakness (e.g., not being mentally tough) or an aversive environment (e.g., overzealous parents; excessive time demands). In comparison the study found that males are less likely to experience burnout as an interaction between sport variables and burnout related

6.1 Comparison between Tennis players and Gymnasts

A primary objective of the study was to compare tennis players with gymnasts in order to determine whether any differences in responses to the questionnaires were evident between the two groups. In comparing tennis players with gymnasts the study sought to investigate which of the sport groups if any, would experience a higher incidence of burnout.

Research on athlete burnout has typically been conducted with samples of athletes recruited from a particular sport. Findings derived from these studies have been used to define and describe the athlete burnout syndrome without investigating whether the findings are congruent across different sport codes. In this light research on athlete burnout has been somewhat limited and speculative in nature (Juba, 1986).

The present study made use of a comparative approach to investigate athlete burnout. The study found that the answers to the questionnaires of respondents from both the tennis and gymnastic groups were similar. This is an interesting finding contrary to hypothesis 1 which predicted marked differences between the two groups. Previous research, for example Smith's (1986) study, reported that sport type is an important predictive variable of athlete burnout, which is experienced more often in sports such as tennis and gymnastics and less often in team structured sports such as cricket or hockey.

Juba (1986) claims that, tennis and gymnastics are two sport codes that are most likely to produce potential burnouts. He therefore suggests that samples selected from these sports for research purposes should not differ significantly because of the sports' similar burnout incidence. Accordingly an important criterion for understanding this similarity lies in the of the nature of the two sports.

Both tennis and gymnastics are classified as individual sports and there are a host of factors acting on the athlete which may produce a potential burnout state.

Juba (1986) identified time demands as an important factor. Tennis players and gymnasts experience time constraints in that elite athletes are expected to practise for long hours to maintain their levels of performance. If these lengthy practise sessions are not coupled with

values have been assigned to negative burnout variables such as emotional exhaustion and depersonalisation as well as to tedium and psychological distress variables; whereas a negative value is accredited to personal accomplishment, a positive burnout feature.

In considering the test statistics it becomes evident that factor one is the only significant factor and explains 65% (R^2), of the predicted value between the sport specific variables and the burnout, tedium and psychological distress variables. Factor one further yields a canonical coefficient of 0.76 indicative of a high correlation value between the two sets of variables. In order to explain the analysis it has been decided to concentrate on factor one and ignore factors two and three which are difficult to interpret and did not yield any significant results.

Factor one presents an important relationship between the sport specific variables and the burnout, tedium and psychological distress variables. A general negative sport experience such as low enjoyment, lack of social support and pressure is predictive of feelings of burnout, tedium and psychological distress.

Table 7 shows, for example, that with respect to factor one the personal accomplishment (frequency dimension) variable is relatively more important than the depersonalisation (frequency dimension) variable for example. The coefficients presented in Table 7 illustrate the relative importance of each of the variables in determining an overall burnout/tedium/psychological distress index. Sport enjoyment and sport pressure are also extremely important variables when determining the overall burnout index, whereas social support, no doubt of some importance, is relatively uninformative when compared with the sport enjoyment and sport pressure variables. The emotional exhaustion (frequency and intensity dimensions) coefficients show relatively higher and consistent values over the other burnout variables of the MBI. This indicates the importance of the emotional exhaustion variables in determining the overall sport burnout index.

6. Discussion

In view of the limited amount of empirical research on burnout in athletes, the results of this study are important in several ways and as such will be discussed under specific headings and sub-sections.

Table 7: Canonical Correlation Analysis

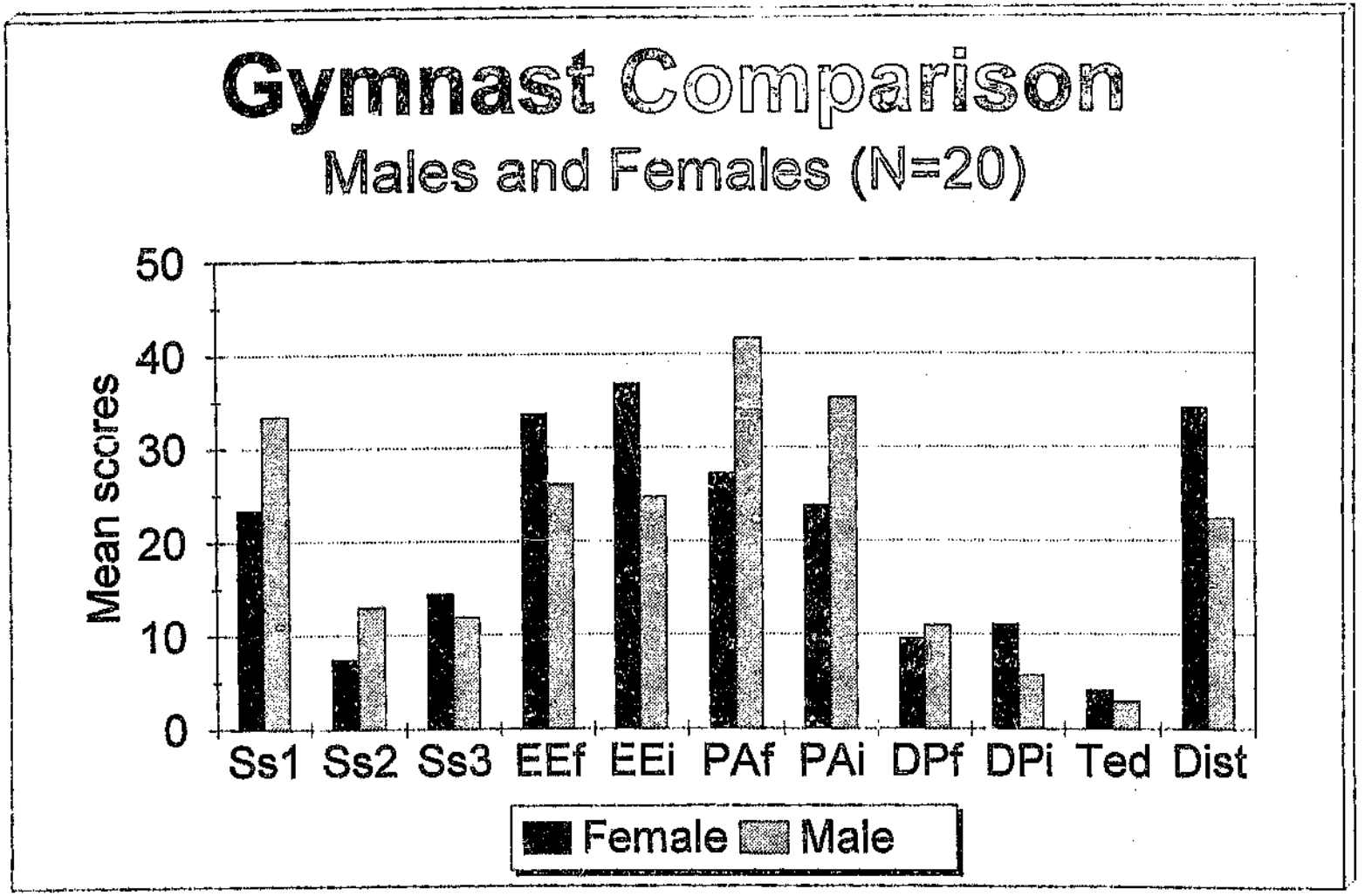
	Canonical Variables		
	Factor 1	Factor 2	Factor 3
SS1	-0.61	-0.81	0.76
SS2	-0.12	1.21	0.33
SS3	0.45	0.12	1.11
EE (f)	0.53	0.16	0
EE (i)	0.59	0.52	-0.58
PA (f)	-0.56	-0.71	-1.05
PA (i)	-0.07	0.4	1.13
DP (f)	-0.07	0.07	-0.89
DP (i)	0.35	-0.11	0.76
Ted	0.45	-1.50	-0.52
Dist	0.41	0.59	0.5

Canonical Variable	Canonical Coefficient	Eigenvalue	Proportion (R^2)	F	P
Factor 1	0.76	1.4	0.65	2.39	*
Factor 2	0.59	0.56	0.26	1.57	N/S
Factor 3	0.41	0.2	0.09	1.04	N/S

* P < 0.01; N/S Not Significant

All data containing in Table 7 are standardized
All values have been rounded to 2 decimal places

SS1 = Sport Enjoyment	PA = Personal Accomplishment	(f) denotes the frequency dimension of burnout
SS2 = Sport/Social Support	DP = Depersonalisation	(i) denotes the intensity dimension of burnout
SS3 = Sport Pressure	Ted = Tedium	
EE = Emotional Exhaustion	Dist = Psychological Distress	



Graph 2: Comparison between male and female gymnasts on the 3 objective scales and sport specific questionnaire

SS1 = Sport Enjoyment	PA = Personal Accomplishment	(f) denotes the frequency dimension of burnout
SS2 = Sport/Social Support	DP = Depersonalisation	(i) denotes the intensity dimension of burnout
SS3 = Sport Pressure	Ted = Tedium	
EE = Emotional Exhaustion	Dist = Psychological Distress	

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The present study has emphasised the need to define athlete burnout as one particular response to stress. By accepting this definition, future research will have a broader framework from which to examine the field. This in turn will allow for the development and improvement of conceptual models which need to include interaction variables for the understanding of the syndrome. According to Smith (1986) the history of psychology has shown that empirical progress tends to occur most rapidly within the context of theoretical models that guide the development of methodology. With appropriate models in place, research will be able to move towards the development of an athlete burnout inventory and overcome the criticism that athlete burnout is empirically difficult to investigate.

The present study has emphasised the need to define athlete burnout as one particular response to stress. By accepting this definition, future research will have a broader framework from which to examine the field. This in turn will allow for the development and improvement of conceptual models which need to include interaction variables for the understanding of the syndrome. According to Smith (1986) the history of psychology has shown that empirical progress tends to occur most rapidly within the context of theoretical models that guide the development of methodology. With appropriate models in place, research will be able to move towards the development of an athlete burnout inventory and overcome the criticism that athlete burnout is empirically difficult to investigate.

a more appropriate model will need to be considered.

6.6 Research implications

As the study has indicated that gender is an important factor in athlete burnout, it is important for coaches, parents and friends to monitor early signs of burnout such as tedium, lack of enjoyment, pressure to achieve and psychological distress, especially among female athletes. This may be achieved through 1) parental education and 2) player education.

Parents should be taught to recognise the needs of the athletes such as lessening parental involvement by reducing the importance placed on the sport, providing support and empathy, soliciting player input and separating parent and coach roles.

Athletes need to be educated about the effects of burnout and strategies that might be employed to prevent the occurrence of burnout. These may include: making sure one is playing for his or her own reasons and not just because others expect or want it; balancing the sport with other non-sport activities; remembering to ensure a fun environment whilst practising the sport; curtailing play when the sport becomes unenjoyable; taking intervals of relaxation; and taking time off.

It is important for coaches, parents and athletes to realise that burnout results from a complex interaction of factors. Early identification of these factors could prevent the harmful effects of athlete burnout.

7. Conclusion

The present study, having identified key factors and relationships associated with athlete burnout, has focused much needed empirical research on the topic. Although past research has investigated athlete burnout, the majority of studies conducted, has examined athlete burnout from a purely subjective interview-based perspective with little or no empirical validation. Athlete burnout in these studies defined as a specific reaction to chronic stress, has accordingly been seen in a limited light.

Future research needs to expand methodologies as well as work towards the development of a sport specific burnout inventory. Although Eades (1991) developed a burnout inventory specifically for use on athlete populations, there are no validity or reliability statistics available to verify its use. Future studies need to consider different factors that could contribute to an overall burnout index. Researchers need to acknowledge that key variables, a few of which were used in this study such as tedium and psychological distress, should be an integral component of an athlete burnout inventory. Whether a single sport burnout index will suffice or whether there is a need to develop sport specific inventories still requires investigation.

While the study compared tennis players with gymnasts, it was unable to determine the frequency of athlete burnout. Descriptive statistics relative to the incidence of the occurrence of burnout in athletes is badly needed. It is essential to identify the number of athletes, both active and retired who suffer or suffered from burnout. It is also important to identify whether burnout occurs more in certain types of sports and whether the burnout rate varies according to the sport. Coakley (1992) has suggested that burnout occurs more in individual than in team sports, and is more prevalent in middle and high socioeconomic athletes than in low. There is no empirical data to support this contention. There is a need for greater comparative study of athlete burnout so that a more holistic understanding of the syndrome can be obtained.

South African tennis players and gymnasts were the focus of the study. However, do the conclusions drawn from the study hold in other national or cultural settings? In order to address this issue cross-national research is required. While the findings of the study parallel western studies, the question of whether levels and correlates of burnout are comparable across countries is still an open one.

Additional tests of the various models of athlete burnout are needed. While the study was not designed specifically to test each of the models, evidence was obtained that supported many of the models. It should be noted that while the Smith (1986) and Silva (1990) models received fairly good support in the study, the study was not well designed to test these models. Future research will need to ascertain which of the models is best suited to the conceptualisation of athlete burnout and if no consensus is reached then the development of

6.4.2 Cross-sectional data collection

The study made use of cross-sectional data collection which excludes the possibility of examining the direction and impact of causal and/or consequential relationships. Hypotheses concerning possible causal relationships between any of these variables was specifically avoided since the testing of any such assumptions were beyond the scope of this research. If burnout research is to avoid the identical pitfalls which have hampered the organisational-stress literature, then these studies will have to transcend the use of cross-sectional designs (Jackson et al., 1987).

The study also adhered to an objective assessment of athlete burnout. It would have been more beneficial to have verified the findings produced by the objective questionnaires with subjective interviews.

6.5 Recommendations for future research

Given the exploratory nature of sport psychological research on athlete burnout, the results of this study need to be interpreted with caution due to the small sample used. The results need to be replicated and extended to other athlete populations.

The study was instrumental in providing empirical support for gender as a fundamental factor in the assessment of athlete burnout. Although past studies recognised gender as an important variable, the methodologies used were largely subjective. Key relationships were further identified between sport specific variables and burnout related variables. Based on these findings several directions for future research are intimated.

It has been argued that athlete burnout should be defined as a potential outcome of the stress process. In this light there is a need for theory-driven and longitudinal research focusing on the process of burnout rather than the end state. This process should be investigated over time to establish causal relationships between burnout and its precipitating factors and outcomes. Research also needs to consider and investigate interactions between sets of variables as well as variables such as tedium and psychological distress when defining the athlete burnout syndrome.

burnout concept and is an important defining feature of athlete burnout.

6.4 Limitations of the study

6.4.1 Limitation of measuring instruments

Specific research designs have certain advantages, and the value of a study is dependent on the specific question posed (Friedman & Booth-Kewley, 1987). Since objective scales have been utilized in this study for the measurement of data, the limitation of such scales will be plain.

Not one of the recognised objective scales used was sport specific. This is a major limitation when attempting to investigate athlete burnout. The main reason for not using sport specific scales is that to date no valid scales are available.

The use of the MBI to assess athlete burnout has been considered unsuitable. The apparent reason is that the MBI does not assess key elements of burnout such as tedium and psychological distress, especially among athletic populations (Smith, 1986). In order to avoid this controversy the present study made use of both a tedium and psychological distress scale to supplement the MBI. Smith (1986) further contends that the assessment of athlete burnout requires a sport specific inventory. Notwithstanding, the study has provided satisfactory internal reliability coefficients for the MBI subscales ranging from 0.77 to 0.90. Albeit that the MBI is not considered suitable for the assessment of athlete burnout, it should be used as a foundation measure in the development of an athlete burnout scale.

Although the sport specific questionnaire provided useful data regarding the relationship between the sport specific variables in particular, and their relationship with the burnout related variables in general, there are no reliability or validity statistics to verify its use. The questionnaire was developed due to the paucity of sport specific measures. Any results gleaned from the questionnaire need to be understood and interpreted in light of its limitations.

THE TEDIUM SCALE

How often do you have any of the following experiences? Please use the following scale:

1.	2.	3.	4.	5.	6.	7.
Never	Once	Rarely	Sometimes	Often	Usually	Always

	1	2	3	4	5	6	7
1. Being tired							
2. Feeling depressed							
3. Having a good day							
4. Being physically exhausted							
5. Being emotionally exhausted							
6. Being happy							
7. Being "wiped out"							
8. Being "burned out"							
9. Being unhappy							
10. Feeling rundown							
11. Feeling trapped							
12. Feeling worthless							
13. Being weary							
14. Being troubled							
15. Feeling disillusioned and resentful about people							
16. Feeling weak							
17. Feeling hopeless							
18. Feeling rejected							
19. Feeling optimistic							
20. Feeling energetic							
21. Feeling anxious							

	FREQUENCY							INTENSITY						
	never	few times a year	monthly	few times a month	very week	few times a week	every day	very mild (or) barely noticeable		moderate			very strong (or) major	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
18. I feel I treat some recipients as if they were impersonal 'objects'.														
19. I've become more callous (cold-hearted) toward people since I've started this sport.														
20. I worry that this sport is hardening me emotionally.														
21. I don't really care what happens to some recipients.														
22. I feel recipients blame me for some of their problems.														

	FREQUENCY							INTENSITY						
	never	few times a year	monthly	few times a month	every week	few times a week	every day	very mild (or) barely noticeable		moderate			very strong (or) major	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
10. I can easily understand how my recipients feel about me.														
11. I deal very effectively with the problems of my recipients.														
12. I feel I am positively influencing other people's lives through my sport.														
13. I feel very energetic.														
14. I can easily create a relaxed atmosphere with my recipients.														
15. I feel exhilarated after working closely with my recipients.														
16. I have accomplished many worthwhile things with my sport.														
17. In my sport I deal with emotional problems very calmly.														

The following items refer to feelings or attitudes. Please rate each item in terms of the frequency (how often), and the intensity (how strongly), with which you experience the feeling or attitude. If the feeling or attitude is never experienced, simply place a mark in the column labelled "never".

*N.B. RECIPIENTS REFER TO: (OTHER ATHLETES, COACHES, FAMILY MEMBERS AND FRIENDS)

	FREQUENCY							INTENSITY						
	never	a few times a year	monthly	few times a month	every week	few times a week	every day	very mild (or) barely noticeable		moderate			very strong (or) major	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. I feel emotionally drained from my sport.														
2. I feel used up at the end of the day.														
3. I feel fatigued when I get up in the morning and have to face another day of my sport.														
4. Working with other people all day is really a strain for me.														
5. I feel burned out from my sport.														
6. I feel frustrated by my sport.														
7. I feel I am working too hard at my sport.														
8. Working with people directly puts too much stress on me.														
9. I feel like I am at the end of my rope.														

Please answer the following questions, by circling one of the five options in the range of:

(1 = never to 5 = always)

	NEVER	SOMETIMES	USUALLY	OFTEN	ALWAYS
1. I gain satisfaction from my sport.	1	2	3	4	5
2. I enjoy the competitive nature of my sport.	1	2	3	4	5
3. My coach reinforces my effort.	1	2	3	4	5
am concerned about performing poorly.	1	2	3	4	5
5. I work hard at my sport.	1	2	3	4	5
6. I enjoy practising alone.	1	2	3	4	5
7. I enjoy practising with others.	1	2	3	4	5
8. I am concerned that others will be disappointed with my performance.	1	2	3	4	5
9. I get on well with my coach.	1	2	3	4	5
10. I take time off for myself, away from my sport.	1	2	3	4	5
11. I feel good after practice.	1	2	3	4	5
12. I receive support from my parents and friends.	1	2	3	4	5
13. I feel good after a tournament/competition despite the outcome.	1	2	3	4	5
14. I feel compelled to achieve at my sport.	1	2	3	4	5
15. I feel that I am achieving in my sport.	1	2	3	4	5

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Student: Earle Abrahamson **Supervisor: Cathi Michelson**

INTRODUCTION

Dear Participant

Thank you for you participation in the study. The present study is an investigation into sources of athlete stress. Participation in the study is on a voluntary basis. All data obtained from the participant will be treated with the strictest of confidence.

The completed research document will be housed in the University's library, thereby making the research a public document. However NO participant's personal details will be disclosed in the final document. The participant's responses will simply be statistically analysed.

PERSONAL DETAILS

Gender: (M) _____

(F) _____

Age: _____

Level of education: _____

Marital status: Single _____ **Divorced** _____ **Married** _____ **Other** _____

Sport: (Tennis{ }; Gymnastics { }) [Tick the appropriate sport]

My level of participation is: Club _____ **Provincial** ____

National (Elite) _____

How long have you been involved in the sport? _____

How old were you when you began your sport? _____ **years**

How many hours _____ **a day,** _____ **a week do you practice?**

Any further information _____

The University of the Witwatersrand rejects racism and racial segregation. It is committed to non-discrimination particularly in the constitution of its student body, in the selection and promotion of its staff, and in its administration.

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6 June 1995

TO WHOM IT MAY CONCERN

This serves to confirm that **EARLE ABRAHAMSON** is presently enrolled in the Department of Psychology and is a candidate for the full time degree of Master of Arts.

A requirement for the degree is the submission of a research thesis in an area chosen by the candidate. The above candidate has opted to conduct his research in the area of stress and coping in sport, specifically amongst gymnasts and tennis players.

Owing to the nature of the research, it is imperative to the validity of the study that a sample be selected from gymnasts and tennis players who are currently involved in their sport. The sample of respondents selected on the basis of **voluntary participation**, will be subjected to the completion of four questionnaires.

We would appreciate it if you could accommodate Mr. Abrahamson, who is aware that he is under the jurisdiction of the University, for the duration of his research.

Yours faithfully

Cathi Michelson
Supervisor

Earle Abrahamson
Master student

The University of the Witwatersrand rejects racism and racial segregation. It is committed to non-discrimination particularly in the constitution of its student body, in the selection and promotion of its staff, and in its administration.

APPENDIX 1

Covering letter and questionnaire package

of its statutory duty, in the selection and promotion of its staff, and in its administration.

Stout, J.K. & Williams, J.M. (1983). Comparison of two measures of burnout. Psychological Reports, 53, 283-289.

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Wolpin, J. (1986). Psychological burnout among Canadian teachers: A longitudinal study. York University, Toronto, Canada.

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D4 Thought of the possibility that you might do away with yourself?

Definitely not		
I don't think so		
Has crossed my mind		
Definitely have		

D5 Found at times you couldn't do anything because your nerves were too bad?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

D6 Found yourself wishing you were dead and away from it all?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

D7 Found that the idea of taking your own life kept coming into your mind?

Not at all		
I don't think so		
Has crossed my mind		
Definitely has		

C6 Felt capable of making decisions about things?

More so than usual		
Same as usual		
Less so than usual		
Much less capable		

C7 Been able to enjoy your normal day-to-day activities?

More so than usual		
Same as usual		
Less so than usual		
Much less than usual		

D1 Been thinking of yourself as a worthless person?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

D2 Felt that life is entirely hopeless?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

D3 Felt that life isn't worth living?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

C1 Been managing to keep yourself busy and occupied?

More so than usual		
Same as usual		
Rather less than usual		
Much less than usual		

C2 Been taking longer over the things you do?

Quicker than usual		
Same as usual		
Longer than usual		
Much longer than usual		

C3 Felt on the whole your were doing things well?

Better than usual		
About the same as usual		
Less well than usual		
Much less well		

C4 Been satisfied with the way you've carried out your task?

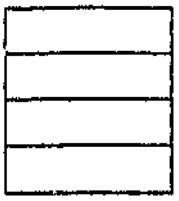
More satisfied		
About same as usual		
Less satisfied than usual		
Much less satisfied		

C5 Felt that you are playing a useful part in things?

More so than usual		
Same as usual		
Less useful than usual		
Much less useful		

B3 Felt constantly under strain?

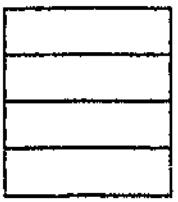
Not at all
No more than usual
Rather more than usual
Much more than usual





B4 Being getting edgy and bad-tempered?

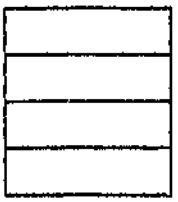
Not at all
No more than usual
Rather more than usual
Much more than usual





B5 Been getting scared or panicky for no good reason?

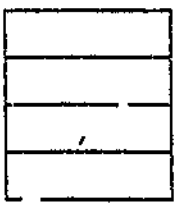
Not at all
No more than usual
Rather more than usual
Much more than usual

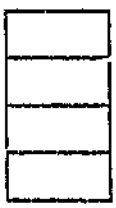




B6 Found everything getting on top of you?

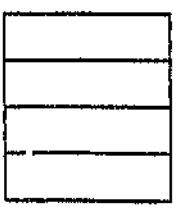
Not at all
No more than usual
Rather more than usual
Much more than usual

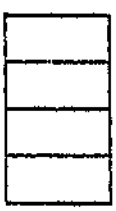




B7 Been feeling nervous and strung-up all the time?

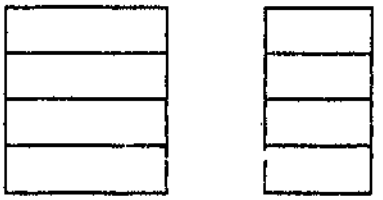
Not at all
No more than usual
Rather more than usual
Much more than usual





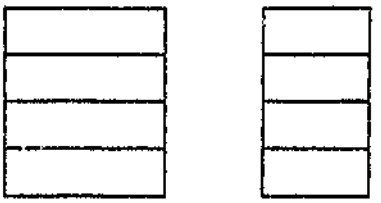
A5 Been getting any pains in your head?

Not at all
No more than usual
Rather more than usual
Much more than usual



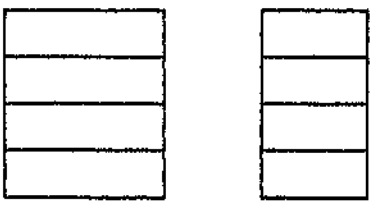
A6 Been getting a feeling of tightness or pressure in your head?

Not at all
No more than usual
Rather more than usual
Much more than usual



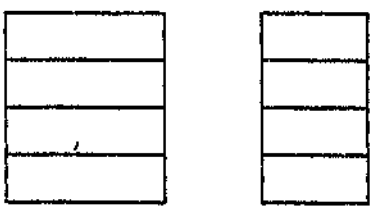
A7 Been having hot or cold spells?

Not at all
No more than usual
Rather more than usual
Much more than usual



B1 Lost much sleep over worry?

Not at all
No more than usual
Rather more than usual
Much more than usual



B2 Had difficulty in staying asleep once you are off?

Not at all
No more than usual
Rather more than usual
Much more than usual



Code:_____

General Health Questionnaire

We should like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer ALL the questions and choose the answer which best applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions.

Thank you very much for your cooperation.

Have you recently:

A1 Been feeling perfectly well and in good health?

Better than usual		
Same as usual		
Worse than usual		
Much worse than usual		

A2 Been feeling in need of a tonic?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

A3 Been feeling run down and out of sorts?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

A4 Felt that you are ill?

Not at all		
No more than usual		
Rather more than usual		
Much more than usual		

Author: Abrahamson, Earle Derek.
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