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FOOTBALL ATHLETES' EXPERIENCES WITH A PSYCHOLOGICAL INTERVENTION PROGRAMME AIMED AT REDUCING STRESS AND INJURY

by

LYNN LAVALLÉE

A thesis submitted in conformity with the requirements for the degree of Master of Science
Graduate Department of Community Health
University of Toronto

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Football Athletes’ Experiences with a Psychological Intervention Programme Aimed at Reducing Stress and Injury.

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Master of Science, 1998
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Abstract

The purpose of this study was to determine football athletes’ experiences with a mental skills training programme and subsequently explore the effects of this programme on stress and injury. Twenty-two football players from a major Canadian university were divided into an intervention (N=10) and control group (N=12). The mental skills training programme involved the basic behavioural and cognitive strategies of relaxation, goal-setting, imagery, and cognitive appraisal. Qualitative analysis determined if and how athletes used mental skills and thus addressed the limitations of past research which failed to identify the specific use and benefits of various elements of multi-component mental skills programmes. Stress inventories did not demonstrate individual differences in stress levels after participation in the mental skills training programme. Although the control group experienced more injuries than the intervention group, this finding was not statistically significant. Empirical and theoretical implications are noted and practical implications for the development and implementation of psychological intervention programmes are discussed.
Dedicated to the memory of my mother and father.
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Definition of Terms

affective strategies - psychological techniques which attempt to modify emotions

anxiety (state) - a subjective, consciously perceived feeling of tension and apprehension associated with a specific situation or state with arousal of the autonomic nervous system

anxiety (trait) - a general disposition that individuals possess to respond to a variety of situations with varying levels of state anxiety

cognitive restructuring - psychological techniques which focus on modifying self-defeating behaviours and thoughts

distress - an event that is appraised as negative

eustress - an event that is appraised as positive

goal-setting - a technique whereby one records and monitors a specific desired objective

grade I, II, III injuries - medical classification of injury based on degree of tissue damage assessed by function, stability, swelling and pain with Grade III being the most severe (Reid, 1992)

imagery - a technique involving mental rehearsal attempting to incorporate many senses (visual, kinesthetic, auditory, smell)

psychological interventions - are techniques (methods such as relaxation, imagery and self-talk) that are implemented to promote psychological well-being

relaxation - a technique that promotes a feeling of calmness, both physically and mentally

starter vs nonstarter - in team sports, a starter is an athlete who begins playing in the game or competition and is typically considered more skilled than the nonstarter

stress - is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being

Stress Inoculation Training (SIT) - SIT is a multi-component psychological intervention consisting of three phases (conceptualization, skill acquisition/rehearsal, and application) which teaches the individual coping strategies and gradually exposes the individual to increasingly stressful events producing an inoculating effect to the stressor (Meichenbaum, 1993).

triangulation - involves the use of multiple lines of sight in qualitative research methods (multiple data-collection technologies, multiple theories, multiple researchers, multiple methodologies or combination of the four categories) to decrease the rate of error in research
CHAPTER ONE
INTRODUCTION

Sport psychology is a developing field with many sub-specialty areas. One such area is the psychology of athletic injury. The psychology of athletic injury includes the study of the psychological state of athletes after injury, during rehabilitation and recovery and the psychological state of the athlete before injury, specifically the relationship between psychological antecedents and the occurrence of athletic injury. This relationship has been termed the stress-injury relationship (Andersen & Williams, 1988).

Research of the stress-injury relationship is similar to research conducted outside of sport involving the stress-illness and stress-accident relationships. The stress-illness relationship has the same theoretical basis as the stress-injury relationship, one that addresses the relationship between psychological factors and physical and psychological well-being. Research in psychoneuroimmunology for example, has reported correlations between stress and cancer (Eysenck, 1983) and coronary illness (Alan, 1983). With respect to the stress-accident relationship, Spielberger & Frank (1992) reported that injury is the fourth leading cause of death for all Americans and the number one cause of death for people between the ages of 1-45 years. In addition, they note traffic accidents as the leading cause of severe brain injury. Spielberger & Frank (1992) ventured to state that “injury control is essentially psychological” and the opportunity exists for psychologists to research the causes of injury and develop clinical interventions for injury control.

With respect to sport injury prevention, it is important to identify possible causes of injury such as external factors (equipment and terrain) and internal physical factors (muscle imbalance, biomechanical abnormalities). In addition to the external and internal physical
factors, the internal psychological factors should also be considered. These psychological antecedents are identified in a proposed model of stress and athletic injury by Andersen & Williams (1988). This stress-injury model attempts to incorporate all possible psychological intervening factors. The foundation for this model was established by the past three decades of research not only on the stress-injury relationship, but also the stress-illness and stress-accident relationship.

Researchers hypothesize that stress may lead to injury through both physical and psychological avenues. For example, the physiological response to stress includes increases in muscle tension or physical fatigue which may in turn, reduce flexibility, motor coordination and muscle efficiency and heighten the relationship between stress and injury. In terms of psychological avenues, attentional changes such as narrowing of the visual field that may occur under stressful conditions can influence the cognitive response to certain athletic events (Williams, Tonymon, & Andersen, 1990, 1991). For example, narrowing of vision may prevent an athlete from scanning cues in the periphery to avoid a potentially dangerous situation, such as a running back’s inability to use peripheral vision to see an oncoming side tackle.

The Andersen and Williams (1988) model also referred to personality, coping skills and psychological interventions which could influence the stress-injury relationship. Although the stress-injury relationship has been studied for over thirty years there has been relatively little research involving sport psychology interventions that may help the athlete cope with stress and possibly prevent injury (Davis, 1991; Kerr & Goss, 1996, May & Brown, 1989, Schomer, 1990). Williams and Andersen (1998) recognized the deficiency in research involving the implementation and assessment of interventions that might lessen the stress response and reduce injury vulnerability.
In designing a psychological intervention programme with the aim of mediating the stress-injury relationship, it is essential to consider the psychological factors noted in past research. It is also worthwhile to review the research involving the implementation of sport psychology programmes, the bulk of which has involved performance enhancement. Researchers who have implemented sport psychology programmes have identified the need to assess the subjective use and perceived benefits of specific components of multifaceted programmes in order to clearly understand the effects of such a programme (Crocker, Alderman, Smith, 1988; Davis, 1991; Gould, Petlichkoff, Hodge, Simons, 1990; Kerr & Goss, 1996; Vealey, 1994). This identification of subjective use is necessary before subsequent benefits to performance, stress levels or injury can be attributed to an intervention programme. To date, research has not addressed this need.

Therefore, to address the limitations of past research, the primary purpose of this study was to determine football athletes' experiences with a mental skills training programme. A qualitative approach to the problem elucidated if and how athletes used mental skills. Only after determining if components of the intervention programme were actually used by the athlete and used correctly could the effects of this programme on stress levels and injury rate be assessed. The information gathered from this study can be used to further existing knowledge in the development of mental skills and intervention programmes for injury and stress levels, as well as provide empirical and theoretical direction for future research.
ATHLETIC INJURIES

Sport injury can be one of the most traumatic experiences an athlete faces during his or her career. It can be a source of physical, psychological and social difficulty. Furthermore, most athletes will experience some sort of injury during their careers. Over the course of an eight month season, Kerr & Goss (1996) found a 100% injury rate in national and international level gymnasts. Lavallée & Flint (1996) found 62% of varsity rugby athletes and 76% of varsity football athletes sought treatment for injury during the course of one season. The National Collegiate Athletic Association (NCAA) recognized the importance of keeping injury statistics and implemented the Injury Surveillance System (ISS) eight years ago (NCAA News, 1996). For the spring of 1995/96, the NCAA reported an average of 10.3 injuries per 1000 exposures, which was slightly higher than the eight year spring average of 9.5. These statistics included only those injuries for which the athlete reported and sought treatment, therefore, the incidence of athletic injury may be even greater.

Many epidemiological studies have been conducted in an attempt to determine predicting variables of athletic injury (DeLee & Farney, 1992; Gomez, DeLee & Farney, 1996; Meeuwisse & Fowler, 1988; Whieldon & Cerny, 1990). A primary predicting variable may be choice or type of sport. Flint (1998) suggested that in sports such as rugby, injury is a concomitant aspect of the physical nature of the game. Athletes choosing to participate in a more physical sport may increase his or her risk to injury.

Aside from the choice of sport contributing to risk of injury, the etiology of athletic injury is essential in exploring the prevention of sport injury. Determining the etiology of an
injury is important in treatment and rehabilitation, in the prevention of re-injury once the athlete returns to sport, and prevention of a similar injury in other athletes. For example, as an undergraduate student athletic therapist and varsity athlete, I ventured to determine why there was a dramatic increase in stress fracture occurrence among varsity track athletes one particular year. After interviewing all of the athletes it was determined that all of the athletes had a predisposing biomechanical factor yet most had competed in track at the same university and had never experienced stress fractures. A possible factor could have been the lack of transition from the outdoor cross-country season to the indoor 200 metre track. The 400 metre outdoor track was being resurfaced that year and the athletes were unable to use the outdoor track as a transition to the indoor season. It was difficult to determine if this was the sole factor because most of the athletes had a predisposing biomechanical factor as well. Having said this, the fact that there was a lack of transition that year could not be ignored in preventing future injury. This scenario demonstrates the detective work that is necessary to determine the etiology of injury and how many factors can be identified as contributing to athletic injury. In the prevention of injury, all contributing factors, even remote possibilities should be identified and an attempt made to prevent further injury.

PSYCHOLOGICAL ANTECEDENTS TO ATHLETIC INJURY

The prevalence of injury and psychological experiences of being injured (Wiese-Bjornstal, Smith, Shaffer & Morrey, 1998) have lead athletes, coaches, medical personnel, and researchers to be increasingly concerned with avoiding injury. Prevention of athletic injury requires identification of factors that may contribute to injury. The causes of injury are typically considered to be external or internal physical characteristics (Lysens, Steverlynck, Auwelle, Renson, Claessens & Ostyn, 1984). Some of the key external factors contributing to athletic
injuries are the environment (e.g. playing surface & climate), amount of game and practice time, and equipment (Taerk, 1977). Internal physical characteristics are also recognized as contributing to athletic injury, including deconditioned states, muscle imbalances, and biomechanical factors (Reid, 1992). However, these factors have failed to account for the occurrence of all injuries. Thus, researchers have turned to examine psychological factors as possible antecedents of injury. When internal factors, such as emotional upset are also considered, the potential ability to account for injury increases. There is a growing realization that psychological factors, such as stress and specific personality characteristics may play a role in the frequency and grade of injury incurred (Williams & Andersen, 1998).

Andersen and Williams (1988) proposed a model of stress and athletic injury based on the past three decades of research, not only on the stress-injury relationship, but also the stress-illness and stress-accident relationship (see Figure 1). Since the inception of this model much of the subsequent research has reflected upon the work of Andersen and Williams.

The Andersen and Williams’ model (1988) hypothesizes that when athletes are faced with a potentially stressful athletic situation, such as a demanding competition, those athletes with a history of many stressors, specific personality characteristics and fewer coping resources may cognitively appraise the situation as more stressful. This appraisal may cause an increase in physiological activation and attentional disruption placing the athlete at a greater risk of injury.

The Andersen and William’s model also highlights psychological intervention techniques that may help to enhance personality and coping resources. Interventions such as cognitive restructuring, distraction desensitization, and relaxation skills can be a positive influence on the stress response.
A difficulty plaguing the research involving psychological antecedents to athletic injury has been the inconsistency in defining injury (Flint, 1998, Meeuwisse & Love, 1997, Petrie & Falkstein, 1998). Much of the past research has used the National Athletic Injury Recording System (NAIRS) which defines injury based on practice and game time lost due to injury (Coddington & Troxell, 1980; Passer & Seese, 1983; Williams, Tonymon, & Wadsworth, 1986). An athlete is said to have a minor injury if the athlete is able to return to play within seven days, moderate injury implies returning to sport after 8-21 days, and severe injury is defined as returning after 21+ days. An alternative method of measuring injury rate and severity is the Colorado Injury Reporting System which classifies injuries into: (a) mild (treatment required,
no modification of activity); (b) moderate (treatment and activity modification); (c) severe I (non-participation for 1-7 days); (d) severe II (non-participation for 1-4 weeks); and, (e) severe III (non-participation 4+ weeks) (Davis, 1991). Other studies have attempted to measure injury by the use of medical personnel diagnosis of severity of injury (Grade I, II, III) and simply frequency of injury throughout a season (Lavallée & Flint, 1996).

A further difficulty in defining injury and past research is the inability to compare injuries between sports and sport position. The nature of certain sports, such as the high contact sport of football may illicit more injuries and/or different type of injuries (acute and chronic injury) than a non-contact sport such as volleyball. One of the main criticisms of the preliminary research was directed at the athletic population studied. Most research involved football players, a contact sport which is known for its high rate of injury (Bramwell, Masuda, Wagner and Holmes, 1975; Holmes, 1970). Generally, the football research involved recording of injuries significant enough to eliminate the athlete from activity with injury severity determined by the number of practice/game days lost. Davis (1991) suggested that this type of injury reporting may be too insensitive for non-contact sports and research involving non-contact sports may require monitoring of all treatment from medical staff rather than using the number of days lost as a measure of injury severity.

Petrie & Falkstein (1997) suggest using a combined approach of time lost, modification of activity and physician's rating to obtain a more accurate measurement of injury. To date, there has been no universal measurement of injury developed for research purposes. Subsequently, results from separate studies may be uncomparable generating unclear directions for future research (Petrie & Falkstein, 1998).
Injury measurement and comparison is confounded by inconsistencies in amount of playing time and/or playing status between athletes. Petrie (1993) noted differences in psychological responses to stress and injury between starting and non-starting athletes with starting athletes experiencing more stress and injury. Furthermore, starting athletes may be at a higher risk of injury due to an increase number of exposures, particularly during games.

Flint (1998) noted the difficulty in defining injury emanates from the inability to 'see' into the body to evaluate and compare the extend of structural damage. Therefore, researchers are left to use the subjective reports of the athlete and the objective information from medical personnel. It could then be argued that the psychological antecedent of athletic injury research involves a subset of athletes, only those athletes who subjective report injury. There may be inter-individual differences between athletes who report injury and those who do not. Perhaps those athletes with a lower pain threshold subsequently report injury more frequently, particularly injuries of less severity. It may be more accurate for the stress injury model to replace 'injury' with 'reporting of injury'.

The difficulties in defining and measuring injury noted above are important considerations in evaluating past research, as well as in the development of future exploration.

Early research focused on the "history of life stressors" portion of the model (Bramwell et al., 1975; Holmes, 1970; Sarason, Johnson & Seigel, 1978). Holmes and Rahe (1967) were the pioneers in the study of life stress and athletic injury. They developed the Social Readjustment Rating Scale (SRRS) to measure the degree of stress caused by various life events. SRRS rates life events based on the social readjustment required in accommodating to change (i.e., marriage, death, financial difficulties). Holmes and Rahe (1967) found that individuals with a high life stress score (Life Change Units, LCU) as measured by SRRS, seemed to be at a greater
risk of disease than those with low LCU scores. Holmes (1970) extended the use of SRRS to the athletic population investigating the degree of life stress in football players. It was shown that football players with a high LCU score were more likely to experience injury than those with low LCU scores.

Bramwell et al., (1975) modified the SRRS to provide a measure of life stressors that better reflected an athlete's experience. The athletic version of SRRS, the Social and Athletic Readjustment Rating Scale (SARRS), omitted pregnancy, retirement, and other such inappropriate events. An additional twenty life events were added, such as entering college, troubles with head coach, and being dropped to a lower playing status. With this newly designed measure, Bramwell et al. (1975) compared the mean LCU of injured and non-injured football players. Severity of injury was not determined. Bramwell et al.'s (1975) findings were consistent with Holmes' results (1970), reporting a significant relationship between life stress and injury rate. Low LCU scores were related to low injury rate and high LCU scores were related to high injury rate.

Holmes and Rahe (1967) and Bramwell et al. (1975) assumed that all stress, whether negative (distress) or positive (eustress), was detrimental to health. In 1978, Sarason, Johnson and Siegel designed the Life Experience Survey (LES) which measured life events similar to the Social Readjustment and Rating Scale designed by Holmes and Rahe (1967). The LES, however, differed from SRRS in that it separated positive from negative life events.

Coddington and Troxell (1980) modified the LES for adolescents (Life Event Scale for Adolescents, LES-A) which differentiated life events into: (a) family events over which the adolescent has no control; (b) extra familial desired events (eustress); (c) extra familial undesired events (distress); and, (d) a subscore of object loss (possible or real loss of a person
close to them). A relationship was found between total stress (eustress and distress) and athletic injury among high school football players. Individually, eustress and distress were not significantly related to injury. It is of interest that those who experienced object loss, such as possible or real loss of a person close to them, were five times more likely to be injured. The life events score for family events also correlated with a significantly increased rate of injury.

Passer & Seese (1983) altered the LES to investigate the athletic population and developed the Athletic Life Experience Survey (ALES) in the same manner that the SRRS was altered to the SARRS by Bramwell et al. (1975). Passer and Seese (1983) expanded the research by incorporating personality variables as moderators, including: (a) trait anxiety as measured by the adult trait scale of State-Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1970); (b) competitive trait anxiety as measured by Sport Competition Anxiety Test (Martens, 1977); and, (c) locus of control as measured by the Internal-External Locus of Control Scale (Rotter, 1966). They found negative life change and object loss related to injury among collegiate varsity football players. The only notable finding concerning the moderator variables was a significant relationship between negative life change and injury for low, but not high competitive trait anxious players. Passer and Seese (1983) also noted that, although positive life stress did not show a significant relationship to injury, analysis of total life change scores (positive and negative) was consistent with Bramwell et al.’s (1975) findings of a positive relationship between injury and high total life change.

Research into sports of a non-contact nature has been a relatively recent area of interest. May, Veach, Reed and Griffey (1985) studied the U.S. Alpine Skiing Team, an individual, non-contact sport. It was found that numerous medical and performance problems existed among the athletes who reported depression, life dissatisfaction or turmoil in their personal lives. Although
the study of May et al. (1985) involved athletes in a non-contact sport, there was a relationship found between stress and medical problems. Similar findings were reported in May, Veach, Southard, and Herring's (1985) study of biathlon, race walking, figure skating, gymnastics and basketball athletes. This study found that stress was linked not only to injuries, but also to common health problems, drug abuse, and performance difficulties.

Williams, Tonymon and Wadsworth (1986) expanded the research, studying both female and male athletes in the non-contact sport of intercollegiate volleyball. This study used SARRS and ALES, but also included coping resources. The ability of an individual to cope with stress, whether by social support or stress management is postulated to decrease the negative results of the stress response (Williams et al., 1986). Coping resources ameliorating the negative effects of life stress have been studied in the non-athletic population. Marx, Garrity and Somes (1977) found that individuals with high coping resources in the face of stress had a lower rate of illness than those with low coping resources. As well, Gore (1978) found unemployed workers who had low coping resource scores reported more physical problems. Nucholls, Cassel, and Kaplan (1972) determined that neither life change or coping resources (separately) affected the complication rate during pregnancy. When combining life change and coping resources, however, women with high life change and high coping resources were found to have a complication rate one third less than those with high life change and low coping resources.

Williams et al, (1986) study measured coping resources with the coping resources section (CR) of the Stress Audit Questionnaire. Contrary to most research at that time, no significant relationship between injury and high life stress and/or coping resources was found. There was also no significant difference between males and females. Although coping resources did not mediate the stress-injury relationship, there were lower coping resources among injured athletes.
Subsequent research done by Smith, Smoll and Ptacek (1990) found that high school varsity athletes who were low in social support and psychological coping skills exhibited the greatest injury risk. Hardy, Richman and Rosenfeld (1991) also found that injury frequency increased as negative life change increased and social support decreased among volleyball, gymnastics, field hockey, soccer, cross-country, track and field, and wrestling athletes. Interestingly, Hardy et al. (1991) found this relationship only among the male collegiate athletes. Possible explanations for the difference found between males and females may be that female athletes experience self-reported life stress differently than male athletes or that females maintain more stable and constant support linkages regardless of life stressors (Hardy et al., 1991). Hardy and Riehl (1988) maintain that females cope better with many of the stressors commonly assessed in previous studies, including financial difficulties, marital problems, and death of a spouse. Davis (1991) stated that this argument can not be substantiated because of the subsequent positive relationships found in other studies where females were participating, such as female gymnasts in Kerr and Minden's (1988) research.

It was suggested by Williams et al. (1986) that inherent differences between the two kinds of sport (contact versus non-contact), may contribute to the contrary findings of previous studies with football. The volleyball players in the Williams et al. (1986) study reported lower levels of stress than the previous studies on football players. Furthermore, football, in comparison to volleyball, requires a broader external focus and an ability to shift attentional styles (Williams et al., 1986). Williams et al. (1986) suggested that these two factors may contribute to the conflicting findings.

Hardy and Riehl (1988) found a relationship in total life change and negative life change with injury frequency, but not severity with males and females in the non-contact sports of
baseball, softball, tennis, and track. Hardy and Riehl (1988) suggested that the previous conflicting research of no relationship found in the non-contact volleyball study by Williams et al. (1986) and the positive relationship of stress-injury responses found in football may be due to gender differences rather than sport.

As the research into the stress-injury response grows, there is an attempt to include more variables described in the Anderson and Williams' (1988) model. Kerr and Minden (1988) accounted for three variables in the "personality" portion of Anderson and Williams' model of stress and athletic injury, including (a) trait-anxiety measured by Spielberger Trait Anxiety Inventory, (Spielberger, Gorsuch & Lushene, 1970); (b) locus of control as measured by Nowicki-Strickland Locus of Control Scale (Nowicki & Strickland, 1973); and, (c) self-esteem as measured by Coopersmith Self-Esteem Inventory (Coopersmith, 1967). A significant positive relationship between life stress and injury frequency and severity was found with the gymnasts. The measure used to assess life stress was the Coddington Life Event Record (Coddington & Troxell, 1972). There were no significant relationships between injury, anxiety, self-esteem, and locus of control.

Kelly (1990) reviewed the early work involving personality and the stress-injury relationship. He identified psychological risk factors of 'injury prone' individuals as high levels of Type A (compulsive and addictive) and Type C (dependent, gentle yet resentful) behaviour, high or low tolerance of pain, high levels of either extroversion or introversion, extreme passive or aggressive behaviour, insecurity, overprotection, dependency, perceived degree of control, poor self-esteem, and depression. It appears that extreme highs or lows of all personality traits are associated with 'injury proneness'. Andersen & Williams (1993) stated that the study of personality within sport has predominantly used 'generic' measures and may not accurate reflect...
an athlete's response in the sporting context. The role of personality in athletic injury requires research using interactional models with sport-specific measures (Andersen & Williams, 1993).

Pargman and Lunt (1989) examined the relationship of self-concept and locus of control to severity of injury in freshman collegiate football players. This study revealed a correlation between injury rate and external locus of control. Blackwell and McCullagh (1990) incorporated all three portions of the Anderson and Williams' model of stress-injury relationship in their study of university football players. The measures utilized were the ALES, Daily Hassles Scale (DHS), SCAT, and the coping resource section of the Stress Audit Questionnaire (Miller & Smith, 1982). This study supports the previous research of a positive relationship between life stress (measured by ALES) and athletic injury. Although the only statistically significant relationship found was between injured players and high life stress, it was noted that injured players scored higher than non-injured players on daily hassles and competitive trait anxiety scale and lower on coping resources.

Hanson, McCullagh and Tonynon (1992) studied severity and frequency of injury in track and field athletes at the university level. Portions of the Anderson & Williams' model that were included were: (a) the personality characteristics of locus of control measured with Rotter's Internal-External Locus of Control Scale (Rotter, 1996); (b) competitive trait anxiety as measured with SCAT (Martens, 1977); (c) history of stressors as measured by ALES (Passer & Seese, 1983); (d) daily hassles, with Burks and Martin's Everyday Problems Scale (Burks & Martin, 1985); and, (e) past injury. In addition, they also addressed the moderating variables of coping resources with the modified Coping Resource section of Stress Audit Questionnaire (Miller & Smith, 1982); and social support measured by Neeman & Harter's "People in my Life" Inventory (Neeman & Harter, 1986). Hanson et al. (1992) used the Colorado Injury Reporting
System. This study supported the past stress-injury research with football players (Blackwell & McCullagh, 1990; Bramwell et al., 1975; Cryan & Alles, 1983; Passer & Seese, 1983) and the non-contact sport studies (Hardy & Riehl, 1988; Kerr & Minden, 1988; May et al., 1985; Smith et al., 1990). There was no relationship between daily hassles and injury. This may be due to the completion of the Everyday Problem Scale (EPS) occurring on a day other than the day of injury thereby making the measure invalid. It was suggested by Davis (1991) that future research should not include EPS to monitor daily hassles. Instead, a sport-specific inventory should be developed or the Daily Hassles and Uplifts scales developed by Kanner, Coyne, Schaeter and Lazaraus (1981) should be used. The findings supported those of Kerr and Minden (1988), and Passer and Seese (1983), as locus of control was not related to injury. Competitive trait anxiety also failed to show a clear relationship with injury. Social support significantly discriminated for the severity, but not the frequency of injury. Those athletes reporting a higher level of social support experienced less severe injury but degree of social support was not related to the frequency of injury.

Petrie (1993) studied university football players’ life stress using the Life Events Survey for Collegiate Athletes (LESCA); social support using the Social Support Inventory (SSI) developed by Brown et al. (1987), and playing status (starter/nonstarter). Playing status is not included on Anderson & Williams’ (1988) model, but may be thought of as a stressor. Petrie’s (1993) study supported the negative life stress-injury relationship and the moderating effects of social support. Playing status was also shown to be related to injury, where starters had an increased rate of injury. Many factors can account for this finding including greater exposure. Starters may have more playing time in games thus increasing their exposure. A more detailed study involving starters versus non-starters should account for actual playing time in games and
exposure during practice. In a full contact game such as football, rate of injury during games (against actual opponents) may be much greater as opposed to practices where scrimmaging occurs with teammates and ‘hitting’ may be less forceful.

Lavallée & Flint (1996) examined the role of stress, competitive anxiety, mood state and social support to athletic injury in varsity football and rugby athletes at a major Canadian University. The results indicated that competitive anxiety and tension/anxiety mood states were related to injury frequency and tension/anxiety, anger/hostility, and total negative mood state was related to injury severity. Depressed/dejected mood state was also found to be related to injury frequency in rugby only. Social support was found to be related to depression/dejection in both sports combined. The method of injury recording in this study involved medical classification of the injury by severity or grade (i.e. grade I, grade II, grade III). This medical classification was consistent with Reid’s (1992) definitions of grades of injury which takes function and physiological damage into account. Utilizing this medical classification of injury includes athletes who may continue to participate in practice and games although injured, possibly with a nagging chronic injury.

Williams and Andersen (1998) noted that few researchers have explored the physiological response and the link to stress and injury. Most studies have examined the prediction of what should physiologically occur under high and low stress conditions. The laboratory studies of Williams, Tonymon and Andersen (1990, 1991) support the notion of peripheral narrowing in individuals with high life stressors. This narrowing of vision may prevent the athlete from scanning cues in the periphery to avoid a potentially dangerous situation, such as a quarterback’s narrowing of vision in looking for a receiver and inability to utilize peripheral vision to see an oncoming sack.
Anderson and Williams (1993, p. 51) elaborated on the physiological and attentional responses in the stress-injury relationship. They stated that "unwanted simultaneous contraction of agonist and antagonist muscle groups in generalized muscle tension, often called guarding or bracing, reduces flexibility, motor coordination, and muscle efficiency." This can potentially make the athlete more vulnerable to injury.

Williams and Andersen (1997) studied the effect of psychosocial factors on central and peripheral vision and reaction time to a demanding task in high and low stress conditions. They found that high stress conditions led to a significant deterioration in task performance. When athletes under great life stress completed this task, the deterioration in central vision reaction time and greater peripheral narrowing increased further. Males and females differed slightly, particularly with respect to social support. Males with low social support were twice as likely to miss a central cue, whereas females with high life stress and poor coping skills were twice as likely to miss a central cue. Males with high negative life events, low coping resources and low social support scored the lowest on perceptual sensitivity.

Williams and Andersen (1998) also discussed a study they performed which observed athletic injury, psychosocial variables and perceptual changes during stress. They found that athletes with low social support, increased negative life events in conjunction with changes in peripheral narrowing accounted for 26% of the variance in frequency of injury.

Recently, Williams and Andersen (1998) reviewed and critiqued the stress and injury model. Williams and Andersen now include bi-directional arrows linking history of life stressors, personality and coping resources demonstrating an interactional model. This is to demonstrate that one or all factors may have a direct effect on the stress response. For instance, personality and coping resources can serve as a buffer or make one vulnerable to higher stress
and greater injury risk. The model has also included ‘deficits in audition’ under physiological and attentional changes consistent with the research by Landers, Wang and Courtet (1985). Landers et al. (1985) demonstrated a decrease or failure to respond to auditory cues in rifle shooters under a high stress condition compared with a low stress condition.

Williams and Andersen (1998) provided future research recommendations which include studying the effect of psychosocial factors on physiological aspects of the stress-injury model, the physiological effects on injury occurrence, and research which simultaneously explores non-psychological and psychosocial factors to injury. They also propose that the ‘most exciting future research’ would be the effectiveness of psychological interventions in reducing stress reactivity and modifying psychosocial risk factors.

**PSYCHOLOGICAL INTERVENTION PROGRAMMES**

Many of the studies examining the psychological antecedents of athletic injury identified that psychological interventions may help minimize injury and this has been incorporated into the stress-injury model of Andersen & Williams (1993). Although the past 30 years of research has identified psychological antecedents to athletic injury, only four studies (Davis, 1991; Kerr & Goss, 1996, May & Brown, 1989, Schomer, 1990) have examined the effects of psychological interventions on athletic injury.

A psychological intervention programme aimed at minimizing injury should incorporate the psychological aspects that have been associated with injury. More specifically, the psychological intervention programme should deal with major life stressors, daily hassles, hardiness, locus of control, competitive trait anxiety, negative mood state (tension/anxiety, anger/hostility, depression/dejection), social support networks and other coping resources, and
anxiety about previous injury. A psychological intervention programme should increase an athlete's repertoire of strategies in dealing with concerns inside and outside of sport.

**Psychological Intervention Programmes For Injury Prevention**

May and Brown's study (1989) marked the commencement of research into the "interventions" portion of Anderson & Williams' model of the stress-injury relationship. May and Brown's findings were anecdotal reports of reduced injury rate in U.S. Olympic alpine skiers who participated in a prevention/rehabilitation programme at the 1988 Olympics.

Schomer's (1990) case study of 10 marathon runners involved a cognitive strategy training programme. Attentional strategies were implemented for a five week period of training where the athletes listened to audiotapes of attentional strategies which were designed to increased associative thinking and perception of training effort. It was noted that none of the athletes experienced injury during this time frame.

While May and Brown (1989) and Schomer (1990) reported injury rate as a secondary or anecdotal finding, Davis (1991) and Kerr and Goss (1996) specifically explored the effects of a stress management programme on injury and/or stress levels.

Davis (1991) explored the effects of a stress management programme on sport injury. This was a quantitative study that involved university swimmers and football players. A stress management programme which included relaxation and guided imagery of sport skills was administered throughout the season. Injury was recorded throughout the season but was problematic in that the records of injuries for football involved only serious injury. Davis suggested that future research should establish lines of communication with medical authorities to ensure that recording of injury is consistent with that required for research. A comparison was made with the injury rate of the previous year (control), to the year that the stress management
programme was implemented (experimental). There was a 52% reduction in injury for swimmers and a 33% reduction for football.

Kerr and Goss (1996) explored the effects of a stress management programme on injury and stress levels of national and international gymnasts. Athletic and general stress levels were assessed with inventories prior to the introduction of the psychological intervention and subsequently reassessed at four months and at the end of the season (eight months). This quantitative study used a stress management programme based on Meichenbaum's Stress Inoculation Training (1985) which incorporates a "cafeteria style" of psychological interventions so that individuals can utilize the interventions with which they are most comfortable. Kerr and Goss' (1996) study outlined 16 sessions ranging from cognitive restructuring, relaxation and breathing, imagery and applied simulations. The administration of the psychological interventions in this study was on a bi-weekly basis, in one hour sessions, over an eight month period.

The results indicated that those who received the interventions reported significantly less negative athletic stress than did the control group. General stress levels and injury rate were not significantly different between the two groups. The authors suggested that there was an absence of significant differences with general stress levels because the simulations were sport-specific and did not incorporate general stress situations. Kerr and Goss (1996) recommended that the psychological interventions be catered towards general stressors, as well as athletic stressors to improve the overall effectiveness and applicability of the psychological intervention. In addition, a lower reporting of injury was beginning to occur just prior to the end of the season but this was not statistically significant. This approach towards significance prior to the end of the season may have been due to the fact that the psychological interventions were administered gradually
and completed just before the end of the season. Therefore, a notable effect may not have been observed because the psychological interventions were not learned and accessible from the beginning of the season. It would be wise to administer psychological interventions at the beginning of a season and have follow-up and homework sessions to ensure maintenance of the interventions throughout the season.

Kerr and Goss (1996) identified a limitation of the study to be the inability to discern the component/s responsible for change, such as cognitive restructuring aiding one athlete and imagery helping another. Qualitative analysis may clarify this by questioning the athletes as to the specific techniques they utilized and found helpful.

**Psychological Intervention Programmes For Performance**

There has been relatively more research which has examined the effects of psychological interventions on the performance of the athlete compared with the research assessing the effects of a psychological intervention on stress or injury. This literature is reviewed to ensure that the intervention programme administered in this study will incorporate the recommendations from previous work. In addition, many of these studies measured psychological factors that may play a role in the stress-injury relationship. This review of literature, combined with the research of psychological antecedents to athletic injury will allow for the development of an effective psychological intervention programme.

Vealey (1994) offered suggestions for future research of sport psychology interventions based on the previous research. She stated that studies should be "real", providing psychological interventions to athletes in non-contrived competitive situations. Secondly, greater effects are noted using a combination of strategies, as opposed to using single treatments. This is also noted by Meichenbaum (1985) with respect to the "cafeteria style" of interventions, whereby many
different types of psychological interventions are taught and the athlete can chose which intervention to utilize. Unfortunately, when this is done, it is difficult to ascertain which intervention was utilized by the athlete and which intervention may have had an effect. As stated in the summary of Kerr & Goss (1996), qualitative analysis might ascertain which interventions were utilized and which were found helpful. Vealey (1994) examined previous studies that employed case studies but stated, "case studies fall short of providing qualitative description from the subjects to provide a basis for evaluating the treatment effects." Specific suggestions regarding the psychological interventions were to individualize the treatment to subjects providing an educational/remedial approach. In addition, mental skills should become well-learned and implemented into the psycho-behavioural routines of the athletes. Vealey (1994) also stated that follow-up procedures to examine the maintenance of treatment effects should be instated.

Gould, Petlichkoff, Hodge, & Simons (1990) evaluated the effectiveness of a psychological skills educational workshop. This was a quantitative study which measured the knowledge, importance and planned usage of psychological skills with a Likert-type scale. Recommendations included applying skills practically to sport-specific situations and offering support systems throughout the season because they found that the effect of the intervention dissipated over time. In addition, it was stated that the "most valid measure of the use of the various psychological skills would occur through observations and interviews with the athletes." Again, this substantiates the use of qualitative research with respect to identifying the efficacy or perceived utility of psychological interventions.

Crocker, Alderman, & Smith (1988) examined cognitive-affective stress management training with high performance youth volleyball players. This quantitative study measured the
difference in affect, cognition and performance after administration of stress management training. This study also suggested that future research should clarify the processes of the psychological interventions that were used by the athlete and which processes they may have found helpful.

**Psychological Intervention Programmes For Football**

There have been relatively few published studies involving mental skills training programmes in the sport of football. Fenker and Lambiotte (1987) stated that this may be due to the 'macho dimension' of football and the accentuation of football as a very physical game. This accentuation of the physical nature of football somehow down-plays the mental aspect, although most football athletes would agree that football is also a mental game (Wacker & Morton, 1980). Another reason why football may not be the ideal sport to implement a mental skills programme is the difficulty in designing and implementing a programme to suit the individual needs of a whole team (Freudenberger & Bergandi, 1992). There are many positions in football, all requiring different skills and levels of intensity. Addressing individual needs in a group would be extremely difficult, as would be designing a specific programme for each player on a football team.

Fenker and Lambiotte (1987) developed and implemented an imagery programme with a college football team who had previously had a very poor performance history. In the negotiation of the imagery programme with the team, Fenker and Lambiotte emphasized the importance of the imagery programme receiving the support of the coaching staff, as well as meeting scheduling and administration concerns. The programme involved attention control with relaxation and centering and achieving readiness and optimal performance state with imagery.
The effectiveness of the mental conditioning programme was evaluated by the athletes with a 56-item evaluation questionnaire designed by the authors resulting in a perceived effectiveness rating which was then compared with individual player’s grade based on the coaches’ analysis. Fenker and Lambiotte (1987) stated it was difficult to quantitatively evaluate the mental conditioning programme and the programme’s success was strongly suggested both by the team’s performance and by the player’s evaluations. Fenker and Lambiotte also used qualitative information they had gathered by speaking with the coaches and athletes to substantiate the success of the mental conditioning programme. Suggestions for improving the mental conditioning programme were; (a) the weekly, longer sessions (50 minutes) would benefit all athletes, not only the starters; (b) design individual programmes for different positions; (c) having the head coach conduct some of the sessions was important in enhancing the credibility of the programme for some of the more skeptical athletes; (d) imagery session an hour before the game may have benefitted some athletes. Fenker and Lambiotte concluded that the programme was effective in encouraging a positive attitude, developing focus and teaching the basic skills for relaxation and attention control.

One of the studies reviewed previously under mental skills training programmes and injury involved the sport of football. Davis (1991) implemented a stress management programme consisting primarily of progressive muscular relaxation during team workouts with the sports of football and swimming. A 33% decrease in the reporting of serious injury from the previous year was noted in the sport of football and a 52% decrease of injury in swimmers. The exact details of the stress management programme were not outlined and there were no suggestions offered with respect to implementing stress management programmes in the future.
Hughes (1990) investigated the implementation of a psychological skills programme in high school football and basketball players. The skills of imagery and goal-setting were taught to an instructor who then, in turn, taught the skills to the athletes. The study indicated that imagery was learned by the athletes in 7-10 days and self-confidence and sport skills improved. Hughes (1990) indicated that self-confidence took a longer time to improve. This may indicate that a skill may be learned relatively quickly but the benefits of using the skill may take time to develop.

Gray, Haring and Banks (1984) also explored imagery in a football player. This case study of one athlete investigated the use of imagery as a preparatory skill for arousal manipulation for a bowl game. Four measures were assessed, physiological arousal, self-reported state anxiety, imagery vividness and controllability and personal efficacy expectations for future sport performance. All three sessions revealed an increase in physiological arousal but the relaxation session was associated with lower imagery vividness and efficacy expectation. Gray et al. (1984) stated that coupling relaxation with imagery as a preparatory strategy for sport may not be ideal in achieving a heightened level of arousal. Perhaps individuals who are overly anxious may benefit from coupling relaxation with imagery.

A second study explored progressive relaxation (PR) and the effect on maximal muscle strength and power in seven varsity football players (Pierce, McGowan, Eastman, Aaron & Lynn, 1993). Three experimental conditions prior to attempting a maximum task included PR, arousal through watching a video of aggressive football play with verbal encouragement through the task, and a control where no preparation was given. The results indicated that PR significantly decreased muscular strength and power. Therefore, PR may be detrimental to the performance of athletes who require maximum strength and power during competition. These
results should be considered in light of the task that is required by the individual, as well as the pre-morbid state of the athlete. At times an athlete may benefit from a more elaborate form of relaxation prior to competition, particularly if the athlete is extremely anxious and this state would be detrimental to performance. Therefore, the benefits of PR should not be dismissed in all athletes even if the performance relies on muscle strength and power.

Holm, Beckwith, Ehde and Tinius (1996) evaluated a cognitive-behavioural intervention designed to enhance performance. Intercollegiate football players and swimmers were matched and assigned to a treatment or control group. The treatment group participated in 2 hour weekly group sessions for seven weeks. Visuomotor behaviour rehearsal and a variety of cognitive-behavioural interventions were introduced and practiced, completing homework sessions. The treatment group showed decreases in anxiety and increases in academic performance. There was no noticeable difference in improvement in athletic performance although the treatment group showed an increase in psychological skills associated with successful athletic performance.

Of interest, Carver, DeGregorio and Gillis (1981) examined type A and type B behaviour patterns among football athletes and subsequent injury. Coaches were asked to evaluate the athletes with respect to degree of effort put forth during practice and game. Carver et al. (1981) found type A athletes who were injured exerted more effort during practice and games as assessed by the coach. This study attempts to link type A behaviour to injury as a result of 'over' exertion by the athlete.

Vealey (1994) suggested that order to gain a better understanding of psychological intervention programmes, future research should explore the specific benefits of each component. The review of literature involving psychological intervention programmes for performance enhancement, injury prevention and stress reduction, and football have
demonstrated the overall success and benefits of such programmes. The subsequent review of literature explores the specific components which generally encompass psychological intervention programmes.

**COMPONENTS OF PSYCHOLOGICAL INTERVENTIONS**

Most mental skills training programmes are multifaceted offering a variety of skills so an individual can choose which skill to use in a particular situation and how to use it. Meichenbaum (1993) states that offering this “cafeteria style” of skills is preferred over teaching one skill in a particular manner so that a skill can be personalized and structured to best suit individual needs. The specific mental skills of a multi-component psychological intervention programme have also been studied within sport. The primary components of a mental skills training programme in sport are relaxation, goal-setting, cognitive restructuring, and imagery, which will be addressed in turn.

**Relaxation**

Relaxation is a behavioural technique that involves an increased awareness of the physical and cognitive self. The basic tenets of relaxation are that tension and relaxation are opposing states and it is not possible to be relaxed and tense at the same time; the difference between tension and relaxation can be learned; and decreasing muscle tension will, in turn, decrease mental tension (Weinberg & Gould, 1995). There are many techniques of relaxation but one technique that is usually learned first is progressive muscle relaxation (PMR) or Jacobsonian relaxation developed by Jacobson (1929). It involves a brief tensing of a specific muscle group and then relaxation of the same muscle group. The premise of tensing and relaxing the muscles is to have the individual become aware of the difference between tense and relaxed muscles. This procedure continues throughout all muscle groups until the whole body has been
tensed and relaxed. When first practicing PMR, the procedure may take approximately 30 minutes, but as the skill is learned the procedure can be shortened and the tensing component can be omitted. Once the difference between tense and relaxed muscles is learned, body scans can be used to identify tense muscles. In this way, relaxation can be implemented in real settings, such as prior to competitions.

Within sport, relaxation has been used for controlling arousal and anxiety (Lanning & Hisanag, 1983; Nideffer & Deckner, 1970); combined with visualization, particularly visuomotor behaviour rehearsal (VMBR) (Suinn, 1986); pain control in athletic injury rehabilitation (Pen & Fisher, 1994); and combined with cognitive and breathing techniques (Harris, 1986). Relaxation is a component that is utilized in almost all mental skills training programmes in sport. Much of the research involving relaxation has been combined with other psychological interventions, therefore the efficacy of relaxation alone is not fully understood (Vealy, 1994; Zaichkowsky & Takenaka, 1993). Jones and Hardy (1990) interviewed elite athletes and found that relaxation was used by athletes although the athletes had little, if any formal training in relaxation techniques.

**Goal-Setting**

A goal is a personal or group skill or task that one strives to attain (Burton, 1993). Locke and Latham (1990) identified several attributes of goal-setting. These attributes can be remembered by the acronym “The SMART Principle”. Goals should be, Specific, Measurable, Attainable, Realistic, and Time targeted. Goal specificity has been identified as a method to reduce performance variance (Locke & Latham, 1990). Burton (1993) stated that this attribute has not been independently tested in sport but logically, goals should explain what is to be done. They should provide concrete direction. Also, in order to provide feedback to goals, they have to
be specific and subsequently measurable. Burton (1993) reviewed the research of goal-setting in
sport and stated that feedback is a moderating variable of effective goal-setting. Locke and
Latham (1990) also identified goal difficulty as enhancing performance; the more difficult the
goal, the greater the performance enhancement. Burton (1993) stated that the research involving
goal-setting difficulty in sport does not support Locke and Latham's (1990) hypothesis of goal
difficulty. This is not surprising due to the fact that the research involved "unreal" situations.
Vealey (1994) suggested that future research involving psychological interventions in sport
should be non-contrived situations, providing real circumstances. Particularly for goal-setting, if
the situation is not real, it may not mean very much to the individual, thus limiting motivation.
Whereas, if the situation is real and the goal has meaning to the individual, it may be more
accurately assessed.

The research findings involving goal-setting in sport have not been as positive as the
findings of goal-setting in general behavioural science (Burton, 1993). The research in sport has
involved small sample sizes (30 or less) which may account for the unequivocal results. Having
said this, Burton (1993) stated that four out of five competitive goal-setting studies with 30 or
less subjects have revealed significant goal-setting effects. A second factor that has been noted is
that athletes operate closer to their performance potential than the non-athletic population,
therefore, the degree of improvement that can be measured is substantially less. This is
consistent with Locke and Latham's (1990) finding that the goal effectiveness curve flattens out
as individuals approach their potential. Task complexity has been identified as a third factor that
may influence goal-setting findings in sport. Locke and Latham (1990) suggested that with
increasingly complex tasks, more time is required to demonstrate goal-setting effectiveness
because new strategies have to be developed to perform the skill. A fourth factor is individual
differences, such as self-efficacy. Locke and Latham (1990) suggested that self-efficacy has a significant impact on responses to goal-setting. When confronted with failure on complex tasks, high self-efficacy individuals respond by increasing their effort, whereas, low-efficacy individuals respond by decreasing effort. These individual differences have not been controlled in goal-setting research both within and outside of sport. As previously stated, Burton (1993) identified individual differences as a factor that may explain the contrasting results of goal-setting in sporting and non-sporting settings.

Burton (1993) offered a competitive goal-setting model (CGS) based on Locke and Latham’s (1990) model. This model was developed to provide a heuristic tool for understanding individual difference variables and will be used in guiding the development of individual goal-setting for this study. It recognizes goal orientation and goal-setting styles (performance-oriented, success-oriented, and failure-oriented). This model also draws one’s attention to situation type (practice versus competition) and performance expectancy. Task choice, effort, strategy development and motivation are responses to the interaction of discrete goals with perceived goal commitment which ultimately dictate performance and outcome of goals. Self-evaluation is included in this model and becomes the standards with which performance and outcome are weighed as successful or as a failure. The (CGS) model recognizes that perceived ability directly effects motivation through variables such as expectancy and affect. Feedback loops allow motivation to influence orientation, specific goals, and responses.

Hall, Weinberg, & Jackson (1987) compared hand dynamometer endurance performance with three groups: do-your-best, improve-by-40-seconds, and improve-by-70-seconds. Hall et al. (1987) found that the goal-specific groups performed better than the do-your-best group but there was no difference in goal difficulty effectiveness between the two goal specific groups.
Weinberg, Bruya, Jackson, and Garland (1986) also found no goal difficulty effectiveness for a sit-up task within the three groups of easy, medium and extremely hard goal conditions. Burton (1989) did not find a significant difference in task difficulty in seven specific basketball tasks. As stated previously, if a goal does not have meaning to the individual, can goal effectiveness be assessed accurately?

**Cognitive/Affective Strategies**

Cognitive/affective strategies involve recognition of thought and emotion. The first-century early philosopher, Epictetus is often cited when discussing the basic theory and central tenet of cognitive therapy; "People are disturbed, not by things, but by the views which they take of them." (Epictetus, as cited in Palmer & Dryden, 1995). This quote reflects Albert Ellis' (founder of Rational Emotive Behaviour Therapy, a form of cognitive therapy) view that we disturb ourselves (1992). Cognitive therapy maintains that cognition, behaviour, and affect are interactive. Simply stated, activating events (A) contribute to consequences (C), but our belief system (B) or philosophy makes us feel, think, and behave the way we do (Ellis, 1992). Demonstrating this in sport, if an athlete views an event with uncertainty and appraises it negatively, perhaps as a threat, this may increase anxiety and muscle tension. The resulting physiological changes may increase the likelihood of athletic injury as outlined in the Andersen & Williams (1988) model, as well as be a detriment to performance.

If negative cognition has a negative effect on behaviour then subsequently, implementation of positive cognitive strategies may have a positive effect on behaviour. As demonstrated in Lavallée and Flint (1996), anger and hostility were related to injury severity in football. Therefore, if anger and hostility can be managed by cognitive or affective strategies, injury severity may be minimized.
As with many of the individual psychological intervention components used in sport, research involving cognitive/affective strategies have been combined, thereby making it difficult to determine the efficacy of each single component (Crews, 1993; Vealey, 1994). Crew (1993) reviewed the research involving cognitive/affective strategies and cited several studies that were well-controlled. Rushall, Hall, Roux, Sasseville and Rushall (1988) provided cross-country skiers three types of thoughts. Task-relevant statements were utilized to enhance mechanical efficiency; mood words were utilized to increase capacity; and positive self-statements to enhance physiological efficiency. Eighteen subjects completed each cognitive technique twice with a control (normal thought) between each cognitive technique. Sixteen skiers improved their ski time with the three cognitive technique runs as compared with the control run. Schomer (1990) reported an injury free period of five weeks during the implementation of a attentional strategy programme involving audio-taped sessions of associative thinking and perception of training effort.

In general, studies that have incorporated cognitive/affective strategies have reported positive effects demonstrating that cognitive/affective strategies can be a beneficial component of future psychological intervention programmes.

**Imagery**

The term imagery is used synonymously with visualization, mental practice, and visuomotor behaviour rehearsal (VMBR). Corbin (1972) described imagery as “repetition of a task, without observable movement, with the specific intent of learning.” This definition encompasses many different types of imagery, from simply thinking about an activity to utilizing auditory, visual, proprioceptive and emotional components. Suinn’s visual motor behaviour rehearsal (1976) requires the individual to experience neuromuscular, physiological, and
emotional involvement. VMBR uses relaxation with imagery rehearsal in an attempt to fully re-experience the event similar to a dream while maintaining control. Rather than simply trying to think of an activity, VMBR attempts to mentally place individuals in the situation, feeling everything as they would in the real situation.

Theoretical explanation of the efficacy of imagery in sport has been slow in developing and is still unclear. Murphy (1990) and Murphy and Jowdy (1992) have focused on a bio-informational theory whereby an image is “a functionally organized, finite set of propositions stored by the brain” and is not simply explained by symbolic learning theory where mental practice transcends to actual physical practice.

Although theories as to the efficacy of imagery are still unclear several specific research findings have arisen within imagery. These findings have led to a series of guidelines which are typically associated with imagery. Most researchers would agree that practicing imagery regularly is important and allows the athlete to improve his or her imagery skills. Practicing imagery, attempting to incorporate all the senses, as explained above in Suinn’s VMBR, is also a common guideline when instructing athletes on the use of imagery. This includes having the athlete imagine the setting, seeing it, hearing the noises associated with that setting, smelling the surroundings, physically feeling himself/herself in that particular situation and also imagining how he/she feels emotionally in a given situation.

In relation to seeing one’s self, there is debate as to the most efficacious method. With internal imagery the athlete images seeing himself/herself within his/her body, placed in the actual setting. In external imagery the athlete sees himself/herself as if on a video, external to his/her body. There are arguments for and against both methods of imagery with internal
imagery perhaps allowing increased kinesthetic awareness and external imagery beneficial if the total scene is necessary to observe.

‘Perfect practice makes perfect!’ holds true with imagery as well. If an athlete is not successfully imagining a situation he/she should stop and correct it. If unable to visualize the perfect performance the athlete should terminate the imagery session and resume it at another time.

Finally, imagery should occur in the exact time it takes to perform a specific task. For instance if an athlete expects to run a 40 yard drill in 4.6 seconds, he/she should attempt to visualize the entire run from start to finish in 4.6 seconds.

Visualization programmes have been successful for performance enhancement but have also been used in rehabilitation programmes as a means of enhancing healing (Green, 1992; Ievleva & Orlick, 1991).

Overall, the research involving imagery in sport has demonstrated the benefits of this component being incorporated in future psychological intervention programmes. It is a skill that is widely practiced and easily used by many athletes. For instance, Orlick and Partington (1988) found that 99% of a sample of 235 athletes used some form of visualization. Various aspects of mental imagery have been explored in past research, such as internal versus external imagery and practicing only successful outcomes. Subsequently, future research should reflect past findings and attempt to develop psychological intervention programmes based on these results.

SUMMARY OF RELATED LITERATURE

Athletic injury is prevalent in sport despite the physical measures that are taken in an attempt to prevent injury. Prevention is important to the medical athletic personnel, coaches, and the athletes themselves. Biomechanical, physiological, and environmental factors are typically
considered in the evaluation of cause of injury and appropriate measures are taken to avoid or prevent subsequent injury. With respect to football, rules have changed such as prohibiting spearing (hitting with the head) which causes serious neck trauma. Particularly with younger or inexperienced football players, coaches teach proper tackling technique to guard against neck trauma.

In reviewing the past thirty years of research involving psychological antecedents to athletic injury, it is surprising that relatively few studies and practical applications have been implemented to assess the efficacy of psychological intervention programmes and athletic injury. Psychological programmes that are implemented with athletes are typically introduced as a means of enhancing performance. Increasingly, sport psychology is encompassing life skills acquisition that can be utilized by the athlete in their academic, professional and personal lives (Murphy, 1995). The review of literature involving psychological antecedents of athletic injury in conjunction with the research findings of psychological intervention programmes in sport aided in the development of a specialized mental skills training programme. Although this program may have been specifically designed for the prevention of athletic injury, the benefits of this programme may transcend into performance enhancement in sport and life skill acquisition in academics and personal development by teaching skills that can be applied across a wide range of circumstances.

There are many suggestions for future research involving psychological interventions. An aspect that is continually raised in the research of psychological interventions and their efficacy is the inability to determine which aspects or components of an intervention were actually used by the athlete, how they were used, and which processes were found to be helpful. In response to this caveat, several researchers have suggested that qualitative analysis may provide the
opportunity for athletes to describe their experiences with psychological interventions, and therefore reveal more about the efficacy of various strategies.

**PURPOSE OF PRESENT STUDY**

The primary purpose of this study was to determine football athletes’ experiences with a mental skills training programme. A qualitative approach to the problem elucidated if and how athletes used mental skills. The second purpose was to explore the effects of this programme on stress levels and injury rate, only after determining if components of the intervention programme were actually used by the athlete and used correctly. The information gathered from this study can be used to further existing knowledge, provide empirical and theoretical direction for research and for the development of mental skills and intervention programmes for injury and stress levels.

**RESEARCH QUESTIONS**

Specifically, the questions that were investigated are as follows:

- Subjectively, what were the athletes’ experiences with the mental skills? Specifically, which skills were used, which were not, and why? Of the skills that were used, how and when were they used and what was the athlete’s appraisal of the skill.

- Are there significant differences in the injury rate for athletes who participated in the mental skills training programme as compared with those who did not?

- Are there significant intra-individual differences in the reported stress levels at the beginning and end of the season for those athletes who participated in the mental skills training programme?
CHAPTER THREE

METHODOLOGY

DESCRIPTION OF RESEARCH INSTRUMENTS

Injury Assessment

Injuries were recorded throughout the season by the head therapist and student therapist assigned to work with the football team. The recording of injuries was to include functional ability, assessing the level of functioning the athlete was able to retain although injured. Reporting functional ability would allow for the inclusion of minor or chronic injury that an athlete may “play through”, as well as major injuries where an athlete may not be able to participate for quite some time. Unfortunately, these records were not maintained accurately throughout the season. Therefore, the injury data used for the quantitative analysis were number of visits to the team physician. Athletes were referred to the team physician by the athletic therapists. It may be argued that this injury data was less sensitive, not including those injuries which were assessed and treated by the athletic therapists.

The athletes were also asked to record in their log book any injuries (minor or major), colds or flus suffered throughout the season. At the interview, athletes were questioned in detail about injuries sustained throughout the season and the degree of functional ability, including practice and game time missed or modified as a result of injury. In addition, the amount of playing time was estimated by each of the interviewed athletes. The amount of playing time is important to determine, as an increase in playing time increases potential exposure to injury (Petrie, 1993).

A t-test for independent samples was used to analyze differences in injury between the intervention and control group.
**Stress Assessment**

The Life Experiences Survey (LES) (Sarason, Johnson, & Siegel, 1978) and an adapted "Athletic Experiences Survey" (ALES) (Kerr & Minden, 1988) were administered prior to the implementation of the mental skills training programme and at the end of the season to the intervention group (Appendix B). The LES, a general survey, and the ALES, a survey specifically for football athletes, were administered to measure the impact (positive or negative) of “stressors.” Stressors were defined in the survey as challenges, hardships, conflicts or other demands that people tend to experience. Examples of life experiences from the LES are death of a family member and major change in financial situation. Examples of life experiences from the ALES are have/had a major injury and “politics” associated with the sport. The LES and ALES consist of 45 and 52 life experiences respectively, with extra space for the respondents to add any life experiences that may not have been listed on the survey. Each stressor was then rated on a scale from -3 to +3 (extremely negative to extremely positive). The surveys required approximately 20 minutes to complete.

A Wilcoxon matched-pairs test was to be used to analyze intra-individual differences of stress levels as measured by the Life Experiences Survey (LES) and Athlete Life Experience Survey (ALES), comparing the stress levels prior to and after implementation of the sport psychology programme.

**Pre-intervention Demographic and Information Sheet**

A pre-intervention demographics page was completed prior to the implementation of the mental skills training programme (Appendix C). The purpose of this demographics page was to obtain information such as name, age, scholastic year, major area of study, year of eligibility, extent of football experience, position on team and team status (starter/nonstarter). In addition,
the following questions were asked; reasons for participating in the programme, previous methods of preparing mentally before a game or practice, previous formal experience with mental skills, description of major or minor stressors, degree of social support and previous injuries sustained. Many athletes, particularly at the varsity level, have established personal strategies to prepare mentally for sport. What type/s of mental skills they use, if any, and if they have had any training/courses regarding mental skills was assessed with this information sheet. This information was used as a means of triangulation, collaborating the athletes’ report in the post-interview of previous use of mental skills. Assessing the athletes’ previous knowledge and use of mental skills before introducing the mental skills programme allowed for a more accurate reflection of what the athlete may have gained from participating in the programme.

**Manual**

The manual also served as a research instrument. Each section consisted of exercises the athlete could complete to individualize a particular mental skill. The log book section of the manual allowed the athlete to record weekly goals and provide feedback on the mental skills used. At the time of the interview the complete manual including the log book section was reviewed, thus serving as a source of memory recall.

**Interview**

The goal of the interview was to obtain general and specific information about the programme from the athlete’s perspective. Therefore, an interview guide was used during the interview to ensure the athlete was asked about specific aspects of the programme (Appendix D). Patton (1990) defines the general interview guide approach to depth interviewing as a checklist of questions that are to be explored allowing the interviewer to obtain specific information while maintaining the freedom to explore particular topics. The interview guide
delimits the issues to be discussed but allows the individual perspectives and experiences to emerge.

Prompts were utilized and questions were asked in a non-leading fashion with appropriate terminology. As examples, the term ‘psychological intervention’ and leading questions, such as “How do you ‘psyche’ yourself up?” were not used. If asked how they ‘psyched’ themselves up, this would assume that they need to ‘psyche’ themselves up when they may actually need to relax to settle anxiety. It was emphasized that if the athlete felt uncomfortable with any questions he did not have to answer and the interview may be terminated at any time.

**EMERGENT DESIGN**

In the spring of 1996, the football coach of a large Canadian university was presented with a proposal which offered a mental skills training programme for the upcoming season. The coach agreed to the programme being offered to the football team. In early August correspondence was sent to the athletes regarding a mental skills training programme that would be available to them for the 1997 season (Appendix E). The principal researcher was introduced the programme to the team at an initial meeting with the athletes prior to the commencement of the summer training camp. It was emphasized that participation was voluntary and those who did not participate would not be penalized. Consistent with ethical requirements, all athletes were welcome to participate in the programme. The athletes were also informed that they may withdraw at any time during the programme without prejudice. It was stated that no compensation would be provided to the athletes for participating in the study, although the incentive would be exposure to a mental skills training that may promote personal development and enhance performance. The athletes were informed that there were no risks associated with
participation in the study and that the programme would not interfere with practice time, games, or any other functions such as watching films and rehabilitation of possible injuries. The programme was designed to accommodate the busy schedule of a student football athlete. This five minute introduction produced a list of 26 athletes who signed up for the programme.

The 26 athletes were subsequently contacted via telephone by the researcher. Intervention and control groups could not be formed by matched design based on demographics such as age, scholastic year, eligibility year, and previous injury as proposed initially, due to the small number of volunteers and difficulty contacting all of the athletes at the beginning of the season. The intervention and control group emerged based on the athletes’ preference of participating in the programme, either at the beginning of the season or at the end of the season. Some of the athletes who did not return the facilitator’s telephone calls immediately at the beginning of the season formed the control group. Ultimately, 10 athletes agreed to participate in the programme at the beginning of the season while 12 athletes formed the control group and participated in the programme at the completion of the season. In addition to the 10 athletes who agreed to participate in the programme, another athlete was referred to the facilitator midway through the season by the defensive co-ordinator. This athlete was not included in the true intervention group. Eight of the ten athletes in the intervention group were interviewed for the qualitative analysis. It was not possible to meet with the remaining two athletes at the end of the season due to scheduling difficulties on the part of the athletes.

Informed consents were obtained prior to the commencement of the first session (Appendix F). The stress inventories and the pre-intervention demographic and information page were completed at this time. It was initially proposed that the control group would complete the stress inventories but due to difficulty in contacting the athletes at the beginning of the season
this was not performed (Appendix G). Hence, a difference in the impact of life experiences could not be assessed between the groups. It was recognized that the timing of administration of the inventories is very sensitive and may be adversely effected immediately prior to the beginning of the season due to the anticipation of summer camp and also at the end of the season due to final games and play-offs. Therefore, initial inventories were administered at the time of the first session which was after summer camp and post-inventories were administered at least one week post-season.

The mental skills training programme was introduced at the beginning of the season after summer training camp so as to not interfere with the regular schedule of training and academics. An interactive educational component was to consist of four -1 hour sessions scheduled within a two week block but this was subsequently altered to two - 1.5 hour sessions due to more material being covered in each session than originally expected. Each session was offered a total of 8-10 times in order to accommodate the athletes’ diverse schedules. As a result, seven of the ten athletes attended the initial session in a one-on-one format with the remaining three athletes attended the initial session as a group. The second session consisted of eight athletes in one-on-one sessions and the remaining two athletes attended the second session as a group. The educational component was administered identically in both the group and individual formats. Examples used, however, were appropriate for the individual, particularly with respect to football position.

The mental skills training manual was given to each participant at the initial session. Prior to discussing the specific components, the following aspects were reviewed. It was again reiterated that participation was voluntary and the athlete could withdraw at anytime without prejudice. It was emphasized that the programme was self-directed, the athlete could work at his
own pace and commitment level. Athletes must be ready and receptive to the programme if they are going to absorb and benefit from it (Rotella & Connelly, 1984, p.105). It was explained to the athlete that if he was uncomfortable with a particular component he could approach the facilitator for alternatives. Discussion was encouraged so individual concerns and comments were shared. Group discussion, when applicable, demonstrated the common concerns, as well as emphasized the individuality in applying the mental skills. Specifically, what may be good for one is not necessarily good for all. This emphasis on individuality may have been helpful in preventing biased reporting by the subject in an attempt to please the researcher/facilitator. The facilitator invited the athletes to discuss individual concerns if so inclined. The concept that mental skills must be practiced in order to become more effective was stated. An example of becoming familiar with relaxation and body awareness so as to implement centering rapidly when needed was used to demonstrate this point. The fact that all of the skills could be implemented in other areas such as academic studies was also emphasized.

The first three sections of the manual were reviewed in the first session and the last three sections were reviewed in the final session. It was explained that the manual allowed the athletes to refer back to the contents of the sessions, record homework regarding specific techniques, and record the use of the mental skills in a log book section.

The log book was reviewed by the facilitator at least once during the short eight week season. Reviewing the log allowed the facilitator to follow the progress of the athlete. The facilitator was highly visible during the season, attending most practices and games. This allowed the participants to approach the facilitator with any questions regarding the programme. The facilitator, who is a certified Athletic Trainer, was asked by the head athletic therapist to help the student therapists if possible. Serving as an athletic trainer was highly effective in
gaining entry and respect from the athletes. This dual role did not cause any observable difficulties. The facilitator did not participate in the injury recording process.

At the final game of the season a package was left in the lockers of the 10 athletes. This package included a letter thanking the athlete for participating and stating that the facilitator would be contacting them in the next few weeks for the post-interview. The stress inventories were also included which the athlete was to return at the time of the interview.

Interviews were conducted in November, at the end of the season, with eight of the ten athletes who participated in the programme. Interviews were not conducted with the final two athletes due to difficulty in arranging an interview. The interviews were 45 to 60 minutes in length and all but one occurred in the researcher's office at the university. One athlete was interviewed in his residence at the university. The interviews were private, one-on-one and all occurred within three weeks after the end of the season.

The interview commenced with the researcher thanking the athlete for participating in the programme. The qualitative process was briefly explained emphasizing the importance of the athlete expressing his unique experience with the programme. To ensure unbiased reporting of opinions it was again reiterated to the athlete that individuals use mental skills differently based on personal experiences and preferences and that there is no wrong opinion or answer. The use of the tape recorder, the transcription process and qualitative analysis was explained. The thesis defense process and the possibility of publication was also briefly reviewed. This explanation was important in informing the athlete that some of the information given may be available to the public but anonymity would be assured through alteration of personal profiles and the use of pseudo-names. It was explained that all quotes would be confirmed with the athlete prior to insertion into the written research findings.
The pre-intervention demographics and information page completed at the beginning of the season was reviewed with the athlete leading into the actual interview questions. The training manual was used during the interview as a means of recalling the specific use of the mental skills. With the permission of the athlete, training logs were collected and/or copied and used in the analysis as a means of triangulation. Only three of the eight manuals were reviewed for the qualitative analysis as only three athletes brought their manuals to the interview. The interview guide was used to prompt responses regarding the general impression of the programme, use of each specific component (attention/emotional control, relaxation, goal-setting, cognitive restructuring, imagery), suggestions for implementing such a programme with Varsity football, use of mental skills outside of sport, minor or major stressors experienced during the season, degree of social support, individual and team satisfaction, amount of playing time, and injuries or colds experienced during the season.

Stress inventories were collected from seven of the eight athletes at the time interview. The eighth athlete did not return his final inventory and was not included in this analysis.

THE MENTAL SKILLS TRAINING PROGRAMME

The goals of this programme were to provide education and practical skills to the athletes. Behavioural and cognitive techniques were used to formulate the mental skills training programme.

This programme was designed on the basis of past research involving psychological antecedents of injury and psychological intervention programmes (Vealey, 1994). The specific mental skills addressed in this programme have been identified in past research as contributing to athletic injury.
The framework of Meichenbaum’s (1985) stress inoculation training (SIT) was used in structuring the programme. SIT involves three phases where the client is first educated regarding the programme objectives and rationale, followed by acquisition and application of the psychological skills in vivo. Each component was introduced to the athletes in an educational manner including an explanation of the psychological intervention, its physiological/psychological basis, and relevance to the athletes’ individual needs. The practical skill was applied by the athlete, practiced and incorporated in vivo. The athlete was to record the details of how he used each intervention in his log book which was reviewed by the facilitator throughout the season (Appendix A).

As part of the application process, the sport psychology techniques were made specific to the population (football players), specific to the team position (i.e. defensive line, receivers) and allowed for individual variation. As suggested by Kerr and Goss (1996), life skill development was encouraged and examples were given of how the mental skills could be transferred to non-sporting events, such as goal-setting in academics and anxiety management in examination writing. To ensure the appropriateness of the psychological strategies, the sport psychology programme was reviewed by two athletes, Leonard Jean-Pierre, a professional Canadian Football League player with the Winnipeg Blue Bombers and Troy Farmer, a former Varsity and current Northern Football Conference (semi-professional) football player. The outcome of the meetings with these successful athletes was “Get in the Zone - A Football Mental Skills Training Programme” (Lavallée, 1997).

Get in the Zone - A Football Mental Skills Training Programme

The manual for the training programme consisted of two sections. Section one contained a summary of each educational component with working space and assessment strategies to
outline how the technique could be tailored for specific situations and needs. The second section included the log book where the athlete could record the use of the techniques during practice, games, and outside of sport. It was explained to the athlete that he could progressively assess the use of the mental skills, how he felt prior to using the skill, how he used the skill and how he felt afterwards. A limitation of previous research involving psychological interventions is possible exaggeration or underestimation when recalling past experience. It was hoped that this recording would allow for accurate memory recall during the post-interview. The log book was also used to record general psychological well-being, injuries, colds and any other relevant or personal information that the athlete wished to reveal.

**Programme Components**

The components of the psychological intervention programme are outlined below. The practical application of each component could be adapted to service the unique needs of each participant. This is in keeping with the recommendations of previous research of psychological interventions (Vealey, 1994).

Table 1

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<thead>
<tr>
<th>COMPONENTS OF THE MENTAL SKILLS TRAINING PROGRAMME</th>
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<tr>
<td>Identify your Zone - Mental readiness, planning and preparation</td>
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<tr>
<td>Goal-setting - Motivation and direction</td>
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<tr>
<td>Relaxation/Centering - Focus and concentration</td>
</tr>
<tr>
<td>Imagery - Mental practice</td>
</tr>
<tr>
<td>Cognitive Restructuring - Self-talk and self-motivation</td>
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**Identify your Zone**

Identification of the individual’s ideal level of physical and psychological intensity for peak performance was assessed using Nideffer’s (1993) concept of attention control training. Through an awareness of attentional demands of the sport and individual styles, the programme was to aid the athlete retain the appropriate attentional flexibility that is demanded from the sport and specific position. An exercise was designed to analyse the mental readiness required for the position within football. This exercise had the athlete reflect on the various types of attention necessary for his specific position. For instance, when would broad and/or narrow focus be necessary for the position of defensive lineman? A broader focus is necessary before and immediately after the ball has been snapped to determine if the play will be a run or pass. Once it is determined that the play is a run or pass the defensive lineman narrows focus zoning in on his appropriate task for a given play.

Exercises involving the analysis of best and not-so-best performances were performed in an attempt to recognize optimal levels of intensity. These exercises included formulating a physical and mental preparation plan for games and developing strategies to deal with possible distractions and unexpected events that may interfere with optimal level of intensity.

Acquisition and maintenance of the optimal zone was then discussed within the components of goal-setting, relaxation/centering, imagery and cognitive restructuring as described below.

**Goal-Setting**

The strategies of Burton (1993) and Locke and Latham’s goal-setting model (1990) were used in guiding the development of the goal-setting component. The basic tenets and principles of goal-setting were outlined. The SMART principle of setting specific, measurable, attainable,
realistic and time-targeted goals was delineated. Goal-setting encompassed individual athletic
goals, team athletic goals as well as touching on academic and personal goals. Similar to all
components of this programme, goal-setting integrated athletic goals with personal and
academic goals. Strategies were reviewed to avoid or overcome possible roadblocks that may be
encountered while attempting to achieve a goal. The log book allowed for weekly assessment of
goals and provided the opportunity to observe progress and provide feedback.

**Relaxation/Centering**

The relaxation/centering component followed Suinn’s Seven Steps to Peak Performance
(1986), a training manual for athletes which begins with progressive muscle relaxation (PMR) to
teach the athlete the difference between tense and relaxed muscles. This was followed by
relaxation on cue which is similar to the PMR exercise without the tensing component. It was
emphasized that practicing the PMR and relaxation on cue exercises would allow the athlete to
become aware of his body and any specific areas where he was prone to hold tension, for
example the trapezium muscle or jaw. Once the athlete increases his body awareness he would
be better able to apply a relatively quick centering on-site technique, in a practical setting such
as during a game or practice. The centering instruction involved focusing on breathing fully
from the chest, stomach and back. The athlete would count up while breathing in, hold
momentarily and exhaling while counting down. The athlete would then perform a quick body
scan for tension. This body scan would be an extension of the relaxation exercises performed
outside of football. It was demonstrated how relaxation and centering could be used as a
focusing or concentration strategy.
**Imagery - Mental practice**

The definition of imagery was provided along with examples of when imagery could be used, its benefits and guidelines for use. For instance, the importance of practicing imagery regularly, incorporating all the senses, increasing the vividness of the imagery, imagining a task in ‘real time’, facilitating imagery with relaxation, and imagining internally or externally were described. Exercises were developed to encourage the athlete to practice imagery by mentally rehearsing plays, incorporating football fundamentals, and using imagery when watching game films.

**Cognitive Restructuring**

The concept of cognitive restructuring was outlined. Positive thought control (Suinn, 1986) through identification of negative thoughts and their ill-effects were reviewed. Five practical thinking techniques were discussed and implemented into this component.

1. **Listening in.** Training to hear yourself thinking.
2. **Underlining.** Selecting the specific words in your internal dialogue that are detrimental to you and your own best interests.
3. **Stopping.** Shutting off the negative words in your internal through speech.
4. **Switching.** Interrupting harmful inner speech and substituting positive internal voices.
5. **Reorienting.** Changing the thrust of your thinking to an active, problem-solving mode. (Martorano & Kildahl, 1989)

Exercises were designed to identify negative thoughts and develop strategies to counter and reframe these thoughts. Specifically, the athletes were asked to reflect on situations where they may have used negative talk or held irrational beliefs such as perfectionism, catastrophizing, and polarized thinking.
PARTICIPANTS

Sport Selection

The rationale for choosing the sport of football was two-fold. As the stress-injury relationship has been replicated in football, there is a greater likelihood of observing the effects of an intervention programme. While the relationship between stress and injury has been identified, football is a sport that is not typically approached by sport psychology consultants, nor do football athletes and coaching staff openly receive sport psychology, perhaps due to the “macho dimension” as outlined by Fenker & Lambiotte (1987). Football is a physical game, where superior size and strength are seen to dominate. Although there is truth to this statement, football is also a mental game. Mental mistakes in concentration, execution, and anticipation are also recognized as determining the outcome of football games (Wacker & Morton, 1980).

Football athletes can benefit from sport psychology techniques not only to decrease stress levels and possibly injury, but to enhance performance as demonstrated by Fenker & Lambiotte’s (1987) performance enhancement program for a college football team. Football requires “mental toughness” and a special type of athlete. As one football player for the Toronto Eagles (Northern Football Conference) stated, “What other athletes go into a game knowing that they’ll be hurt? That requires mental toughness!”

A second rationale for choosing the sport of football is the researcher’s extensive experience with football. The research involving sport psychology programmes has identified that it is important for the facilitator of the programme to be knowledgeable about the specific sport, its demands and culture (Vealey, 1994). As an athletic trainer for four years in the sport of football, I have first-hand knowledge of football culture. I also have experience conducting research in the sport of Varsity football and rugby (Lavallée & Flint, 1996). This research, which
involved the psychological antecedents of athletic injury allowed me to address these psychological factors in the sport psychology programme as a means of preventing injury. In addition, my experience in a competitive provincial women’s touch football league has provided me with personal experience. Women’s touch football is quite different from men’s tackle but both share many commonalities in culture, perhaps in a milder form for women’s touch football. (See Chapter Three - Analysis of Data - for guidelines that will ensure unbiased reporting of data due to the familiarity on the part of the researcher).

**Intervention Group Participant Profiles**

Craig was a 20 year old, second year student majoring in civil engineering. He had four years of football experience at the high school level. As a corner back in his first year of eligibility he did not dress for any games. He attended all practices. Craig stated his reason for participating in the mental skills training programme was "**to focus, visualize and learn on the aspects I need to do, to become the best I can be mentally.**" He had past experience with the mental skills of relaxation and imagery which he learned about primarily through a book by Mark Tewksbury and an essay he wrote in his last year of high school. When asked how he prepared mentally for sport he stated, "Mainly I am trying to focus on catching the ball and I seem to be failing. Last year when I did this I was very successful, now I don’t know what’s wrong." Craig claimed that his previous injuries have included a “dislocated ankle and broken inferior area of tibia”.

Doug was a 22 year old, fourth year history major. He was in his third year of eligibility. Doug also played four years of high school football, as well as four years of minor football. He was a starter in the position of wide receiver. He stated his reasons for participating in the mental skills training programme were because he had "**heard lots about it being used in other**
Doug had not experienced any formal education regarding mental skills training. When asked how he prepared himself mentally for sport he stated, “I prepare by focusing in on my functions and roles with the team. During the game I just forget about everything else and go play-to-play.” Doug claimed that his past injuries included a broken left ankle which occurred in a scouting camp prior to first year university.

Jamal was a 22 year old third year commerce major. He had three years of football at the high school level. He was in his third year of eligibility starting in the position of offensive center. Jamal stated his reasons for participating in the mental skills training programme was because it “sounded interesting” and to “gain a mental edge.” He previously saw imagery being practiced by other athletes on television and adopted it for his preparation. When asked how he prepared mentally for sport Jamal stated, “Through visualization. I continue it by looking back and correcting my mistakes mentally during breaks.” When asked how he felt before an important game he stated that it depends on factors surrounding the event such as sleep, nourishment and personal problems, but he was always confident. Jamal also stated that “My parents are a pressure because they don’t like me playing the game and my expectations of myself are always high.” His social support network consisted of his little brother, girlfriend and two close friends. He stated “my girlfriend gets most of the problems.” In grade 12 he “slightly” tore a ligament in his right knee during a football game.

Karl was a 19 year old, second year physical education major. He played four years of football at the high school level. Karl was a nonstarter in the position of slot back. He dressed for three games but was not played. He stated his reasons for participating in the mental skills training programme was, “I’m trying to major in Psychology (not really sure what I’m going to
do with it). Sport psychology really interests me and I think this programme has a lot I can learn from.” He had no formal experience with mental skills training but stated, “when you look at team leader on other teams I've been on you see what works for them, you try it to see if it works.” He stated he prepared mentally for sport by “thinking through the motions... concentrating on the task at hand... letting nothing else get in the way.” Karl’s previous sport injuries included “torn ligaments in the knee, a broken collar bone, broken ankle and wrist” which occurred in soccer and judo.

Patrick was a 20 year old, third year pharmacy major. He played five years of high school football. He was in his third year of eligibility, starting in the position of defensive back. He had no formal experience with mental skills training. When asked how he prepared mentally for sport, Patrick stated that he liked to listen to music. Patrick stated that a source of stress within football was “animosity with certain players.” Previous sport injuries were concussions which occurred while skiing as well as in football.

Rodney was a 22 year old, third year political science major. Prior to university he had played ten years of football in high school and a minor league. Rodney was a starter playing the position of inside linebacker. He was not able to play this season due to academic ineligibility. When asked why he participated in the mental skills training programme, Rodney stated, “because I need to learn how to manage time, resources and sleep habits so I can efficiently get things done. I hope to gain a better understanding of my physical and mental processes during stressful times.” Rodney had no formal experience with mental skills. When asked how he prepared mentally for sport he stated, “I get away from people at first so I can prepare myself, then I help to encourage teammates to get prepared and in the right mind set. I continue this both during and after to help encourage others.” Rodney disclosed that sources of stress were
finances, school, personal things, extracurricular activities and fatigue. His previous sport injuries included left acromio-clavicular joint sprain five years ago, left shoulder fracture to growth plate seven years ago, and orthopedic surgery of his left shoulder for rotator cuff tear and anterior labrum tear.

Sam was a 22 year old, second year Physical and Health Education major. He had played five years of football at the high school level. Sam was a nonstarter slot back in his second year of eligibility. He participated in the mental skills training programme because he felt that it would be interesting to take part and to get a better understanding of how to prepare and use mental skills. Sam had previous experience with mental skills through courses taken and learning on his own. Sam stated he prepared for sport mentally by “visualizing myself playing, not only going through the motions but visualizing myself doing great things.” He described stressors within football as competing for playing time and stressors outside of football as budgeting and family responsibilities. Sam’s previous injuries have included a recent sciatica problem and disc herniation in the lumbar spine. He stated that there are “too many others (injuries) to list.”

Selwin was a 23 year old, second year history major. He played four years of football prior to university in high school and in a city league. Selwin was in his third year of eligibility, starting at the position of wide receiver. He stated that his reason for participating in the mental skills training programme was, “I am open minded and willing to explore any avenue that may make me a better football player/student.” Selwin had previously self-learned how to use goal-setting and imagery. He stated he prepared mentally for sport by “visualizing myself making great plays.” Selwin described a source of stress and the pressure he puts on himself with
respect to his goals in football. He listed previous injuries as shoulder, knee, and head injuries which occurred during sports.

**DESCRIPTION OF QUALITATIVE PROCEDURES**

Qualitative procedures were used to advance our understanding of how the athletes used the information from the training programme. To simply state that exposure to mental skills decreased stress levels and injury, or for that matter, enhanced performance, fails to demonstrate how this was achieved by each athlete and the variations in application of specific techniques. Learning more about how athletes use mental skills would hopefully assist in the development of future mental skill training programmes.

**Coding of Data**

Interviews were transcribed verbatim and managed with the Non-numerical Unstructured Data Indexing Searching and Theory-building (NUDIST) software programme. NUDIST uses the concept of "meaning units" outlined in Patton (1990). A unit of meaning is automatically coded by NUDIST where new paragraphs exist within a document. These units of meaning are called text units. NUDIST defines a text unit as the smallest piece of text which can be referenced. These text units can be an entire sentence or paragraph. NUDIST simply numbers and displays the text units within a document system. The document system contains the documents, in this case the eight transcribed interviews. It is then up to the researcher to explore the document and code the text units into nodes which are placed in the index system. Nodes are categories that are constructed by the user and given a name based on the meaning or meanings within the text unit. If a text unit consisting of one sentence contains more than one category it can be coded within several nodes. A text unit is not limited to one category. Within each node,
information such as the title, definition, memo and references regarding that particular category, can be stored.

The researcher developed primary descriptive categories based on the questions that were asked, as well as main categories that emerged readily. The following eight categories developed throughout the coding of the data; descriptions of mental skill use, situations/events, psychological states, comments and suggestions about the mental skills training programme, descriptions of optimal and non-optimal zone, performance satisfaction, description of social support, playing time, and injuries. Emerging ideas within the categories were then coded as “free nodes.” Free nodes allowed for emergent ideas to be named but not immediately categorized. Free nodes were then placed within the appropriate categories once the development of themes and concepts emerged. As each interview was coded new nodes developed. To ensure accuracy of coding, the primary researcher coded each interview at least twice before having the coding reviewed by third parties. Several of the athletes also reviewed the coding process. This served as a means of ensuring dependability and credibility of the emergent themes.

**Analysis of Data**

NUDIST allows the researcher to develop various types of reports. The researcher can then review patterns that develop within individuals, as well as patterns emerging between individuals. The analysis consisted of reports regarding the text of specific nodes, relationships between nodes and reports of each interview. The reporting of the analysis of data was simply extracted from these reports and outlined in the results section.
**Triangulation Employed to Establishing Trustworthiness**

There were many triangulation methods employed within this study. Consistent with Denzin’s (1978) term ‘lines of action’, multiple data collection techniques were related with multiple research checks and multiple methodologies. The combination of the triangulation methods confirm the credibility of the study.

Three methods of data collection were employed, including demographics and information page, the interview and review of the manual at the time of the interview. The demographics and information page assessed the athlete’s previous knowledge and use of mental skills, degree of social support, identification of stressors and previous injury. The interview revealed rich information regarding the implementation of the mental skills training programme. During the interview the athlete’s manual served as an excellent method of memory recall in explaining certain details about the mental skills.

The multiple methods used within this study involved a quantitative analysis of injury of both the control and intervention group, as well as a qualitative analysis of injury with the intervention group. The stress inventories which were administered at the beginning and end of the study served as a secondary source of data with respect to reported stress in the interview.

The objectivity of the researcher was ensured by the following checks. The athletes reviewed the interview transcripts to ensure accurate reporting. This also allowed the athletes to change or omit any information that may verify their identity. One athlete also participated in the category development to ensure accurate interpretation. A third party knowledgeable of qualitative data coding checked the coding procedure. One check involved a third party reviewing half of the interviews and attempting to match the text with the categories. The second check involved an additional third party who reviewed and discussed the development
and organization of the categories. In addition, the supervisor and committee members of this M.Sc. thesis continually reviewed the research process.

**Relationship of Facilitator/Researcher**

The principal researcher was also the facilitator of the programme. It was recognized that this dual role may potentially bias the results of the study. To ensure that this did not occur several steps were taken. First, to prevent the athlete from providing information he thought may please the facilitator, it was continually emphasized to the athlete that individuality was an important aspect of the programme and what one person found helpful may not be found helpful by someone else. There were no right or wrong answers.

To prevent bias on the part of the researcher’s interpretation of the data, a third party also coded the data as outlined previously. In addition, an athlete reviewed and commented on the concepts that emerged through the researcher’s and third party’s data analysis. These results were amalgamated in the formulation of the final concepts and themes.

The researcher/facilitator also kept a detailed journal of progress and thoughts as they developed throughout the study. This journal included a calendar of events throughout the season, the researcher’s thoughts after the educational sessions and throughout the season, and relevant conversations with the athletes, coaches, and staff. Of note, no prior special relationship existed between the subjects and the facilitator.

**LIMITATIONS**

The study was limited to a subset of voluntary athletes. One could argue that these athletes had a preconceived affinity to mental skills and would look upon such a programme as positive and beneficial. A second limitation was the inability to formulate a true control group where stress levels could be compared with the intervention group. A third limitation was the
weakness of statistical power in the quantitative analysis of stress levels and injury based on the limited number of subjects, seven for the stress analysis and 21 for the injury analysis.

Consequently, the probability of a Type I error is relatively high. A limitation within the qualitative analysis is the athletes perhaps reporting favourably at the time of the interview based on the fact that the facilitator of the programme was also the interviewer.

This study acknowledges that no research is free from bias and that the experiences, perceptions and biases of the researchers will influence decisions, inferences and conclusions.
CHAPTER FOUR

RESULTS

The semi-structured interviews with the eight athletes reveal a plethora of rich information within several areas: use of mental skills; descriptions of various situations and events, psychological states (including optimal and non-optimal zones) encountered throughout the season; and comments and suggestions about the mental skills programme. The athletes were also questioned about the amount of playing time and injuries sustained throughout the season.

Within each of these topic areas emerged many sub-categories of information (Table 2). Fortunately, the method of data analysis with the computerized programme NUDIST allowed for multiple coding of the same text unit. Therefore, one text unit could contain information regarding a particular situation that elicited a particular psychological or emotional state resulting in a coping strategy used by the athlete. Therefore, although the situations, psychological states, and mental skills are categorized separately, the three were very closely linked.

Table 2

Emergent Categories, Sub-Categories and Themes

<table>
<thead>
<tr>
<th>Main Category</th>
<th>Sub-Category</th>
<th>Emergent Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. description of mental skill use</td>
<td>mental skills used prior to participating in this programme</td>
<td>- not a level playing field, various experiences with mental skill use, ranging from an innate ability, influential coach, formal instruction, self-education</td>
</tr>
<tr>
<td></td>
<td>mental skills used this season</td>
<td>-imagination and self-talk used the most or elaborated more fully on due to more straightforward nature of other skills</td>
</tr>
<tr>
<td></td>
<td>changes in mental skill use</td>
<td>- awareness and reminder of things already known, added to extent of use</td>
</tr>
<tr>
<td>2. Situations/Events</td>
<td>preferred or mental skill used most frequently</td>
<td>varied, use a bit of everything, particularly imagery</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>mental skill that the athlete disliked or believed was not as important</td>
<td>PMR, not-so-best perf., goal-setting (1 only)</td>
</tr>
<tr>
<td></td>
<td>specific comments on exercises within the programme</td>
<td>writing weekly very difficult but important</td>
</tr>
<tr>
<td></td>
<td>life skills</td>
<td>most athletes reported use of skills outside of football</td>
</tr>
<tr>
<td>3. Psychological States</td>
<td>intimidation and fear</td>
<td>physical size and decreased self-confidence, use self-talk to cope</td>
</tr>
<tr>
<td></td>
<td>nervous and tense</td>
<td>individual variation in optimal level of intensity</td>
</tr>
<tr>
<td></td>
<td>aggression</td>
<td>aggression needed for football for optimal performance and avoiding injury, increased with self-talk</td>
</tr>
<tr>
<td></td>
<td>self-confidence and self-doubt</td>
<td>related to optimal and non-optimal performances</td>
</tr>
<tr>
<td></td>
<td>motivation, intensity and boredom</td>
<td>related to losing season</td>
</tr>
<tr>
<td></td>
<td>frustration, anger and discouragement</td>
<td>lack of straight-forwardness about playing status; losing season</td>
</tr>
<tr>
<td></td>
<td>joking and having fun</td>
<td>used to relax</td>
</tr>
<tr>
<td>4. Comments and suggestions about the mental skills programme</td>
<td>general impressions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>reasons for participating</td>
<td>better performance, could withdraw from programme</td>
</tr>
<tr>
<td></td>
<td>perception of team-mates who did not participate in the programme</td>
<td>sport shrink, reveal personal feelings</td>
</tr>
<tr>
<td></td>
<td>suggestions for future implementation</td>
<td>clear misperceptions, educational component in the off-season, practical sessions throughout season with more interaction with facilitator</td>
</tr>
</tbody>
</table>
DESCRIPTION OF MENTAL SKILL USE

Past Exposure to Mental Skills and Perceptions of Sport Psychology

The athletes were questioned regarding any instruction given in the past about mental skills. Sam was the only athlete who had formal experience with mental skills for sport through his courses in Physical and Health Education at the university. He also was fortunate to have a high school coach who instructed him on thinking about the plays a couple of days before a game. Craig had done a study in high school on sport psychology. He had read about relaxation and imagery in Mark Tewksbury’s book and had also heard about mental skills ‘through sports, people talking about it, television, and watching football on television.’ Doug learned about relaxation by attending a couple of yoga classes with a friend. Jamal had also heard about imagery through other sports.

_I remember watching Olympic skiers and they were sitting on the side going like this (moving body). So if I’m on the sidelines waiting to go right before the game or practice, I’ll sit there and picture myself dropping back for a pass block or if I’m pulling or whatever, just picture what happens._

All of the athletes had some understanding of sport psychology, although some were more informed than others. Karl thought the mental skills training programme would be more like clinical psychology. He explained his misconception about the programme.

_I thought...(this programme) would be like a clinical psychologist but just with athletes. You would have players that have problems or not performing well. I never really anticipated how to get focused or how to get motivated or how to get into your zone. I thought it was mainly problems that were external._

Mental Skill Use Prior to Participating in this Programme

The athletes were questioned regarding past use of mental skills within the sport of football, as well as other sports and non-sport situations. Although only one athlete had formal instruction in the past of mental skills for sport, all of the athletes described past use of mental
skills for sport. Generally, the athletes with previous formal instruction of mental skills reported more elaborate use of mental skills. For instance, while only three of the athletes had previous instruction about relaxation, all of the athletes had techniques they used to achieve relaxation. In particular, all the athletes described using imagery in the past. Craig, Karl, Sam, Rodney and Doug stated that imagery was something they just did naturally. Sam, who had previous instruction on mental skills and Selwin, who did not have previous instruction on mental skills described past use of imagery quite vividly.

That's something (imagery) I did. I think that happens naturally, well for me it happened naturally.

With respect to goal-setting, all the athletes were aware of goal-setting and had used it in the past but not to the extent outlined in the manual.

**Mental Skill Use This Season**

The athletes provided excellent details regarding the use of mental skills this season. With each description a situation was presented along with how the mental skill was implemented. Typically a psychological state or response was also expressed. The results reflect the situation and the specific skill use in order to provide the reader with a complete picture. Therefore, the subsequent categories of situations and psychological states may be reported in a less elaborate manner.

**Self-Talk**

All of the athletes described the use of self-talk in various situations, such as a means of increasing intensity and motivation, to overcome external stressors, to build self-confidence particularly after making a mistake and dealing with bad calls by the referees.
Doug and Craig, who had the same position coach discussed the positive influence this coach had with respect to their use of self-talk this season. As explained by Doug,

*Part of that (self-talk) came from my position coach. When things happen on the field, we’d come off the field and he’d say, “Put it away, put it away! You know we need you now, if you don’t put this away it will adversely effect you and the whole team.” So I think that’s how I dealt with a lot to prevent myself from maybe blowing things out of proportion and having negative self-talk, whether it be particularly to me or particularly to the offensive unit function.*

Doug also described an elaborate self-dialogue, losing focus and dropping the ball in the end-zone during a game. Doug received ‘nasty e-mail’ from acquaintances about dropping the ball in the end-zone particularly after the Toronto Star published the game and highlighted this event. Doug stated that support from friends and family and his use of self-talk helped him deal with the situation.

*At some point in your career it’s going to happen so you’re going to have to deal with it and there’s probably not one professional player who hasn’t had that scenario happen to them.*

Karl described how he ‘parked’ external situations which could be dealt with after practice or a game.

*Like occasionally you’ll have an argument with your girlfriend. It’s not a huge deal but it happens. You end up making an excuse that, “Well I’m right!” and that justifies it. So that blocks it out for two or three hours. And then it comes back to you when you’re riding the bus home, you go back to it again.*

Sam described how he motivated himself, particular in a game when they were losing.

*You could tell after the first touch down they (opposing team) scored. Everyone got so down and depressed. I mean, “It’s only one touch down, seven points. We’ll get it back.” At one point I was kind of out of it but I did get back in. How I got back in I don’t know. Maybe it was self-talk, self-motivation, “Ok, let’s go, let’s make the best of it. Let’s not go out looking like this.”*
Selwin described many instances of self-talk, from building his confidence after a not-so-best performance, receiving a penalty from the referee, and how he dealt with the distraction of being filmed during a game.

*I wanted to be perfect. I wanted to be in the perfect spot (for the film) and that perfection was hindering my concentration on studying my opponent. If I would have just relaxed and said, “Everything is ok, it might not be perfect but it’s adequate.” Just focus on my opponent. I would have been that much better.*

When asked about self-talk, Jamal commented that he sometimes thinks too much, getting so absorbed in his thoughts that it side tracks him.

*I’ve always talked to myself in my head for some reason. Sometimes it screws me up, sometimes it doesn’t, thinking too much.*

**Relaxation**

Craig, Karl and Rodney described using PMR and/or a body scan type of relaxation. Karl also joked around to try and relax.

*To get more relaxed, sometimes you’ll be going to a game and you just need to sort of relax and not take it seriously and intense.*

Jamal, Selwin, Sam and Doug described techniques similar to centering to achieve relaxation.

Patrick practiced breathing techniques to relax.

*... practicing breathing before, just to relax before a game, before going back on the field. I think that’s the main thing that I really used.*

Rodney preferred to combine relaxation with physical activity, such as walking. Selwin tried the relaxation but did not like the breathing technique. Doug did not like the extensive PMR technique, stating that it agitated him.
Centering and Focusing

The athletes were questioned regarding use of centering or ways of focusing throughout the season. Doug described how he focused before a game and how his focusing strategy changed this year.

Before games or at half time I'd sort of isolate myself from the players of the team and just try to focus. Sit down and breath deeply to sort of settle myself. So I guess I would say I had used it (centering) before but not for two minutes and not in a closed atmosphere.

Jamal described that he goes into a "day dream kind of state’ going through his routine while getting taped. He described what he could be thinking about.

A problem at home or with a friend or girlfriend. They stick in your head but it's pretty much something that helps to keep you going. For me I use it to get some aggressiveness inside me. You’ve got to be aggressive to play and usually on the field or going to the gym I sometimes think of... I remember I was training with a friend of mine a couple of years ago and the main thing we would do is just bring up ex-girlfriends. It takes my mind off the other things. It just makes me looser towards one thing and still aggressive towards it... It takes your mind off the fact that there's this guy coming right at you.

Karl described a technique he used to focus and how at times it doesn’t work.

I sometimes would be looking at the ball. Concentrate on the quarterback, where he is, where are his feet, start from stuff wide and work my way down, like a check list. Look at the ball, what am I playing? I’m playing zone, check the receiver, line up appropriately, look at my feet. Look at the ball again, look at the guard or tackle. Sometimes it doesn’t work. Sometimes you’re thinking about that test in two days and you’re just going, “Block it out.” Then you end up doing it and one play that you don’t you find the ball being thrown over your head.

Imagery

Imagery was referred to most frequently by the participants. It was also a skill that was used in distinct ways by each athlete, with Sam and Selwin describing imagery in more detail.

Craig used imagery during practice for his blocking technique and running routes. He would visualize the next route while the other athletes were running their patterns. Doug also
used imagery in his block technique and commented on using imagery when the coaches were unable to comment on his technique specifically.

*I did (use imagery) a lot for my blocking. We didn't get taught a lot of that (blocking) this year. We didn't really have an offensive line coach. When I picture it that might help me to carry it out more effectively.*

Doug discussed using imagery after dropping a ball in the end-zone during a game.

*I rehearsed the touch down catch after that happened (dropped ball). I did it on the field, while there was a break in practice, at home on my own. Going through what I had done and focusing on different components on the catching process and focusing on myself and the techniques I'd use to stay calm the next time it happened rather than getting all excited. Not only visualizing the physical aspect of what I was doing but also the mental part that would maintain my focus.*

Karl also elaborated on how he used imagery in coping with a mild ankle injury.

*I find that whatever I do in imagery I'll do in the game, so I imagine blocking off my injury and pretending that it's not there and forgetting about it. I know that if I do that in imagery, when it comes to a game I'll be doing the exact same thing. Imagery gives you a chance to see what works for you and knowing that it's beneficial to forget about the injury and concentrate on the game.*

Rodney discussed how imagery helped him in learning a new position and how he used imagery this year although he had not played due to ineligibility.

*I've learned a lot about how to play my position. I'm always constantly thinking about football and thinking about when I should swim, when I should rip. I do it all the time, even now and I haven't played this year.*

Sam and Selwin discussed being able to 'rewind' during imagery to correct mistakes or find solutions. Sam described this from an internal perspective.

*Like you said before, if you picture something bad, go back and try to fix it. So if I'm sitting there thinking about the game. I put myself in my shoes, I'm running to that hole and the hole breaks down. If I rewind, go back, have the same scenario and the hole breaks down but then I look back, "Is there another hole to the left?"*
Selwin discussed how he used imagery more specifically this year, visualizing frame by frame, what he would be hearing and incorporating how he felt emotionally in specific situations.

_I know when the ball is going deep my heart just goes that extra, you know kicks in the adrenalin. I never really thought of that before. I'd just thought, ok the ball is going deep, I just turn and do my thing. I never really thought about how I felt and I wanted to control that feeling. I noticed that I have to control my emotions, not just the physical stuff. I just incorporated it into my physical, actual practice when I did it._

**Preparation and Planning**

The athletes described situations where pre-competition planning was used as well as situations where they had not prepared well.

Jamal had difficulty describing exactly what he was thinking of just prior to a game. When the interviewer probed him further to find out what he was thinking about he could not clearly recall his exact thoughts.

_I remember when I was getting taped once you said I always have a grimace or smile like I'm content or something. The funny thing is I don't realize it because I'm not even there when a person is taping me. Just a lot of other stuff is running through my head. (probed by interviewer as to what he is thinking about). I don't remember, I could be just thinking about when I was a kid. It would be more specific (to football) the closer we get to the game._

Selwin described a game this season which became his new ‘worst performance’. He stated he was not prepared for this game.

_I deserved everything I did that game because I didn't prepare. I was just in a different zone, not my zone. The opposite zone that I don’t want to be in._

**Goal-setting**

All of the athletes, with the exception of Rodney who did not play this season, set individual goals this season. The log book section of the manual, where weekly goals were to be recorded was used as a means of recall during the interview. Although the athletes found it
difficult to maintain this weekly record, they believed that writing down goals was and would be beneficial. Karl particularly liked the goal-setting and felt it was motivational. He also believed that writing goals down was important. Sam added to the comments regarding the importance of writing down goals.

*I found what worked best was the goal-setting, actually writing them down. I mean it’s one thing to think it, but if you put it on a piece of paper it kind of like becomes a bible. I think when you make an ultimate goal without putting it down (on paper) you tend to forget about it. This way (if you write them down) you can go back and reference it and check it off. “Ok, I did this, I did this, but I didn’t do this. This is what I have to do now to get this.”*

The athletes described the process of setting goals this season and incorporated some of the guidelines which were outlined in the manual. These guidelines included setting specific, short-term goals, re-evaluating goals regularly, setting realistic goals, recognizing things within your control, and recognizing the difference between outcome and process goals.

Doug commented on breaking down goals into manageable components and re-evaluating progress regularly.

*The one thing I did find especially helpful is the goal-setting, focusing on breaking down the components, instead of saying, “doing my job properly”, maybe analyze what my job entails, re-evaluating your goals”*

Jamal felt that goal-setting was not a big issue because everyone starts off with a goal to win, 8 and 0, which changes to 7 and 1 if you lose the first game. His statements about goals were outcome based and did not address the process of attaining a desired outcome. Jamal also believed it was the coaches’ job to motivate. Karl found the goal-setting helpful in dealing with frustrations that developed throughout the season. He also realized his initial goals were unrealistic.

*I found out though, that as the season went on my goals got smaller and smaller. Maybe this was because in the beginning I was setting unrealistic goals that I*
wasn’t accomplishing and so I started to focus on maybe not so many. Like getting two interceptions in practice (original goal). It would never happen. I started setting really specific goals, like doing the back peddling perfect or cutting or reacting to the ball as best as I could and doing what we were taught. I was also getting more frustrated as the season went on. I was sort of like, “Ok, when is this going to be over?” I was starting to lose interest a bit. I found the motivational goals really, really helpful.

Craig’s goals included basic goals of catching, learning the plays, and improving his blocking technique. He discussed the progression of his goal-setting for catching and problems he encountered in over-focusing. Craig further elaborated on his over-all season goals, realizing he had attained most of them.

Although most of the individual goals were met the athletes were not always satisfied with their performance, even when it was pointed out to them that their goals were attained or were originally set unrealistically.

**Performance Satisfaction**

**Individual**

All but one of the athletes, were not completely satisfied with their performance and stated they should have either dressed, played or played more than they had. Craig was the exception. He had no intention of dressing this year because he did not want to waste a year of eligibility. He saw his first year as developmental. He was pleased with his personal performance. Patrick was also satisfied with his individual performance but he eluded to not playing as much as he would have liked. Jamal’s individual performance satisfaction was marred by the occurrence of injuries throughout the season. Doug was both pleased and displeased with his performance. He was discouraged with a few of his teammates’ performance which impacted directly on execution of his skills. Sam felt he accomplished his goals but would have been more pleased if he had played more and/or started. Selwin was also very satisfied with his
performance but felt he should have played more, even though he played 100% of the games and was only pulled from one game due to illness.

**Team**

All of the athletes who were interviewed were not pleased with the team’s 2 and 6 season, although two athletes had something positive to add.

*In a sense there’s lots of reason for optimism. The guys feel they can play and they’re pretty stable for next year. There are very few people who are leaving. I am disappointed that we could basically not remember how to win. I never felt that we had the emotion and focus that was necessary.*

The team’s poor win-loss record could be attributed to the team being young, feeling intimidated and lacking in intensity and team cohesion.

**Exercises within the Programme**

Within each component there were exercises the athlete could complete to individualize a particular skill. These exercises allowed the athlete to develop and practice a mental skill before utilizing it in vivo. The athletes were asked about their experiences with these exercises.

**Focus exercise**

The first exercise consisted of distinguishing the type of focus (internal, external, broad, narrow) required for the athlete’s position in football. Jamal, Karl and Patrick stated the focusing exercise was not that important because they felt they did not really need to think about focusing on specific aspects of their position; it just happened naturally. Patrick stated,

*My position is very natural to me, so it’s like second nature. I don’t really think. Sometimes I learn. This year I learned some new things about returning, bring your hands down. But I usually just follow my instincts.*

Rodney, Sam and Selwin expressed that breaking down the type of focus necessary for their position was beneficial. Rodney commented,
I think it’s (focusing exercise) good because it shows you that, when you break it down, when you’re on the field you have to react. But if you don’t know what you’re supposed to react to how can you react?

**Best and not-so-best performance exercise**

The goal of this exercise was to review a best and not-so-best performance and determine individual optimal level of performance. Namely, what happened in the past when things went well, what happened when things have gone poorly and determining how to make things happen or prevent things from happening, respectively. Selwin and Patrick determined that the difference in these performances was not what happened in their preparation before a game, rather, how they reacted during a game. Patrick commented,

> I’d say they’re about the same (comparison of physical, thoughts, mood before a best and not-so-best performance). It’s just more what happens in the game that makes one the best or the worst.

Selwin elaborated on the comparison of how he felt during a best and not-so-best performance.

> It was interesting realizing how I was thinking after those two performances. For instance, the extreme differences between them. Like how with the good performance I was really happy and the other effected my play because I wasn’t able to build up my confidence. I kind of really got down and it really effected my game.

Sam did not complete the not-so-best performance exercise. He stated,

> Usually if I have a bad performance I forget about it as fast as possible. Reflecting upon it just gets me angry. I think the best thing to do is to learn from your mistakes, don’t dwell on it. So I figure if I start writing things down I’ll just be looking over it and over it.

**Pre-competition routine exercise**

The pre-competition routine exercise had the athletes reflect on preparation and planning before a game or practice. Karl commented on the need to have a flexible pre-competition routine.
I didn’t find it useful (pre-competition exercise) because sometimes it varied with what was going on in that week. For instance when I had my worse performance, maybe if I did a little mental preparation travelling to the game I would have had a better game instead of laughing it up and talking it up with all the guys and joking around, then having a bad game. But sometimes I may need to joke around before a game.

Preference and Non-Preference of Mental Skill Use

The athletes did not report a general consensus on a preference of a particular mental skill. Rather the athletes reported broad differences in personal preferences of specific mental skills use throughout the season.

Craig’s preferences were the relaxation and imagery. Jamal and Patrick preferred relaxation and centering. Doug and Karl liked the goal-setting and described how breaking down specific components of goals was beneficial. Doug also preferred imagery, as did Sam and Selwin preferred imagery. Doug stated:

This (imagery) is probably the one I used most on my own. I found it helpful to use. The technique is the most natural to me.

The athletes were questioned about components of the programme that they did not like or did not use. Several of the athletes identified a component they disliked as one they believed would not help them much. Doug and Patrick disliked the progressive muscular relaxation (PMR) aspect of relaxation. As Doug explains,

By the end of it (PMR) I'm almost going stir crazy. I just have to be active. It was almost like I was too relaxed to fall asleep.

Selwin disliked focusing on the breathing aspect of centering while Jamal felt the goal-setting was not important because the goal of winning is obvious.
Changes in Mental Skill Use

Throughout the interview the athletes were questioned about mental skill use before and after exposure to the training programme. All athletes reported at least one insight gained from participation in this programme. Craig stated that his previous use of relaxation and imagery was of a ‘smaller degree’ compared with what he had learned in this programme. He described that his ability to relax had become faster and his imagery was more vivid. With respect to relaxation Craig commented,

_Actually I can do it (relaxation) much faster but also I can break off from it real fast and just have to start all over again. I think I still need to work on it. It will probably be something I’ll always need to work on._

Doug explained his goal-setting now focused more on the steps required to attain a particular goal and regular re-evaluation of goals to provide constant feedback. Doug commented on watching film.

_Many times after watching video before I’d say, “Oh my blocking kind of sucked on that play” and then you’d take your grading sheet, put it in your locker with a pile of paper and never think about it again._

Doug stated he used centering in a more elaborate way, before and during a game in an isolated setting, away from the locker room and his teammates. Doug recalled a situation where he had used centering to calm himself down outside of football. He stated he probably would not have thought of performing this skill if he had not been involved in this programme. With respect to self-talk,Doug identified that he had previously used self-talk but it was more often negative than positive.

_I’ve always done self-talk but I’d say it’s more often negative than positive. I certainly haven’t ever been able to relieve stress with self-talk, so staying away from using negative self-talk and taking a look at what you say to yourself matters._
Doug described his imagery as becoming more vivid, particularly with the addition of an emotional component. Doug recounted his use of imagery after missing a touch down pass in the end zone.

*Not only visualizing the physical aspect of what I was doing but also the mental part that would maintain my focus. I don’t think I would have gone through the emotional part before. I would have gone through picturing myself in the end zone catching the ball. I wouldn’t have focused on the emotional content of it.*

Jamal stated that this programme increased his awareness of certain mental skills, particularly imagery.

*I guess the only thing was I kind of noticed it (imagery) more because of the programme. Before I never really noticed I was doing it but now I noticed I was doing it.*

Patrick commented on the breathing aspect of centering which he believed he could implement in other situations outside of football.

*If I was going to perform at a concert or something. I haven’t really performed in a concert this year so. I learned a lot from it (the programme). I’ve sort of thought about things which I never thought about before. It was educational.*

Sam had formal experience with many mental skills. He had already performed quite vivid imagery incorporating all his senses and taking the external environment into account. In the past he did not review or correct errors in imagery. Sam stated his use of imagery now involved ‘rewinding’, where he would review a situation, such as searching for an alternate route if a hole broke down. Sam also described using goal-setting this year in his academics which he stated he had not done in the past. *‘I actually wrote down what I wanted in my courses, what I expected to get.’*

Selwin had not had any formal experience with mental skills training but had naturally used many mental skills, particularly imagery. He described his imagery as becoming more
specific and vivid, picturing things frame-by-frame, as well as incorporating emotional responses.

*I never really thought about what I hear and stuff. Like if a ball goes deep, of course my teammates are going to yell, “Ball, ball, ball!” But when I was doing imagery before I never really thought of that. It’s almost like the real thing, it goes more into depth, all my senses. Before it was just visual, like one dimensional. Now, doing this programme I really went deeper, like three dimensional. I never really thought about how I felt and I wanted to control that feeling.*

Selwin also described his use of alternative thoughts to reduce negative self-talk. His use of goal-setting had also changed to include short-term goals, setting realistic goals and re-evaluating and redirecting goals if necessary.

**Recording Mental Skills in Log Book Section**

The manual consisted of a log book section where the athletes could record the progression of weekly goals, as well as mental skill use. Many of the athletes believed that writing down goals was important but all of the athletes found it difficult to record goals on a weekly basis. Selwin commented that although he was not recording his goals and use of other mental skills he was still thinking about it and doing it.

*Ya I did (use mental skills) but I didn’t record them. I was doing them in my head. I was using imagery and the other skills. I found the weekly recording kind of hard because I was doing all the other stuff. I was paying more attention to the other skills so I never got around to doing some of the writing. I was reading and applying it mentally instead of writing it down.*

Doug also commented that although he did not record the use of mental skills throughout the season his use of the mental skills did not dissipate.

*It built up (use of mental skills) before the games. Like a day or two before I would assess whether or not I’d followed up on what I thought I should have been doing. So it would come to Thursday night and I’d say, “Well did I really look at the skills and did I improve throughout the week?” So I don’t think it (use of*
mental skills throughout the season) dissipated at all toward the end of the year because the team was faltering. That made me want to focus more on it.

**Life Skills**

Many of the athletes reporting using the skills outside of football. Sam used goal-setting in his academics. Jamal used imagery to imagine where certain situations and decisions may take him. Patrick discussed the possibility of using the breathing aspect of centering in a performance situation. Doug used centering and self-talk in a situation he described as an ‘anxiety attack response’.

*It was more in an anxiety attack response. I did apply it to a stressful situation where I just needed to group my thoughts and relax, take a step back from everything and settle down. Sitting in a chair, upright, trying to keep my back straight, breathing deeply trying to get a full inhalation so I could feel my chest really expand.*

**SITUATIONS AND EVENTS**

Many similar situations were identified by the athletes that lead to use of mental skills. In describing some of these situations the individuals may not be identified in an attempt to ensure anonymity. Outlining these situations will provide a more detailed picture of the specific use of mental skills that these football players implemented.

**Team Issues**

Numerous references were made about team issues, including concern about team cohesion and the existence of ‘cliques’ within the team, general attitude of the team and team intensity.
**Attitude**

One athlete isolated himself while preparing for a game as the conversation in the locker room before a game was not always positive. Another athlete found himself being drawn towards this negativity.

*There was a portion of the season where I let my attitude towards our success slide with a lot of the other players. Like where I felt, probably only for a game, where I could tell nobody else thought we were going to win or the majority of the people thought that. And I just said, “You know, maybe they’re right!” That’s something I tried to rectify.*

Two athletes commented specifically on the intensity of the team during practice and games.

*Practicing intensity. I thought that lacked a lot.*

*There wasn’t anybody that was upset enough that they weren’t doing well. There was only one time I saw somebody get upset in the second last game of the season. One of the players yelled at everybody for walking off the field with their heads down.*

**Errors**

Another athlete described how he felt when a teammate made an error.

*It depends on how the game is going. If the guy has been screwing up all day long sometimes I might say something but usually I don’t. It’s just so disappointing when you’re doing all this work and everyone is playing great except for one guy who can’t seem to get his game together. If just effects the whole team. That’s the way football is. It’s got to be 12 guys or nothing.*

**Lack of Cohesion**

Several athletes commented on the cohesion of the team and the development of smaller groups within the team.

*There were too many “me” people instead of “we” people.*

*I think the problem is that there are too many groups instead of one homogeneous group. Maybe each group is guilty of developing a clique and not being accepting towards others. The groups invite others, “Ya sure you can come with us.” But from the outside, from what that person is seeing it could be something totally*
different. We needed to come together as a whole team and I don’t think we achieved that. I think the last game we kind of saw something along this line.

Finally, one athlete commented that there was not a team goal.

There was no general team goal, not really. There was last year but not this year.

Coaching Issues

All of the athletes commented in one way or another about coaching. Four athletes commented on the use of positive talk by one of the coaches. This coach constantly reiterated to let things go, turn the page and focus on the next task at hand.

You could tell he was mad that you dropped the ball but he’d say, “Forget about it, next one is yours.” That kind of stuck in my head.

Not Being Played

Many of the coaching issues arose from the athletes not being played or dressing for games.

Sometimes things are outside of your control that you can sort of turn into feeling like they are in your control. Like the coach not playing you. There’s nothing you can do.

You try to find a reason behind it (not being played), but sometimes you just don’t think you’re getting straight talk. You’re getting the run around.

Lack of Recognition from Coach

Several athletes commented on the coach as being very busy, unable to provide feedback on specific skills. Two athletes commented that they would use imagery to provide feedback on execution of skills to account for the lack of feedback by the coaches.

Just recognition. You know feedback, whether positive or negative. There was no positive feedback, like in getting a touch down or blocking well. Then when another coach came along midway through the season to help out that was a big boost for myself. That was just incredible because there was somebody that actually knew my name. There was somebody who focused on, not just the general aspects of everybody but zoned in and said, “Ok, so-and-so, you’re doing
this wrong. Do this instead.” He was phenomenal. If I had learned this the first two weeks rather than the last three weeks it would have been just so much better.

One athlete commented on his goal changing to having the coach call him by his name.

My big distraction was difficulty with my coach. Nothing happened, we never yelled at each other but I just sort of had an inclination of, did he know I existed? He never once said my name. There was never that personal level. That constantly nagged at me and really frustrated me. I just wanted to say, “No, my mom or dad, they call me son. I have a name.” If it’s a vulgar word or nickname or anything, just make it more personable than boy or son.

Stressors, Distractions and Roadblocks

The athletes were questioned about stressors, distractions and roadblocks, both inside and outside of football. Several stressors were identified by the participants, including inability to catch the ball or going into a catching slump, teammates’ errors, second string issues and not being played, not dressing, no feedback being provided by the coaches, and dealing with losing. Several athletes identified the team’s performance and teammates’ errors as distractions. Several of the athletes also identified coaching decisions, such as not being played and difficulties with coaches as distractions. The athletes were further questioned about how they dealt with these stressors, distractions and roadblocks and/or how they would deal with them in the future.

Balancing Football and Academics

One primary stressor identified by all athletes was academics and/or balancing the life of a student/athlete. Many of the athletes also had part-time jobs and family commitments. Three athletes commented on the fact that the first semester of school is typically compensated for in the second semester when football season is finished. In discussing how he focused during practice, Karl stated it was difficult at times.

Sometimes it doesn’t work. Sometimes you’re thinking about that test in two days and you’re just going, “Block it out!” Then you end up doing it and one play that you don’t you find the ball being thrown over your head.
Craig described his long days and then gave a suggestion of how he would handle it next year.

It was about a 12 hour day. I'd be at school from 8:00 in the morning. I'd be burned out every day. My classes ended about 1:00 or 2:00, so from 1:00 or 2:00 until 4:00 I'd just sit there and veg. I didn't have any motivation to do any work. Next year I'd probably do a half hour of work between 1:00 and 4:00. I'd probably go to Robarts and just read some books for the essays. Even just a little bit would have made a huge difference. Right after football season is done that's when all the exams come.

Sam had a similar approach to dealing with the academic pressures.

It's two different things. School is great, but football is fun. School can be fun if this is your life and if this is what you want to do. But at the same time I think you have to have some kind of outlet, some kind of fun thing.

**Game Film**

Knowledge of film or being graded was also identified by many of the athletes. One athlete commented on the pressures of film and how to deal with it in the future.

I know the camera is watching so I always think, "Oh gosh! Ok I've got to realign this play." That kind of took away from my concentration from the actual game. So instead of thinking of the game at hand I'd be worried about what the camera is going to see. Next year I don't think I'll be as bad because I'm more experienced. It will just naturally come to me. It's important to study myself but at some point it's also important to study your opposition and know what's going on on the field rather than concentrating too much on yourself or on one thing.

**Fans**

Fans also served as a distraction for many of the athletes, whether the fans were friends, family or foes. Selwin described using jeering fans to his advantage.

The guys would say, "You suck!" I'd say, "Ok, then how come you're not out here playing." That was kind of a distraction because in between plays instead of thinking about the next play, but I don't think it really effected my performance that much because when the ball is snapped I'm playing in the game. I think it made me improve my performance because it was adding pressure on me.
**Injury**

Potential injury and injury were also identified as a roadblock by five of the athletes.

Selwin commented on what he does in order to prevent injury.

*I thought that if I work harder in the off-season, if I’m stronger, that would reduce my risk of injury. If I did get injured I’d rehab it and tend to it seriously to get better faster.*

**Second-String Issues**

All of the athletes who had been second-stringers commented on the stress associated with this role and how they dealt with it. Three of these four athletes commented on using imagery to maintain intensity while not on the field.

*I remember one way I stayed in my zone, I’d actually watch the other team on the offense, watching what the receivers are doing there. Feed off of them, pretending, putting myself in that position.*

One athlete described how he felt not knowing if he would be dressing for a Saturday game. This athlete would use visualization to prepare himself to play when he finally found out if he was dressing for a game.

*As a second stringer it’s hard because you have to take a different approach. You have to take the approach of being on the bench and supporting your team in that way. Think of it like a cliff. I’d be on the edge of the cliff and I might stay on the edge of the cliff because I may not get into the game or I might be thrown off. You just have to fall and go into the game. You kind of rock back and forth, being in both frames of mind.*

Another athlete described his frustrations with second string concerns.

*Getting in your zone and staying in your zone is hard when you’re a back up. I think it’s a lot harder than when you’re starting. I find that when you start, you’re clicking on all cylinders. But when you have to sit there and try to stay in the game, stay focused, it’s very difficult to do. You have to basically be a cheerleader.*
Losing

Many of the athletes commented on losing 6 out of 8 games. They also described how they dealt with this.

*When the score gets to be 43-0 or 33-0 you just start to notice trees and stuff. It's so discouraging. Mentally I was just fed up and bored. It was terrible. I didn't stay down. I lost the focus but I wanted to bring the motivation back up because we were losing so bad. How I got back in, I don't know. Maybe it was self-talk, self-motivation, "Ok, let's go, let's make the best of it. Let's not go out looking like this."

One athlete described how the coaches became less picky as the season progressed and the team was losing. This actually helped him to relax and just play football.

**External Stressors During Football**

Two athletes described how external stressors could side-track them during football. Examples of external stressors were upcoming exam or difficulties with a girlfriend. One of athletes described how external stressors effected him during football and how he used these situations to increase his aggressiveness.

*It (external stressors) might not be up there (in your thoughts) but they’re still in your mind somewhere so it actually effects you in other ways. Let’s say a problem at home or with a friend or girlfriend. It sticks in your head but it’s pretty much something that helps to keep you going. For me I use it to get some aggressiveness inside me. You’ve got to be aggressive to play.*

**Physical Size and Strength Dominance**

Many athletes discussed the physical dominance of opponents or their lack of physical size. This issue arose in the discussion of roadblocks to future goals, as well as describing situations that occurred throughout the course of the season. When discussing physical size and strength many athletes expressed feelings of intimidation, fear and frustration. Doug described
how difficult it was to stay motivated during a game when faced with a physically stronger opponent.

There’s guys who, basically there’s no hope of physically dominating them. Sometimes on the field, in 40 plays there would be maybe 10 plays where I competed with them based on weight alone. Often I’d find it difficult to emotionally stay in the game. I’m basically disenchanted with myself. I feel my efforts are so futile. I don’t know, somehow I get myself to stay with it and then for those 1 out of 4 plays where I am effective in a blocking scenario then it’s rewarding enough to stay over into the next play. But that didn’t happen every game, maybe two or three games I was matched with guys who outweighed me by 60-70 pounds, like a third of my body weight.

Sam described how to overcome the fact that a team may be physically dominating.

We’ve got a lot of talent, it’s just getting our attitude in the right place. If you just get over the fact that they’re (opposition) a little bigger, a little faster. If you execute properly and do what your supposed to do things will happen. It’s more rewarding to go out, if we were to lose, to go out trying than if we were to lose giving up.

PSYCHOLOGICAL STATES

Several themes regarding psychological states developed as the participants described different situations that arose throughout the season and how various mental skills were implemented. Similar psychological states were associated with specific situations, although methods of coping were varied.

Intimidation and Fear

Intimidation and fear were referred to by six athletes. Four of these situations involved physical size dominance or strength of the opponent and two involved a decrease in confidence of abilities. Doug felt intimidated when looking at depth charts of the opposing team.

There were a couple of times where I felt intimidated based on my size versus reading depth charts the coaches posted that outlined height and weight.
Jamal commented on the team as a whole being intimidated and revealing this fear to the opponent.

Most of the guys are third year or lower. We don't have any veterans. I think they were getting a little intimidated. We showed too much fear I guess in front of big name schools.

Two athletes commented on the fear of actually having to dress or play when they had not been placed in that situation all year long. This fear was a result of not being confident in their abilities.

Someone got hurt and someone left. I thought, “Oh my God! I actually might dress and I might have to actually know some of these plays!” That was my biggest fear.

Panic, Nervousness and Tension

The athletes discussed optimal emotional states and whether or not they were nervous or tense before and during a game. Several athletes agreed that they were a little nervous, had butterflies or were tense before a game. Craig described these butterflies.

Once the play comes I'll be alright and then the play stops and then I'll have the butterflies again. I remember my first game as wide receiver, I was so nervous and then once I came off the field and got back on it was like I'd been there all along.

Sam described panic when he realized he was going to be 'beat deep.' Subsequently he incorporated this emotion into his imagery, practicing this scenario.

Aggression

The athletes described aggression as a means of improving performance and avoiding injury. Many athletes expressed that they lacked aggression which hindered their performance.

I've never really been aggressive in my life. I found the way I'd actually not injure my fingers during blocking was if I was more aggressive or more into it than the other person. (Craig)
There were times when I found I did cross that aggressive line where I thought I was using my emotion to the utmost very effectively. I found that there were rare triggers. I remember a game where my opponent was so dirty. He grabbed my face mask, then another time he was running at me, I had him blocked and he just grabbed me, grabbed me, grabbed me. That just set me off. I drew up emotion which I couldn’t have drawn up on my own. It made me so angry that I made an effective play. I returned the favour. (Doug)

Patrick described how he would build aggression by using self-talk during a game.

Just before kick off return I tell myself, “I’m going to knock one of these guys over, I’m going to kill one of these guys.” I sort of build myself up, getting aggression because you have to be aggressive to play.

Craig commented that too much aggressiveness can also hinder performance.

I always found defense such a joke. They’ll be so aggressive you can just run by them. You’ll just be relaxed and beat them.

Confidence and Self-Doubt

The athletes discussed the relationship between confidence and level of performance.

Confidence was noted when describing optimal levels of performance while lack of self and team confidence were part of non-optimal levels of performance. The athletes also referred to self-doubt within the team when questioned about satisfaction with the team’s performance.

When several athletes were faced with self-doubt based on an error or ‘bad’ play, positive self-talk was used to restore confidence. Doug described a situation where he had dropped a ball during a game.

It often led me to doubt myself. That was the one thing that I always prided myself on because I’m not extremely fast, I’ve never been physically capable of walking into my position until this year. I’m bigger than I’ve been in the past. That was one thing the coaches would say, “Catch the ball for us.” So when things weren’t happening and I wasn’t catching the ball I’d say, “Well what’s going on here?” The one thing I used to be counted on for I’m not carrying through on.
Motivation, Intensity, Boredom

The athletes discussed motivation, intensity and boredom often with respect to the losing season. Intensity and motivation were also discussed in terms of facing a stronger opponent. The athletes described how they tried to motivate themselves. Many athletes used self-talk to motivate themselves.

*My problem, I guess emotionally is usually staying up through the course of the game, particularly when you’re being beat physically. I would just try to focus on trying to do what worked successfully before and emotionally try not to think very much about it. I’d avoid it to prevent me from feeling discouraged.*

Jamal and Sam contradicted each other in the opinions regarding motivation. Jamal believed that it was the coaches’ duty to motivate the team while Sam believed that motivation should come from within. Sam stated,

*I would say that self-motivation is a big thing with me. I think anyone who plays a competitive sport should be self-motivated. To have external motivation is fine but if you can’t get up for the game yourself, if you can’t bring yourself up then it’s not going to work.*

Frustration, Anger and Discouragement

The athletes expressed being frustrated and discouraged with individual teammates’ performance, as well as the team’s performance as a whole. A common theme was the frustration with not being played, being pulled from a game, or not dressed when expecting to. The athletes expressed frustration with the coaches, particular when not being ‘straight forward’ about playing status. As mentioned earlier, one athlete in particular expressed frustration with a coach calling him ‘boy’ or ‘son’ rather than by his name.
Joking and Having Fun

Many of the athletes identified joking around, watching comedy the night before a game and just having fun as a method of relaxing, preparing for a game, and dealing with the losing season. The athletes also identified having fun with optimal performances. Karl said,

Sometimes you’ll be going to a game and you just need to sort of relax and not take it seriously and intense.

Craig stated,

If I’m really nervous or not focused, I just need to focus and stay calm. I need to just joke around to relax me.

Optimal and Non-Optimal Zones

The first segment of the manual attempted to have the athlete identify his optimal level of performance. While questioning the athletes about this section of the manual rich descriptions of optimal and non-optimal zones were provided. Similar themes developed in the reporting of these zones. Psychological states associated with optimal zones were self-confidence, feeling physically fit and being ‘aggressive enough’. Two athletes reported feeling tense and having butterflies while in the optimal zone, while another athlete did not have butterflies. Many athletes commented on the use of positive self-talk preparing before and during an optimal performance. Several athletes commented on the fact that they could not hear anything during an optimal performance, such as an opponent’s trash talk. Four athletes reported sensing or ‘just knowing’ before hand that they or the team would perform well. The athletes also had some difficulty describing how they felt while in their zone stating, “I don’t know, it just happened…”

I was thinking about what I was supposed to do. I was confident in my abilities. I knew I could play the game at that level. I had a positive attitude. I did everything I was supposed to do. There were no interruptions, no girlfriend problems. Even if there was a bad play, coming off the field I’d think about it for a couple of seconds, put it behind me and say, “What do we do now?” I never get relaxed.
even throughout the game. I’m always really tense. I’m not over-confident. I usually just talk to myself to motivate myself. (Karl)

You just know. You’ll get some physical feelings but you know you’re going to have a good game. It’s a very specific kind of feeling. You just know things are clicking. When you get into the game, right after the first play you just know because it will reflect what you thought. You might get butterflies but that’s natural. If you don’t get butterflies before a game I think there’s something wrong with you. (Sam)

When I am in the zone I can’t hear anything. If the defender is trying to trash talk me it’s almost set in my mind that he was talking to someone else on the team. I remember at the end of one game I couldn’t remember anything. There was this one punt return, it seemed like I had an open hole all the way. I couldn’t see anybody. Everyone said there were so many blocks made for me and I didn’t notice anything. (Craig)

Similarly, when describing non-optimal zones the athletes expressed feeling self-doubt, having negative thoughts about themselves or the team, not being prepared, feeling intimidated and getting over injuries.

I wasn’t ready at all. I was sort of jittery and not confident. I was second guessing myself. I was trying different things and not sticking with what I usually stick with. (Karl)

I had a hip flexor problem. That kind of side tracked me. I started thinking about that. (Sam)

I deserved everything I did that game because I didn’t prepare. (Selwin)

ATHLETES’ SUGGESTIONS AND COMMENTS

The athletes provided excellent comments and suggestions about the mental skills training programme. The comments included why they had chosen to participate in the programme, general impressions about the programme, and the perceptions of their teammates who did not participate. The participants provided suggestions for future implementation of such a programme with football.
**General Impressions of the Programme**

When questioned regarding general impressions of the programme, the athletes’ responses were typically positive in nature and provided excellent feedback for the facilitator/researcher. The athletes reported that the programme increased their awareness about specific mental skills even if they had previous experience with a particular component.

*I found it was a good refresher and helped even more in fine areas.* (Craig)

*I was able to actually break everything down and say, “Ok, well these are my fears, this is what I need to do to overcome them. Like a step-by-step approach.* (Selwin)

**Reasons for Participating**

The athletes’ reasons for participating in this programme can be useful in identifying how to attract football athletes to such a programme. The athletes participated because they believed it was a programme that may help them. Hearing about sport psychology in other sports attracted one athlete to the programme. The fact that the programme was not mandatory and the athlete was free to withdraw at any time was also expressed as a reason for participating.

*I had the opinion that if I didn’t like it I could drop out. I heard that Olympic athletes work with sport psychologists and I thought it was pretty cool.* (Selwin)

*Right off the bat when you introduced it I could sort of just tell. I was comfortable with your presence. It didn’t matter whether you were male or female. You weren’t demanding. You weren’t saying, “You have to tell me everything.” You were just sort of relaxed and easy going and “Whatever you want to tell me you can tell me and if you don’t that’s ok”* (Karl)

**Perceptions of Teammates**

The question about perceptions by teammates arose in the first interview when the athlete was asked if he had discussed the programme with anyone else. After this first response
all of the athletes were questioned about their teammates’ perceptions about the programme.

Sam described the response of one of his teammates with respect to the programme.

*I said to one of my friends today, “I’ve got to meet with you today.” He was like, you know, they might throw in the odd funny comment like, “You going to the shrink?”*, whatever.

Selwin described a similar experience.

*One day I was writing (in the manual) in my locker and someone asked “What’s that?” I said it was this sport psychology. They laughed and said, “Oh, why are you doing that? It’s stupid.” and stuff like that. You know, “What are you thinking?” and pretty much that was the end of it.

I heard one guy saying he doesn’t want someone looking into his head, which I thought was retarded. (Patrick)*

As this topic arose the interviewer questioned the athletes as to how these misconceptions could be cleared among the football team.

*That’s a hard thing to change. I mean it is a sport psychology study so people are going to automatically assume that. It’s not as if this gets too personal or anything. It’s all within the context of sport. They probably think they’re going to be psychoanalyzed, well we are kind of but, I mean they probably think that we’ll be seeing a shrink. You know, tell you my problems.* (Sam)

**Suggestions for Future Implementation**

The athletes were questioned about how a mental skills training programme of this nature could be successfully implemented with a university football team, particularly the University of Toronto. The athletes were eager to respond.

**Limited Time of the Football Student/Athlete**

The concern about the limited time of the varsity football student/athlete was expressed by all of the athletes who were interviewed. The suggestions regarding implementation of such a programme revolved around this concern. The athletes noted the difficulty they had in trying to keep up with this mental skills training programme throughout the season. Jamal stated,
It’s tough to keep up with during the season. I think I only filled it (log book) out for two weeks. The first thing on my mind was running around from Scarborough (campus) to downtown. There’s too much running through your head throughout the season, especially with class time. It’s 9:00 in the morning, we’re in class and we’re dragging our feet to practice every day and after that you just want to go home, do homework, sleep and forget about it.

**When to deliver the programme**

The athletes provided suggestions about when to implement the programme within the busy football schedule. These suggestions included conducting the educational component during the off-season or during training camp. Several athletes also stated that it should not be made mandatory but the team should be better informed of what the mental skills training programme consists of, thus dispelling the myths which may deter participation.

*Time management is very difficult especially during the season. I would do this in the off-season or pre-season. Teach them how to use the skills first and then let them use it during the season but without the additional writing.* (Sam)

**Promoting the Programme**

The athletes suggested ways to encourage participation. Clearing the misconceptions of sport psychology (noted in a previous section) was identified as an important factor in encouraging participation. Other suggestions included providing incentives, demonstrating success with professional figures with whom the athlete can identify and obtaining support from coaching staff.

*I know it sounds stupid but maybe if you gave some incentive for guys to do it. Maybe get tickets to an Argo’s game or something. It should be self-evident with the incentive being for yourself. It will help you perform better. Get the coaches to push it more. I don’t think the coaches pushed it much. You kind of did it by yourself. The coaches never said take advantage of sport psychology. They stress the physical aspect, like the trainers and the facilities. They never really stressed the mental part. Maybe if you show how it really works, like show how pro athletes use it and how they benefit from it. If they see other people that they admire doing it then they might say, “Well maybe this does work!”* (Selwin)
Design of the programme

Suggestions were also provided with respect to the design of the programme. These suggestions included having a more structured programme with increased personal interaction with the facilitator, including one-on-one meetings. The athletes suggested a more practical approach, reviewing the skills throughout the season, perhaps in small group sessions. This practical approach could involve discussions about how the athletes feel about events, both within and outside of football, as well as visualization instruction. One athlete commented that if the programme was delivered as a recognized aspect of the football programme, the athletes would be more receptive because the whole team would be involved and individuals would not be singled out.

If you are reminded of the little things that you can apply to your particular routine, here and there throughout the season, it would be beneficial. (Doug)

I remember talking to a teammate who was also participating in the programme. We wished we could talk about it (the programme) more. (Craig)

If you made it a team thing where you came in every Monday and actually went through it like a class, guys might be more receptive because everybody has to do it so it’s ok. But if you single guys out then they may think that not everyone is doing it so they won’t want to do it. (Selwin)

You can’t make it mandatory. Imagine if you can’t get people working on the physical side, how are you going to get them working on the mental side when half of them believe that this game is mainly physical? (Sam)

One of the athletes expressed the difficulty in delivering such a programme to a group as diverse as football athletes.

There are so many different personalities, so many different views on every subject. To be able to implement one constant programme would be impossible. You’d have to tailor it to each individual with their personality. (Rodney)
STRESS INVENTORY RESULTS

The results were compiled and compared intra-individually to determine if a difference existed in the subjective rating of the impact of life experiences before and after administration of the programme. After calculating the means and standard deviations of applicable stressors, distress, eustress, and distress plus eustress, it was apparent that stress levels were not significantly different so the Wilcoxon matched-pairs test was not performed (Table 3). There was a large variance between the athletes, particularly with respect to applicable stressors. For instance, at the beginning of the season one athlete had a total of 3 applicable life stressors with eustress = 0 and distress = 4 while another had a total of 28 applicable life stressors with eustress = 16 and distress = 42.

Table 3

Means and Standard Deviations of LES and ALES

<table>
<thead>
<tr>
<th></th>
<th>Pre-intervention stress levels (M ± SD)</th>
<th>Post-intervention stress levels (M ± SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total applicable stressors - LES</td>
<td>14 ± 8.83</td>
<td>13.14 ± 6.91</td>
</tr>
<tr>
<td>Total applicable stressors - ALES</td>
<td>29.29 ± 13.49</td>
<td>24.57 ± 12.90</td>
</tr>
<tr>
<td>Total distress - LES</td>
<td>17 ± 11.51</td>
<td>13.43 ± 11.69</td>
</tr>
<tr>
<td>Total distress - ALES</td>
<td>22.57 ± 7.98</td>
<td>23.29 ± 12.37</td>
</tr>
<tr>
<td>Total eustress - LES</td>
<td>9 ± 8.45</td>
<td>8.86 ± 7.43</td>
</tr>
<tr>
<td>Total eustress - ALES</td>
<td>21.4 ± 14.48</td>
<td>16.71 ± 12.72</td>
</tr>
<tr>
<td>Total distress and eustress - LES</td>
<td>27.43 ± 20.15</td>
<td>22.14 ± 16.05</td>
</tr>
<tr>
<td>Total distress and eustress - ALES</td>
<td>44 ± 19.00</td>
<td>40 ± 21.89</td>
</tr>
</tbody>
</table>

The athletes were questioned regarding the stress inventories. One athlete expressed that filling out the inventories was awkward, stating,
Some of the wording didn’t fit it, like diet. I didn’t really know if it was a diet or just normal. Weight control, instead of saying satisfied weight. At the beginning it was simple, like just yes and no. Near the end I had to think about it more, like teammates’ expectations?

INJURY DATA

Of the seven athletes who were interviewed, Patrick and Craig were not seen in the clinic for injuries this season. Patrick substantiated this during the interview stating he was completely injury-free. Patrick started on special teams for every game of the season. He was also second string in the position of tail back and played one game at tail back. Although Craig was not seen in the clinic he stated he injured his fingers during blocking drills. He did not seek medical attention other than for prophylactic taping for practice. This injury modified his catching technique but he did not miss any practice time as a result of this injury. Craig did not dress for any games.

Sam was seen in the clinic on one occasion for a customized mouth guard after receiving a blow to the chin. Sam experienced a ‘hip flexor problem’ but he emphasized that this was not really an injury and did not seek medical attention. Sam was a second stringer who was on the field in every game although he stated that he did not get much ‘action’.

Doug stated he had a ‘couple of muscle pulls, strains’ for which he did not seek medical attention. He was punched in the groin during a game and sought medical care but this injury did not cause him to modify or miss practice or game time. Doug was a starter for all the games, playing in every offensive down and special teams of all games.

Selwin stated he hurt his shoulder and his knee. He was seen in the clinic for his shoulder injury which was recorded as a probable subluxation. These injuries did not take him out of practices or games but he did modify his practice for approximately two weeks. Selwin was a
starter for every game playing defensive back for every play except for the game he was pulled from due to illness.

Karl experienced a sprained ankle which took him out of one practice. He was seen in the clinic for this injury which was graded as a mild ankle sprain. He described coping with this injury by blocking it out using imagery. His practice was slightly modified for approximately one week. Karl dressed for three games but did not play.

Jamal stated he experienced four injuries throughout the season but only two injuries were recorded in the clinical records. His first injury was a sprained wrist at training camp. He was not seen by the physician at the clinic but was treated by the therapist at the field. This injury took him out of practice for one day with no contact for approximately half a week. He had a brace molded for his wrist and used this for the remainder of the season. His second injury was a sprained ankle which occurred in the first game. He had the ankle taped and played through the rest of the game. Jamal was seen in the clinic, missed three to four days of practice and played in the next game. He stated he probably should have been out longer but the team was short players for his position. He dressed for this game but would only go in if someone was injured. In the third game he stated that he dressed but did not play. He stated his ankle was still effecting his performance. Jamal stated that ‘another guy stepped up and they thought he was doing the job.’ Jamal attributed losing his starting status to his injury. In the sixth game Jamal strained his groin and gluteus. He was seen in the clinic for a strained gluteus and was told to walk through practice. This injury did not prevent him from dressing for games but he was out of practice for two days. He continued playing on special teams.

Of the two athletes who were not interviewed, one athlete experienced two separate injuries, left knee meniscus and a left shoulder instability. These injuries did not result in playing
time restriction but may have caused the athlete to modify practice. This athlete was a starter who played in every game. The second athlete experienced one chronic injury involving pelvic instability. Playing and practice restrictions were not obtainable. This athlete was not a starter but dressed for every game. He did have some playing time but again accurate information was not available.

In summary, the intervention group for the purposes of comparing the injuries consisted of nine athletes. The athlete who did not play due to academic suspension was excluded. Of the nine athletes in the intervention group, two were not seen in the clinic by the physician. One of these athletes did not dress this season. A total of nine injuries were recorded for the remaining seven athletes in the intervention group.

Of the 12 athletes in the control group, 8 were seen in the clinic by the physician this season. Of these eight athletes, a total of 19 injuries were recorded. Two of these athletes experienced four injuries each and a third experienced 3 injuries. Of interest, these three athletes were starters and had a lot of playing time. The remaining athletes comprising the control group dressed for all games but may not have been starters and/or have had a lot of playing time.

Although the control group experienced 58% more injury than the intervention group, an independent t-test found no significant difference in injuries sustained between the intervention and control group [t(19) = -1.05, NS]. Athletes participating in the mental skills training programme did not sustain significantly fewer injuries than the athletes who did not participate in the programme.
### Table 4

**Injury Data**

<table>
<thead>
<tr>
<th></th>
<th># of athletes</th>
<th>no injuries record</th>
<th>total injuries</th>
<th>average injuries per player</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention</strong></td>
<td>9</td>
<td>2</td>
<td>9 injuries</td>
<td>1 injury per player</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td>12</td>
<td>4</td>
<td>19 injuries</td>
<td>1.58 injuries per player</td>
</tr>
</tbody>
</table>
CHAPTER FIVE

DISCUSSION

The purposes of this study were to determine football athletes’ experiences with a mental skills training programme and to observe the effects of this programme on stress levels and injury rate. Exploring the athletes’ experiences addressed the caveat of past research which has failed to determine if and how athletes use mental skills. Furthermore, stress levels and injury rates can be truly assessed only after determining if an intervention programme was actually used by the athlete and/or used correctly. The information gathered from this study can be used to further existing knowledge, provide empirical and theoretical direction for research, and for the development of mental skills and intervention programmes for injury and stress levels, particularly for football. Therefore, the discussion will abridge empirical, theoretical and practical findings with respect to mental skills, injury and stress data, and will make inferences for future research.

EMPIRICAL AND PRACTICAL IMPLICATIONS FOR MENTAL SKILLS

In reviewing the athletes’ use of specific mental skills, themes emerged involving situations or stressful events with associated emotional, cognitive and/or behavioural responses. This information is both practically and empirically useful in understanding the stressful events a football varsity athlete faces, how the athlete responds, and how mental skills can be implemented effectively to cope with these situations.

Although similar themes involving situations and emotional responses emerged from the interviews, the use of cognitive and/or behavioural mental skills varied among the athletes. All of the athletes described using mental skills in the past which they learned about through formal instruction, coaches’ instruction, self-learning, observing other athletes and/or hearing about
mental skills on television, or simply occur naturally. The athletes who had experience with mental skill instruction tended to give more detailed descriptions of mental skills use, particularly with relaxation and imagery. The athletes with little or no formal instruction in cognitive or behavioural mental skills prior to this study also had strategies in place within the basic skills of goal-setting, relaxation/centering, imagery and cognitive restructuring. At times the strategies were more simplistic or described in less detail, but never-the-less the athlete developed individual strategies without prior mental skill instruction. For instance, all of the athletes had ways to relax themselves which included using humour and watching comedy on television the night before a game.

Kerr (1993) stated that many athletes have developed their own performance strategies that work well for them and it may be disconcerting for sport psychologists to admit that many athletes seem to cope adequately with the demands of sport. However, all of the athletes in this study reported at least one insight gained from participation in this mental skills training programme. I would argue that all athletes, novice to elite, can benefit from and gain new insights regarding mental strategies for sport and life through structured programmes. Therefore, it is worthwhile to implement mental skills training programmes, thus adding to the repertoire of strategies an athlete may already possess, consistent with the recommendations of past research (Meichenbaum, 1993; Vealey, 1988).

Fenker and Lamboitte (1987) discussed the difficulty in delivering a mental skills training programme with football athletes due to the variety of athletes’ personalities and attentional styles required for the various positions on a football team. When the athletes’ varied past experiences with mental skills is also taken into account, the difficulty in implementing a group programme for football increases. It is recommended that the diversity of football players
be considered in designing a mental skills training programme to keep the interest of those who know a little more, as well as teach the basics to those who may know less about mental skills. This difficulty was avoided within this study due to the small number of participants and the ability of the facilitator to work one-on-one with most of the athletes. In the future, if it is unrealistic for the facilitator to work individually with each athlete it may be worthwhile to have the more experienced athletes share their use of mental skills. This will allow the facilitator to monitor current use of mental skills by the more experienced athletes while empowering the veteran athlete and teaching the novice.

Adding to the difficulty of delivering a mental skills training programme is individual preferences. Psychological skills training programmes, particularly Meichenbaum’s stress inoculation training, advocates a multifaceted approach which caters to the needs of each individual (Meichenbaum, 1993). Meichenbaum’s ‘cafeteria-style’ delivery of mental skills allows the individual to choose the skills which he or she likes best. Individuality was demonstrated by the athletes in this study, particularly with relaxation/centering and preparation/planning. Half of the athletes stated they liked relaxation, although this relaxation did not include PMR, and the other half liked imagery. Two athletes stated they liked the goal-setting while Jamal stated that he did not. These findings support a multifaceted approach in order to cater to individual preferences.

A wealth of information was gathered regarding the specific use of each component within the mental skills training programme. This information addresses the caveat of past research which has failed to determine specific use of mental skills within a multi-component programme. Hence, the empirical and practical implications of each component will be discussed.
Self-Talk

Cognitive therapy is based on the premise that one’s thoughts and beliefs have self-enhancing or self-defeating effects (Beck & Weishaar, 1995). Upon acceptance of this assumption the first technique of cognitive restructuring, which was outlined in the manual is ‘listening in’, training to hear yourself think. This is one of the most difficult steps in cognitive restructuring. Although this programme increased the athletes’ awareness and/or served as a reminder of the possible self-enhancing and self-defeating effects of internal self-dialogue, the athletes still reported negative self-talk throughout the season. Negative self-talk was identified as contributing to errors (i.e. thinking too much) and was also used after an error, in the case of ridiculing oneself. Many times the athlete appeared to work through this negative self-talk, either by thinking it through further and/or implementing another mental strategy. By the same token, positive self-dialogue was used to carry the athlete through the situation to increase self-confidence. Self-talk appeared to be a double-edged sword, a negative strategy which could get an athlete in trouble, particularly if he talked too much, as well as a positive strategy that could motivate and build self-confidence.

The negative self-talk reported immediately after an error did not appear to be detrimental to the athletes’ performance, unless it continued throughout a practice or game. Perhaps what characterizes successful athletes is the ability to recognize an error, quickly ‘kick yourself’ and move on. ‘Kicking yourself’ may be an important step in this process serving as a form of self-punishment to deter from making the same mistake again and/or serve as a motivator to compensate for the past mistake in the next play. It may also be a way to vent (i.e. acknowledge and validate the anger or disappointment) rather than harbouring negative thoughts.
Following the acknowledgment of an error, ‘Let it go!’ or ‘Turn the Page!’ was a dominant theme that emerged from the qualitative analysis. One of the coaches contributed to this by continually reiterating to the athlete to let mistakes go, either mistakes made by oneself or by a teammate. Ravizza and Osborne (1991) recognized the importance of ‘let it go’ and designed a successful ‘one play at a time’ routine for football. This routine involved 3 R’s, ready, respond and refocus. Ready at the whistle, respond during the play, and refocus between the end of one play and the beginning of the next. This refocus time period allows the athlete to quickly reflect, process and let go of the past play. Elaborating on the 3 R’s routine may be worthwhile as part of a mental skills training programme for football. In instances where an error or a complete play cannot be reflected upon quickly between plays the athlete can be reassured that he can refer to it later while watching film or after the game if further analysis is warranted. ‘Let it go’ can also be thought of as ‘parking’ which involves setting aside a stressor to be dealt with at a later time (Orlick, 1990).

Of interest, an observation by the facilitator was the team’s general overt use of positive self-talk with statements such as the outcome goal of winning the championship cup and the apparent ‘not so positive in nature’ discussions that were overheard in the dressing room. These discussions may have reflected covert beliefs. Although none of the athletes who were interviewed reported positive self-talk that appeared inconsistent with underlying beliefs, this is an area that may present a difficulty, particularly with football which has been characterized with the ‘macho dimension’ (Fenker & Lamboitte, 1987). This possibility is consistent with the athletes’ reports of the importance of not revealing intimidation or fear to the opponent. The athletes expressed that one may feel intimidated but cannot let the opponent know it. Therefore, if one presents an external image with positive self-talk it may mask true underlying negative
beliefs. Within cognitive restructuring, reframing negative self-talk involves exploration of underlying beliefs, not simply ‘painting’ over with a positive statement (Leahy, 1996). Bell (1983) cautioned that if an athlete reframes the situation changing self-talk, but the belief of the negative self-statement remains, behaviour will not change. Future recommendations for mental skills training in football include exploring both negative and positive self-talk and possible conflicting underlying beliefs, as well as the influence of the ‘macho’ aspect on thoughts and beliefs.

Overall, the findings of positive self-talk were associated with increased self-confidence and optimal performance, consistent with previous research (Gould, Eklund & Jackson, 1992a; Gould, Eklund & Jackson, 1992b; Orlick & Partington, 1988). Similarly, negative self-talk was associated with a lack of confidence and non-optimal performance.

Negative self-talk that contributes to an error should be worked through and an attempt made to eliminate this self-defeating dialogue. An exercise could be to identify all negative self-talk that has contributed to past errors in order to deal with a similar event in the future. The entire play could then be cognitively restructured and rehearsed in imagery.

Another consideration for future research and applied sport psychology is to address the misconception that talking to oneself may equate to being ‘crazy’, a reference made by two athletes. It seems important to inform athletes that internal dialogue is a natural occurrence and that this is very different from talking to oneself out loud as a result of psychopathology. It is interesting to note that previous research has not examined this view that talking to oneself is an unhealthy behaviour.
Relaxation and Centering

All of the athletes had developed their own ways of relaxing and centering, although some of the athletes had no formal instruction. This is in keeping with the findings of Jones and Hardy (1990) that relaxation was used by athletes whether or not they had had formal training in relaxation techniques. Again, this also supports Kerr's (1993) statement that many athletes develop their own performance strategies. The techniques varied between participants with the most elaborate techniques being described by the athletes who had formal instruction. After instruction with PMR, body scan relaxation, breathing and relaxation or centering on cue, the athletes differed in the selection of strategies they chose to implement. The breathing and body scan type of relaxation was used more frequently than PMR, although PMR was used by several athletes who had never used it in the past. These individual differences in the use of relaxation and centering techniques for self-regulation of arousal may be a reflection of the variation of optimal levels of arousal consistent with past research (Vealey, 1994, Zaichkowsky & Takenaka, 1993) or it may simply be a matter of preference.

Relaxation and centering appear to be skills that are highly individualistic and these individual differences should be respected. Rather than forcing athletes to participate in a specific relaxation exercise, it is recommended that all forms of relaxation be taught within a mental skills training programme to increase an athlete’s repertoire of skills from which to choose (Meichenbaum, 1995). The athlete should be informed of the individual nature of relaxation, such that if one strategy does not suit his or her needs, other ways to achieve relaxation exist, such as going for a walk and using humour. Having said this, individual differences are important to recognize in a practical sense but this makes future research more difficult particularly in ascertaining the benefits of specific techniques. It is suggested that future
research attempt to determine individual methods employed to achieve relaxation. The need to attend to individual differences also supports the use of qualitative inquiry.

**Imagery**

Imagery was a skill that the athletes described as occurring ‘naturally’. This is consistent with Orlick and Partington’s (1988) findings that 99% of athletes used imagery to some extent. Although imagery appeared to be used naturally with all of the athletes, the vividness, controllability and awareness of imagery varied extensively among the participants. Again, the athletes with previous instruction reported more elaborate imagery prior to participating in the mental skills training programme. However, previous instruction was not the sole factor that distinguished vividness or greater use of imagery. Past research has demonstrated that more successful athletes have more vivid imagery and more control over imagery (Gould & Damarjian, 1996). An objective measure of success was not included as part of this study but it was noted that Selwin, who had no formal instruction in imagery and was a successful starter, gave a more detailed description of imagery.

The interviews with the athletes would suggest that imagery does occur naturally, but is ‘more’ natural in some than others despite formal instruction. Formal instruction teaches the athlete to incorporate aspects of imagery such as controllability and vividness that may not have just naturally occurred. This was demonstrated with Sam who had previously had vivid imagery incorporating all of his senses but was not aware of the controllability factor which allowed him to ‘rewind’ his imagery to work through mistakes or find alternative solutions. It was interesting to note that the two athletes who gave more detailed descriptions of imagery, Sam and Selwin, both commented that the ability to control imagery by rewinding and going over a play that went badly was a new aspect of imagery they had not used in the past. Hall, Schmidt, Durand and
Buckolz (1994) reviewed the findings of imagery, motor skill acquisition and imagery involving incorrect performances. Research suggests that negative imagery is detrimental to performance. Hall et al. (1994) suggest that if the negative imagery involves making a correction, beneficial results may be realized. It appears that Sam and Selwin both realized the benefits of detecting and correcting errors in imagery.

All of the athletes, with the exception of Sam, learned that imagery could be enhanced by incorporating all of the senses. Enhancing the vividness of imagery was particularly beneficial in rehearsing scenarios where the athlete would get anxious. Past research on imagery has explored the value of increasing vividness by incorporating all of the senses; seeing, feeling kinesthetically, hearing, smelling, tasting, and mood (Gould & Udry, 1994; Orlick, 1986). Much of this research involving mood is related to the arousal or activation theory whereby imagery is used to achieve physiological and mental activation that is optimal for performance (Suinn, 1993). The athletes in this study described incorporating emotion, not only as a preparatory strategy but to gain control over emotions experienced during particular events. For instance, Doug and Selwin both described incorporating emotions of anxiety and panic, respectively. Oddly enough, both scenarios involved the ball going deep into the end zone, one athlete a receiver and the other a corner. Doug rehearsed the play where he dropped the ball in the end-zone. He imagined how he would feel knowing the ball was coming to him and he was going to get a touch down. Selwin incorporated the panic feeling he would get when the ball was going deep. Incorporating emotions in imagery appears to help athletes build self-confidence in situations where they may become a little anxious. Future mental skills training programmes should identify situations where athletes may feel anxious and incorporate the emotions into imagery to help the athlete gain control over states such as fear and anxiety.
Of interest, two athletes commented that when they are in their optimal zone they do not hear anything, such as an opponent’s trash talk, although important cues such as teammates’ instructions are heard. This perceptual processing of salient environment cues has been examined within sport psychology literature. It has been demonstrated that more highly skilled athletes are better able to extract relevant environmental cues and respond accordingly while ignoring non-relevant environmental cues (Wrisberg, 1993). This may be an important consideration in the instruction of incorporating all the senses into imagery, instructing the athlete to monitor environmental cues, hearing only what is beneficial while blocking everything else out.

The use of imagery in facilitation of learning and motor skill acquisition is well documented in the literature (Hale, 1994; Hall, Schmidt, Durand & Buckolz, 1994). The athletes did report using imagery while learning new skills, particularly as a means of providing feedback when they were unable to obtain constructive feedback from coaches. Imagery in motor skill acquisition is an excellent strategy to implement particularly if the coaching staff is sparse.

Imagery was used to maintain readiness on the sidelines, especially by second string athletes. The second string athletes contend with having to be ready at any instant. One athlete described this as standing at the edge of cliff, not knowing when or if he would jump. The second string athletes described using imagery by placing oneself against the opponent or imaging oneself as the opponent. At the same time, the second string athlete would be analyzing the first string athlete’s performance, imaging what he would have done in a particular situation. The use of imagery by these athletes to maintain and/or control arousal is consistent with the literature supporting an arousal or activation theory with the use of imagery (Suinn, 1993). The arousal theory suggests that imagery ‘establishes a level of arousal or physiological activation
that is optimal for performance’ (Suinn, 1993, pp 495). Imagery therefore, can be incorporated into a mental skills training programme for football and used specifically to establish and/or maintain readiness on the sidelines.

**Goal-Setting**

Burton (1993) stated that the literature on goal-setting in sport suggests that athletes may not fully understand the goal-setting process, therefore leading to the use of ineffective strategies. In examining the goal-setting practices among 204 collegiate athletes from various male and female sports, Burton (1993) found that athletes set competition goals more frequently than practice goals and were more concerned with outcome than process goals. All of the athletes in this study had used goal-setting in the past but may have not been aware of the guidelines, such as the SMART principle; setting specific, measurable, attainable, realistic and time-targeted goals. Although the athletes were aware of the goal-setting principles this season, they did not always follow the guidelines, particularly with respect to setting process goals leading to the outcome. Jamal epitomized this when describing outcome goals, focusing only on games won or lost. It was also interesting to note that the athletes could not define the goals set by the team for the season, other than winning it all. These findings substantiate Burton’s (1993) comment that athletes may not employ effective goal-setting strategies.

Even after setting SMART principle goals, 6 of the 8 athletes were not happy with their performance because they did not achieve outcome goals. Although these outcome goals were not totally within the athletes’ control, the athletes perceived this as being, at least partially, unsuccessful goal attainment. The control factor in goal-setting, which was discussed in the educational component of the programme and outlined in the manual appeared to go unnoticed. The majority of the athletes wanted to have control over situations they knew they could not,
such as playing time. If an athlete played to the best of his ability and was not a starter, he interpreted this as failure even though when questioned, the athlete knew that he had no control over the situation. The athletes did not like the fact that some things were simply outside of their control.

Setting outcome goals and goals that the athlete cannot control appears to be rooted deeply in the patterns of athletes. Perhaps this is due to an emphasis on the outcome goal of winning and improper instruction of goal-setting throughout the athletes’ career. Helfinch (1986) discussed the distortion of an athlete’s concentration when the main goal was to win. If winning is a primary concern the mind naturally thinks about the score instead of performance. Perhaps outcome goals should not even be stated so as to not have the athlete focus solely on the outcome. An outcome goal may provide motivation in striving to attain what is slightly out of reach but, unfortunately, it appears that for many athletes the outcome goal obscures the process.

The guidelines of setting specific, measurable goals may also contribute to the emphasis being placed on outcome. For instance, Locke and Latham’s (1990) example of outcome goals for a receiver catching five balls in a row may set an athlete up for disappointment, particularly if the quarterback is unable to throw the ball accurately. A more appropriate outcome goal focusing on the process would be to run a hard, accurate pattern or ‘deak’ the opponent.

Locke and Latham (1990) emphasized the importance of providing feedback about goals by logging progress on a chart or writing down goals. Although the athletes found it difficult to maintain written records of weekly goals, they recognizing the importance in demonstrating exactly what they should be doing and monitoring their progress. The athletes also stated that while they may have not been recording weekly goals, they were thinking about them.
Burton (1993) suggested that failure to implement proper goal-setting strategies may explain why goal-setting research in sport has been only moderately effective. The findings of this study would also suggest that although athletes have knowledge of proper goal-setting strategies they fail to employ them. A recommendation for future applications of goal-setting in sport is to educate athletes and coaches about proper goal-setting strategies with the addition of a new problem associated with goal-setting. Emphasis should be placed on how outcome goals can obscure the process goals necessary in achieving a desired result. Perhaps outcome goals should not be stated or altogether omitted from goal-setting strategies. The goal-setting strategies of athletes should also be closely monitored. It should not be assumed that effective goal-setting strategies will be adopted after educating the athlete.

**Preparation and Planning**

The findings with respect to preparation and planning were similar to those of relaxation and centering in that all of the athletes had a pre-competition routine prior to this season and each athlete had a different way of preparing for a game. The highly individual preparation and planning strategies continued throughout the season and can be attributed to the variations in optimal level of arousal (Vealey, 1994, Zaichkowsky & Takenaka, 1993). With respect to pre-competition plans, Taylor (1995) noted variations in ski racers’ preparation time before a competition and stated that athletes should understand their pre-competitive styles and how best to manage their environment to maximize their performance. Having said this, it may also be worthwhile to maintain flexibility in a preparatory plan, as what may be appropriate one day for an individual may not be appropriate on another day under different circumstances.
Exercises within the Programme

Many mental skills training programmes involve a ‘homework’ or exercise component where the athlete can work through aspects of a mental strategy before practicing it and incorporating in vivo (Vealey, 1994). Within cognitive therapy, ‘homework’ assignments allow the client to self-observe and work through personal issues (Beck & Weishaar, 1995). The homework assignments within this programme were designed to allow the athlete to individualize strategies based on his needs. Feedback on the exercises was quite varied with no consensus on any single exercise. For instance, one athlete did not like the exercise in assessing optimal level of intensity by reviewing a best and ‘not-so-best’ performance. He did not like to focus on past mistakes by actually writing them down. Rather he would acknowledge his mistake briefly and move on. A second athlete did not like to rigidly structure a pre-competition routine, as the preparation required for each game varied depending on changing circumstances. Both of these athletes developed alternative strategies to obtain the same goal of each exercise. Roper & Kerr (1998) also noted that athletes preferred to have flexibility in the completion of homework assignments within a mental skills training programme. Therefore, it is recommended that future programmes allow the athlete the opportunity to alter an exercise or leave it out all together in order to adapt to specific needs.

Life Skills

Danish and Hale (1981) were pioneers in recommending personal development, in addition to performance enhancement as goals of mental skills programmes for athletes. Since this time many mental skills training programmes have incorporated life skills, teaching the athlete the transferability of mental skills to other situations, such as academics (Carr & Bauman, 1996). The use of mental skills in situations other than football was discussed in the
sessions with the athletes and was also outlined throughout the manual. Examples given included goal-setting in academics and relaxation and centering strategies in examinations and job interviews. It was encouraging to note the athletes’ use of life skills this season, including centering to decrease anxiety, imagery to figure out how to deal with a specific situation, goal-setting in academics and self-talk in various instances. Several athletes reported that they would not have used these mental strategies if it was not for their involvement in this programme. The mental skills training programme not only increased the athletes’ coping skills repertoire for sport, but also for other life situations. All mental skills training programmes for sport should use examples and make reference to other situations where the athlete may benefit from the use of mental skills, such as academics, professional and personal affairs. The athletes may adapt these skills, particularly if specific examples are given and applications are encouraged.

**EMPIRICAL AND PRACTICAL IMPLICATIONS OF SITUATIONS AND EVENTS**

The situations and events was a dominant theme that arose from the qualitative analysis and is an important consideration for future mental skills training programmes. These findings can be used in the needs assessments for future programmes, particularly for football. Discussing these situations may demonstrate to the athlete that the stressful events he may be experiencing are common. At times this commonality provides comfort, knowing that one is not alone. Addressing these situations may also prevent another athlete from experiencing similar events and/or prepare another athlete for an event.

**Balancing the Life of a Student/Athlete**

Lack of time and academic responsibilities were common stressors among all of the athletes. This is consistent with past research demonstrating the excessive time demands of a student athlete (Wrisberg, Johnson & Brooks, 1997). From summer camp with two practices a
day, directly into regular season and school, not to mention part-time jobs, familial commitments, and possibly a long commute between campuses, all of the athletes expressed concern about time demands. A first year athlete, viewing his season retrospectively commented that he could have distributed his time differently, possibly taking 30 minutes to 1 hour to read after class and before practice.

These findings emphasize the importance of incorporating life skill development with athletes, particularly time management instruction. Perhaps an innovative way of doing this would be to have veteran athletes talk with incoming athletes about the types of stressors they are likely to encounter and possible ways of dealing with them. A veteran relaying this information to the rookie athlete would validate the importance of developing a plan to cope with academics. After all, playing on the team is contingent upon maintaining good grades. One of the athletes involved in this study knew this all too well; although he participated in the mental skills training programme he did not play this season due to academic difficulties.

**Team Issues**

The team’s attitude, lack of cohesion and teammates’ errors were dominant themes which negatively impacted upon the athletes. These circumstances may be consistent with teams that are not performing successfully, as was the case with this team. With respect to teammates’ errors, one coach was instrumental in guiding the athletes to quickly acknowledge an error and quickly move on.

With respect to the team’s attitude and lack of cohesion, the athletes who were interviewed had developed individual ways to deal with these circumstances such as isolating oneself from the negativity. This strategy may have aided the individual athlete to cope immediately but in the long run the individual strategies only contributed further to the lack of
cohesion. This mental skill training programme involved only 10 of the 55 athletes and could not impact upon the whole team.

Westre and Weiss (1991) explored the relationship between perceived coaching behaviours and group cohesion in high school football teams. Players assessed the coaching styles and cohesion of the team. Westre and Weiss found a significant relationship between coaching style and team cohesion. Coaches providing higher levels of social support, training and instruction, positive feedback and a democratic style were associated with higher levels of task cohesion within the team. It is recommended that a coach take an active role in the development of cohesion among a team by engaging in these behaviours.

**Coaching Issues**

The coaching staff as a source of eustress and distress was an emergent theme from the qualitative analysis. In particular, a position coach was mentioned by several of the athletes. The athletes felt that this coach was instrumental in helping to eliminate negativity after errors were made, either by the athlete or a teammate. This coach would stated, “Put it away. If you don’t put it away it will take you off the game plan.” A second athlete commented on another coach who arrived late into the season. This coach provided specific recognition and feedback to the athlete. The fact that the athletes commented on the positive influences these coaches had on their mental attitude is testament that the coach can serve as a credible and instrumental character in supporting mental skills and reminding the athletes to implement the strategies. Gould and Damarjian (1996) emphasized the importance of maintaining coaching support for sport psychology programmes and suggested that coaches can reinforce the importance of mental skills on a daily basis. It is suggested that future mental skills training programmes attempt to have the coaching staff be part of the delivery process of mental skills, if only to serve
as a reminder for the athletes throughout the season. This could be accomplished by either having the coaches observe or participate in the sessions and/or provide the coach with reading material and suggestions of ways to remind the athletes to use the mental strategies throughout the season.

Lack of feedback from the coaches was a source of frustration for the athletes. Mercer (1990) suggested that coaches should find one positive thing about every player and relay this to the athlete to demonstrate interest and concern. One athlete was particularly discouraged over the lack of feedback from his position coach and the fact that the coach did not refer to him by his name. The coach would call him ‘boy’ or ‘son.’ This reference, which can be interpreted as discriminatory, enraged the athlete but he did not communicate this to the coach. This occupied much of the athlete’s thoughts, to the point where he made it one of his goals to have the coach call him by his name. Fortunately, a second coach arrived late in the season who provided positive feedback to this athlete and also called him by his name.

Making reference to an athlete as boy or son can be interpreted as discriminatory. Anshel (1990) explored the perceptions of black intercollegiate football players’ interaction with white coaches and found that the athletes perceived coaches to have a general lack of sensitivity to individual and socio-cultural needs of black players. Specifically, negative feedback, lack of communication, lack of honesty and lack of psychological support were specific areas in which the athletes expressed concern. Anshel recommended that sport psychologists should become aware of cultural issues. A coach should also educate, not only himself but other coaches and athletes regarding specific socio-cultural and psychological issues that may adversely affect the athlete or team.
The coaching staff was a source of distress for the athletes, particularly surrounding the issue of not being played. Several athletes perceived that the coach was not completely honest when discussing playing status which lead to feelings of frustration and discouragement for athletes who did not play or did not play as much as they believed they should. Even the athletes who had substantially more playing time expressed their belief that the coaching staff was not straight forward regarding playing time. Playing status, second string issues and not dressing were linked to coaching issues but was also an emergent theme under stressful situations and events.

**Second String Issues, Not Playing and Not Dressing**

Football is a rather unique sport in that it has a large portion of athletes who do not start, may not play and/or do not dress for a game. Only half of the team usually starts due to sheer numbers alone. There is no doubt that playing status is an important factor in football and consequently, playing status is a variable that has been included in many studies involving football (Petrie, 1993; Westre & Weiss, 1991). One athlete lost his starting position due to injury and was not able to regain it. Competing for and attaining a starting position was a goal for many of the athletes this season. Unfortunately, this goal was not always met and was not always within the control of the athlete. The athlete cannot control for teammates' performances, coaches' decisions and injury. Although the athletes knew that playing status was not totally within their control, they expressed disappointment with themselves. The athletes expressed a belief that they could have more control over this situation, making such statements as, “If only I could have...”.

The athletes in this programme developed mental strategies to cope with ‘being on the edge of a cliff’, waiting to play. Imagery was used by many to maintain readiness on the
sidelines. The athletes also set goals in an attempt to attain a starting position, to play or simply dress for a game. Considering the effort the athlete placed on improving his chances of playing or dressing, when this goal was not attained the athlete expressed frustration and discouragement. Playing status is an obvious stressor faced by football athletes and should be part of any mental skills training programmes developed for football. A recommendation for mental skills training programmes for football is to develop strategies to reduce the dissatisfaction associated with this unavoidable situation. Perhaps setting an outcome goal to start or dress should be avoided or developed in collaboration with the coach including situations which the athlete cannot control. It is also suggested that coaches improve communication with the athletes regarding playing status, not only at the beginning of the season, but throughout and at the end of the season.

**Game Film and Fans**

Performing in front of a scrutinizing audience and the awareness of being filmed were emergent themes identified as distractions during a game. For instance, one athlete reported that during the game he thought about the need to be perfect in alignment for the filming. The coach contributed to this athlete’s need for perfection by ‘going crazy’ when the alignment was wrong. The athlete was focusing on an inappropriate task, his alignment during a game, when he should have been focusing on his opponent. Russell (1990) suggested that athletes of different skill levels might focus on different aspects of a task, with novice athletes focusing on physical demands, mid-level athletes on technical skills and high level athletes on cognitive tasks. Perhaps higher level athletes could assist the more novice and mid-level athletes in the development of strategies to deal with these distractions. While reflecting on this distraction during the interview, this athlete realized that focusing on his own alignment detracted from
concentrating on his opponent and was a detriment to performance. His solution for the
following year and/or for other athletes who may have a similar experience was simply being
aware that this could be a distraction and developing a strategy to block out the need to be in
perfect alignment for the film.

**Losing**

Mercer (1990) in an article on motivating a losing team concluded that knowing how to
handle losing when it happens and how to maintain confidence is important. This article
provides suggestions for a coach such as maintaining a positive attitude and keeping practice
interesting, but perhaps the athletes should also know how to handle losing. The losing season
was a source of stress for most of the athletes, although one athlete expressed that he was
accustomed to losing. This athlete maintained a positive attitude. He had set an individual goal
of improving upon his skills, which was realistic for a first year athlete. He did not intend to
dress.

Although the negative attitude of the team was a theme that developed through the
qualitative analysis, one athlete commented that no one was angry enough at the fact that the
team was losing. Generally, the team members accepted losing but also gave up hope in the
process and were unable to maintain confidence in accepting loss. Perhaps if a team goal had
been realistically set given the relatively young athletes, coping with the loss and maintaining
confidence would have been fostered. As suggested by Mercer (1990), it is important that the
coaches play a role in setting realistic team goals each season.

**Physical Size and Strength Dominance**

Football is a physical sport where the bigger, stronger and faster teams and athletes
typically dominate. Having said this, smaller, weaker and slower teams have won games over
bigger, stronger and faster teams (Fenker & Lamboitte, 1987). There is something to be said for mental toughness. Although athletes may recognize that being bigger, stronger and faster is not necessarily the determining factor of success this ideology is prevalent in football. The increased use of anabolic steroids within competitive sport and even non-competitive populations is testament to the pressure placed on individuals to be bigger, stronger and faster (Gregg & Rejeski, 1990). The Canadian Intercollegiate Athletic Union has recognized the pressure placed on athletes and is in the process of developing a peak performance manual for football athletes in an attempt to demonstrate that anabolic steroids are not the answer. This manual will be delivered as an alternative to drug use outlining physical training regimens in the off-season combined with nutrition and mental skills (Laycoe, in press).

The athletes expressed intimidation, fear and frustration when discussing physical size dominance of the opponent. One athlete commented on comparing himself with his opponent on the depth chart prior to a game. It may be beneficial to know who you are up against before a game so as to prepare but in some instances it may serve as anxiety-provoking. Height and weight of the opponent are important factors to include on the depth chart but perhaps the depth chart could be revised to include a factor that is within the control of the athlete or an aspect of the opponent that can be capitalized upon. Mental skills training programmes for football should address this issue emphasizing the importance of mental attitude, commitment and training in the off-season.

ACKNOWLEDGMENT OF PSYCHOLOGICAL STATES

Distinct affective themes developed when inquiring about mental skills used as coping strategies during stressful events. Similar emotions and feelings were expressed across various situations and events. As with the situations and events that emerged from the qualitative
analysis, acknowledgment of the psychological states that are common among football players is important practically in the development of future programmes and empirically for future research.

**Intimidation, Fear and Aggression**

Intimidation and fear were expressed in situations where confidence in ability was lacking and when the athlete compared physical size and strength with an opponent. Fear and intimidation was also linked with non-optimal performance and was viewed as a sign of weakness that could be capitalized upon by an opponent. The importance of hiding intimidation and fear from the opponent was expressed by several athletes. In coping with intimidation and fear the athletes would use self-talk, either confidence boosting self-talk such as ‘I know what I can do!’ or aggressive self-talk, such as ‘I’m going to kill one of those guys!’

Aggression was also seen as necessary within the sport of football and several of the athletes discussed strategies they used to build up ‘enough aggression’, believing that they performed better if they are more aggressive. An athlete commented that the only time he would not injure his fingers during blocking drills occurred when he built up enough aggression. This athlete also stated that being too aggressive may be counterproductive. A quote by Robert Lewis, a defensive lineman with the Dallas Cowboys summed it up by stating, ‘You must be aggressive, but you can’t go completely nuts because you will make a lot of mistakes. It’s a difficult balance.’ (Dowdall & Meehan, 1995). Cox, Qui and Liu (1993) suggested that a high level of aggressiveness with associated increased arousal may be ideal for a very physical sport and this was echoed by the athletes in this study. Hayes (1990) also stated that the fear factor in football may contribute to improved performance and suggested that the solution lies in improving the athlete’s confidence and self-image.
The athletes’ use of self-talk to increase aggression was similar to the self-talk used when experiencing intimidation or fear, either aggressive self-talk or confidence boosting self-talk. One athlete would think of external factors such as an argument he had with his father, to build enough aggression during a game. It could be argued that thinking about external factors may detract from concentration. Incidentally, this was the athlete who was plagued with injury throughout the season. Although there is no empirical research to substantiate this statement, thinking about external factors during a game to build up aggression would appear to detract from focusing on the task-at-hand and therefore, would not be recommended.

Controlled aggression is necessary for football but intimidation and fear are seen as counterproductive. In these athletes, intimidation and fear were a result of lack of confidence in ability, physical size and strength. It appeared that the type of self-talk used to increase aggression was consistent with the nature of the underlying fear. For instance, if the athlete lacked self-confidence in his technical ability his self-talk appeared to be confidence-boosting in nature. If the athlete was concerned about his opponent’s physical size and/or his lack of physical size, the self-talk was more aggressive in nature. An interesting direction for future research would be to explore the techniques football athletes use and can use to build up just enough aggression and observe the type of self talk to increase aggression. Perhaps fear could serve a function in providing the motivation for serious off-season training and development of technical skills.

**Nervousness and Tension**

There were conflicting descriptions of facilitative and debilitative nervousness and tension for optimal performance. This finding of individuality of optimal levels of intensity is consistent with past research (Zaichkowsky & Takenaka, 1993). Most of the athletes reported
that they performed best while being a little nervous and experiencing butterflies while a smaller number reported they performed best if they were calm. This varying opinion was not associated with position. Two corner backs described opposing optimal states. Again, individuality in optimal level of intensity and subsequent individuality of mental skills use should be emphasized in future mental skills training programmes.

**Self-Confidence and Self-Doubt**

As noted in the discussion of self-talk, self-confidence and self-doubt were consistent with optimal and non-optimal performances, respectively. Lack of team confidence was also discussed in terms of non-optimal team performance. This finding supports the previous research of Gould, Eklund and Jackson (1992) and Orlick and Partington (1988) who discussed the relationship of self-confidence and self-efficacy with performance. When situations of self-doubt and non-optimal performances were identified the athlete typically described negative self-talk and/or an extensive self-dialogue. ‘Thinking too much’ clearly contributed to self-doubt. Self-defeating self-talk was not easily identified by the athlete. It is suggested that future mental skills training programmes for football explore the self-talk of each athlete and how this may contribute to self-doubt.

**Motivation, Intensity, Boredom**

Lack of motivation, lack of intensity and boredom were predominant themes that may have partially been attributable to the losing season. These feelings were also associated with lack of team cohesion and lack of feedback from the coaches. The athletes dealt with these feelings predominantly through self-talk, trying to motivate themselves, although one athlete felt it was the coaches’ duty to motivate the team. Mercer (1990) explored strategies to motivate a losing football team and identified several considerations for a coach. Mercer stated that
motivation starts from within and as the leader, the coach must provide motivational tools for the athletes. Mercer's suggests that the coach point out positive aspects of each athlete taking time to talk individually with every athlete. Having said this, the athlete must also take responsibility for self-motivation. This was explained by Sam when he stated, 'To have external motivation is fine but if you can’t get up for the game yourself then it’s not going to work'. It is suggested that mental skills training programmes should work with coaches, as well as the athletes in dealing with motivational issues.

**Frustration, Anger and Discouragement**

As with motivation, intensity and boredom, frustration, anger and discouragement may have been partially attributable to the team’s performance. As stated in the discussion on coaching issues and second string issues, the athletes expressed frustration and anger with the coaches, particularly with decisions on playing status and playing time. Suggestions are discussed in the previous sections with respect to the situations and events that led to frustration and anger.

**THE ATHLETES' VOICES - IMPLEMENTATION OF FUTURE PROGRAMMES**

The athletes provided excellent feedback for implementation of future mental skills training programmes for football. The athletes reported that the programme reminded them to do many things they knew about but simply lost sight of. This substantiates Kerr’s (1993) statement that many athletes develop their own strategies but perhaps regular reminders to implement mental strategies would be beneficial for future mental skills training programmes. As mentioned previously, an informed coaching staff could provide subtle cues to remind the athletes to use specific skills.
Understanding the athletes’ reasons for participating in the programme is important for the design and promotion of future mental skills training programmes. Most of the athletes understood what sport psychology and mental skills training involved and realized that learning more about mental skills may help them. Only one athlete thought it would be more of a ‘clinical psychology’ programme serving athletes who had problems. This athlete was interested in the programme because of his academic interests in psychology. It is imperative that future mental skills programmes educate the athletes and coaches about sport psychology and dispel existing myths.

The athletes were asked to speculate about why some of their teammates did not participate in the programme. The myths or misperceptions about sport psychology was one of the reasons given by the athletes. Most of the athletes commented on some of their teammates’ negative comments and lack of understanding about the mental skills training programme. These comments included being ‘psychoanalyzed’, ‘looking into my head’, and seeing the ‘sport shrink’. VanRaalte, Brewer, Brewer & Linder (1992) explored football players’ perceptions of an athlete who consulted a sport psychologist. The findings suggested that there is a stigma attached to athletes who consult a psychotherapist for non-sport related issues, but a sport psychologist is seen as an important resource for sport-related issues. It was apparent from the comments of some of the teammates, such as being ‘psychoanalyzed’, that there was a misperception about the programme being more pathology-based than sport-specific. A negative halo appeared to exist, perhaps not directed at the athletes who participated in the programme, but the programme itself.

The athletes offered suggestions of how to counter these attitudes. Education about what mental skills training is and specifying that the programme will not necessarily explore personal
feelings outside of football were identified as important comments to include when introducing a such a programme to athletes.

Suggestions were given as to how to encourage participation in a mental skills training programme. Clearing the misconceptions about sport psychology and emphasizing that it does not necessarily involve the disclosure of personal feelings external to football was identified as an important consideration. Providing material incentives such as tickets to professional football games and demonstrating how mental skills have helped other professional athletes were other suggestions.

Obtaining more support from the coaching staff was also identified as important in promotion of the programme. Support and involvement of the coaching staff has been a recurring theme throughout the findings of this study and it is highly recommended that the coaching staff encourage the athletes to use mental skills throughout the season. LeUnes and Nation (1983) found athletes to be highly influenced by coaches, substantiating the importance of obtaining the coach’s support in the implementation of a mental skills training programme. Obtaining this support can be difficult. Anshel (1989) explored the receptivity of a football coach to sport psychology consulting over three years. The coach was given weekly reports and offered suggestions. The coach relied primarily on traditional coaching tactics and tended to ignore the sport psychologist’s recommendations. Attempting to obtaining enthusiastic support from the coaching staff is recommended for future mental skills programmes but providing recommendations to the coaching staff may be perceived as ‘telling the coach how to do his job.’ Orlick and Partington (1987) stated that the most effective sport psychology consultants are those who work through the coaches, knowing when to assist and when to stay in the background. The coach-sport psychology consultant relationship is a delicate one. Unless a sport
psychology consultant has been asked to work specifically with coaching staff, it is recommended that suggestions to coaching staff be offered in a non-threatening manner.

Specific suggestions were provided by the athletes regarding the design of a mental skills training programme. The athletes wanted more personal interaction with the facilitator. Given time constraints faced by the athletes, this mental skills training programme was designed to be self-directed, thus allowing each athlete to work at his own pace. It became apparent that some of the athletes needed a little more direction than others and would have benefitted from meeting more often with the facilitator. It is suggested that future programmes offer increased personal interaction, perhaps in a one-on-one setting to athletes who may need a little more instruction. If this is not possible, perhaps a self-directed approach with electronic mail or telephone conversations could be a viable substitute.

The limited time of the football student/athlete, particularly during the season, was seen as barrier to keeping up with the mental skills training programme. The athletes suggested that the educational component could be performed during the off-season or during training camp when the athletes had more time. As the facilitator of the programme, I would agree that conducting the educational component in the off-season would be ideal with follow-up conducted throughout the season. In contrast, Roper and Kerr (1998) found that varsity swimmers would prefer to have a mental skills training programme conducted during the season when the mental skills being taught could be implemented immediately into practice and competition. The variation in the athletes’ preference for administration of a mental skills training programme may be due to the temporal demands of each sport. Football has a shorter, arguably more intense season than swimming. Football athletes may be less willing to assume more commitments during the season when there are nine more months out of the year when
more time is available. In the design of mental skills training programmes, the differences between sports and best time to deliver the educational component and follow-up should be considered.

Although the limited time of the athlete was an important finding in this study, the athletes expressed the need for a more practical approach, with weekly or biweekly group sessions where specific skills could be practiced. If this recommendation is implemented it would require increased co-operation from the coaching staff to allow the athletes to practice mental skills when the bulk of athletes are available, which is typically immediately before, during or after practice time.

The athletes found it difficult to record goals on a weekly basis but most of them felt it was important to write down goals. Although the athletes were not writing down goals or how they used the mental skills, the athletes reported that mental skill use did not dissipate throughout the season. Dishman (1993), in reviewing 56 studies employing behaviour and cognitive modification to increase or maintain physical activity found self-monitoring to be an effective strategy. It is suggested that future mental skills training programmes instruct the athletes to write down goals at the beginning of the season with reminders throughout the season to reflect upon them weekly and re-write them as needed.

**EMPIRICAL AND PRACTICAL IMPLICATIONS OF THE QUANTITATIVE MEASURES**

Andersen and Stoove (1998) responded to Kerr and Goss’ (1996) study exploring a stress management programme and the impact on stress levels and injury rate. Kerr and Goss did not find a significant difference in stress levels or injury rates. However, the small sample size may have led to a Type II error, whereby the stress management programme may have been effective
in reducing stress levels and injury rate but it was not detected in the statistical analysis. Andersen and Stoove stated, ‘the consequence of claiming that a stress reduction program reduces injury rates when it actually does not is that athletes’ time is wasted on an ineffective program, but athletes almost certainly would not be harmed by it. Whereas indicating that the program does not reduce injury rates, when it actually does means that a potentially valuable intervention may be scrapped, and injury rates would not be reduced in the future.’ Therefore, although the reporting of injury rates and stress levels are important, designing an effective programme is fundamental, particularly with respect to this study.

**Stress Data**

Originally it was hoped that the stress inventories could be administered to the control and intervention groups at the beginning and end of the season to observe any possible differences in stress levels between the two groups, particularly after administration of the mental skills training programme to the intervention group. The stress inventories were not administered to the control group due to difficulty in contacting the athletes at the beginning of the season. Therefore, only the stress data from the intervention group were obtained and intra-individual differences from pre-season to post-season were assessed. Only seven of the ten athletes in the intervention group completed both the pre-season and post-season inventories, therefore, the statistical power was weak increasing the probability of error. This weakness of statistical power could have contributed to the insignificant results.

However, the measurement of stress itself remains problematic in research for multiple reasons (Petrie & Falkstein, 1998). The subjective nature of exposure and perception of stressors contributes to the difficulty in measuring stress for research purposes. It was apparent from the pre-season and post-season stress results that the total number of applicable stressors was quite
variable, subsequently the recorded eustress and distress levels varied. For instance, with the LES, one athlete had a total of 28 applicable stressors while another had a total of 3. With the ALES, one athlete noted an increase of 10 stressors from pre-season to post-season while two athletes noted a decrease of 19 and 21 stressors. The remaining four athletes had little change in the applicable athletic stressors pre and post-season. Perhaps the two athletes who noted a marked decrease in applicable stressors post-season were able to completely let go of past events, whereas the athlete with a marked increase of post-season athletic stressors may still be thinking about stressors that occurred during the season. He may have been thinking about football due to a specific situation that frustrated him throughout the season.

A recommendation for future mental skills training programmes is to incorporate a transition period at the end of the season where the season can be reflected upon. This transition period could provide an opportunity to deal with playing status issues, vent frustrations that developed throughout the season, and re-frame for next season. Plans could be developed to prevent or better cope with the same stressor if encountered the following season. At this time, goals can be set for the off-season, based on stressors that occurred during the prior season.

**Injury Data**

Injury data collection within sport psychology research has typically been problematic and was also difficult within this study. As noted in the review of literature, research involving injury takes into account only those athletes who come forward and report an injury. Measurement and comparison of actual structural damage cannot be obtained, rather subjective and objective information from the athlete and medical personnel are used for injury data in research (Flint, 1998). Therefore, the foundation of the stress injury model is based on athletes who report injury rather than actual structural injury. The exploration of reporting of injury, non-
reporting of injury and the relationship to the components of the stress injury model is warranted. The model should reflect this difficulty in defining injury perhaps by stating ‘athlete’s reporting of injury’ rather than ‘injury’.

Petrie and Falkstein (1998) discussed the difficulty in the measurement of injury for research purposes. Past difficulties have included the insensitivity of the National Athletic Injury/Illness Reporting System (NAIRS) which classifies injury as mild, moderate or severe based on days of practice missed. NAIRS does not take into account less severe injuries where the athlete may simply modify practice. The Colorado Injury Reporting System (CIRS) is said to be more objective in the measurement of severity of injury based on the physician’s rating or diagnosis. Petrie and Falkstein (1998) suggest using a combination of both systems in addition to physician’s rating to obtain a more accurate measurement of injury. The NAIRS and CIRS are not completely accurate as they do not include injuries for which the athlete may not seek medical treatment or those who may seek medical treatment elsewhere. Obtaining this information directly from the athlete may provide a more sensitive and accurate measurement of injury, particularly when collaborated with a NAIRS and CIRS type of measurement.

It was originally planned that this study would include such a system for measurement of injury. Unfortunately, the inconsistency of injury recording by the therapists presented a significant difficulty. Four therapists were assigned to the football team. An additional therapist attended summer camp and games but not regular practices. Only three of the therapists kept accurate records throughout the season. These records did not always include severity of injury or days of practice missed or modified. Therefore, for the purposes of comparing the control group with the intervention group, the injury records kept by the team physician at the university clinic were used for the analysis. These records included only those injuries which required
referral from the therapists to the team physician. Furthermore, it is possible that some athletes sought medical treatment elsewhere.

The control group was referred to the clinic 58% more than the intervention group. This figure may sound impressive but it was not statistically significant probably due to the small sample size. As stated by Andersen and Stoove (1998), the lack of statistical significance involving research on psychological interventions should not be attributed to an ineffective programme, as a Type II error would disregard a potentially valuable intervention. Vealey (1994) suggested that reporting of only significant results contributes to the bias of the positive findings in published research. Particularly with research involving psychological interventions, it is important to outline methodology and findings, albeit negative findings, so future researchers can learn from past errors and develop more sound methodological procedures.

A more sensitive record of injury was obtained by the athletes who were interviewed in this study as they were questioned about incurred injury and illness, the number of days of practice missed or modified and the amount of playing time they had this season. An interesting observation was made of the interviewed intervention group. Jamal was plagued with injury throughout the season and he continually referred to his injuries during the interview. Upon discussing mental skills use it was apparent that Jamal implemented some of the strategies incorrectly and/or questionably. Jamal’s use of goal-setting was not personalized and he focus on the outcome of winning. He did not like the goal-setting, stating he did not like being told what to do.

In addition, he discussed goals from purely a outcome perspective focusing on the win/loss record of the team. Jamal’s use of self-talk to increase aggression and imagery involved thinking about situations external to football. He described thinking about an argument he may
have had with his father or ex-girlfriend to build up aggression to play. He was the only athlete who described thinking about external situations in imagery prior to a game, rather than visualizing what he was going to do during the game. Jamal also had pressure from his parents not to play football which he discussed periodically throughout the season. In the interview he stated he would have to hide the fact that he was injured from his parents.

As the facilitator of the mental skills training programme, I observed Jamal throughout the season. I approached him on several occasions sensing he was sometimes frustrated due to his injuries. He would discuss his injury but we did not discuss his use of specific mental skills until the end of the season at the interview. It was only then that I discovered his faulty use of mental skills.

It is important to provide a more directed mental skills training programme to ensure that athletes are implementing strategies appropriately and to uncover mental skills that have been used in the past that may be counterproductive as was the circumstance with Jamal. Future mental skills training programmes should attempt to discover any inappropriate use of mental skills prior to implementation of such a programme by discussing specific strategies that the athlete already uses. In addition, mental skills training programmes should periodically assess how the athletes are implementing strategies to ensure correct use. This, perhaps, can best be obtained through discussions of strategies with each athlete or the athletes as a group.

**Playing Status**

Past research has demonstrated that playing status is an important factor to consider when measuring injury (Petrie & Falkstein, 1998). As a result of increased playing time starters may be more susceptible to injury simply due to increased exposure. Upon speaking with the athletes in determining amount of playing time, it was apparent that starting and non-starting
status does not necessarily equate with amount of playing time on the field. In addition, amount of playing time on the field may not equate with exposure. Sam stated that although he played in every game he did not ‘see much action.’ Statistics on amount of playing time per athlete are not kept during a football game. If this could be done for research purposes it would increase the accuracy of determining the amount of time an athlete is exposed to potential injury in addition to practice time.

In summary, as with all research, this study is not free from bias. The findings of this study are limited to the sport of football at the varsity level, although many commonalities may be drawn with other sports at various competitive levels. An other limitation is method of participant selection. The athletes freely volunteered to participate in this study and may have had a preconceived positive affinity for sport psychology and would have looked upon any such programme favourably.

The possibility of a Hawthorne effect, whereby outcome variables are effected due simply to participants believing that they are cared for rather than, in this instance, the psychological intervention solely being responsible for any effects, should also be considered as a possible limitation. Of interest, Andersen and Stoove (1998) discussed Kerr and Goss (1996) suspected Hawthorne effects in a similar study. Andersen and Stoove stated that possible Hawthorne effects in a long-term study incorporating an innovative intervention programme cannot be compared to Hawthorne effects in short-term studies. Andersen and Stoove further expressed the illogical concept of a Hawthorne effect stating, “I’ll work harder and have a better attitude because someone (psychologist) cares for me” sounds logical, but “I’ll have fewer injuries because someone cares for me” does not have the same logical feel to it.’ One could also
argue the opposite of a Hawthorne effect in a study such as this due to the negative halo associated with participation in a sport psychology study.

Although methods were implemented to establish trustworthiness, researcher bias and expectancy is an additional limitation. Qualitative analysis allows the reader to draw conclusions based on the findings of a study, the inferences of the research and the reader's personal perspective. It is hoped that the findings of this study will be examined in such a manner, creating a panoramic view within the limitations of this study.

**DIRECTIONS FOR THE FUTURE**

In summary, although the statistical analysis did not substantiate the hypothesis of the Andersen and Williams’ stress-injury relationship model (1998) that psychological interventions may impact upon injury rate or stress levels, the many benefits of this mental skills training programme were evident in the qualitative analysis. As a result of participating in the programme, all of the athletes gained at least one insight as to how to cope with specific stressors. Albeit, this gain or benefit was not measurable by means of injury rate or stress levels, however, implications for future quantitative analysis were developed. Quantitative measure of stress and injury remained problematic within this study as with previous research. The athletes provided feedback with respect to the stress inventory, stating it was somewhat confusing to fill out, therefore, the stress inventory itself was problematic. Establishing a control group and administering the inventories appropriately was also a difficulty that arose. Injury recording was problematic in that it was difficult to obtain functional ability information from the therapists. It is hoped that the difficulties that arose with the quantitative measures of stress and injury can be anticipated and avoided in subsequent research.
The qualitative analysis furthers our understanding of how athletes adopt mental skills into sport, as well as adapting skills to other areas of life. In addressing the caveat of past research, this study helped to define the athletes' use of each skill within a multi-component programme.

The findings of this study further our understanding empirically and practically and can be used both in future research and practice.
CHAPTER SIX

CONCLUSION

The qualitative nature of this study allowed football athletes to describe their experiences with mental skills training. This analysis addressed one caveat of past research involving sport psychology programmes (Gould et al., 1990; Kerr & Goss, 1996; Vealey, 1994). Specifically, knowledge has been gained as to how athletes use particular components of the mental skills training programme. Individuality of mental skill use and preference was an emergent dominant theme. It was also recognized that all of the athletes had used basic mental skills in the past, even without past formal instruction of mental skill use. Although all of the athletes had used mental skills in the past, participating in this programme bestowed the athletes with new insights to mental skill use.

Although the quantitative analysis of injury and stress levels were not statistically significant, methodological issues have been addressed and can be implemented in future studies involving the psychological intervention portion of the stress-injury relationship model. The quantitative measures of stress and injury remained problematic and should not be the determining factor of a successful or unsuccessful psychological intervention programme. As emphasized by Andersen and Stoove (1998), disregarding a potentially successful intervention to reduce injury based on lack of statistical significance would be costly. Ensuring successful design of psychological intervention programmes and appropriate use of the mental skills are of foremost importance rather than attempting to gauge success quantitatively by measuring stress, injury or performance.
RECOMMENDATIONS FOR MENTAL SKILLS TRAINING PROGRAMMES

Many recommendations for future mental skills training programmes for football emerged from this study.

♦ The individuality of mental skill use and preference is important to recognize and as a result future mental skills training programmes should provide the athlete with a repertoire of strategies from which to choose.

♦ There are wide discrepancies in athletes’ past experiences and knowledge of mental skills, therefore mental skills training programmes should be flexible to accommodate those who know relatively little and those who have more experience.

♦ Athletes should be assessed for improper prior use of mental skill, such as focusing on the outcome of goals or focusing on situations external to football to gain aggression for a game. It should not be taken for granted that once a mental skill is taught it will be implemented properly. Athletes should be assessed throughout the mental skills training programme and/or the season to ensure proper use of mental skills.

♦ Athletes, coaches, equipment managers, athletic therapy personnel and administrators should be properly informed about mental skills training programmes in an attempt to extinguish the negative halo associated with sport psychology. In particular, the athlete should be told that participation in a mental skills training programme does not require him to reveal personal feelings external to football. In extinguishing this negative halo using examples of professional athletes who have used mental skills can provide credibility.

♦ It is highly recommended that the educational component of a mental skills training programme for football be implemented in the off-season given the hectic time demands of the football athlete during the season.
It is also recommended that practical sessions be held with the athletes throughout the season to specifically demonstrate how mental skills can be implemented. A self-directed approach without interpersonal contact throughout the season is not recommended unless it is the only option.

Finally, it is essential to have the coaching staff support and emphasize the importance of mental skills to the athletes. This will add to the credibility of the programme. Coaching staff can also provide cues to the athletes during practice as a continual reminder to implement specific strategies.

**Mental Skills**

**Self-talk**

- Negative self-talk and elaborate self-dialogues should be explored within each athlete, particularly in identifying how ‘thinking too much’ can lead to mistakes.
- Positive self-talk should be explored as a possible mask for conflicting underlying beliefs. Beliefs should be confronted and dealt with realistically.
- Athletes should develop a ‘turn the page’ or ‘let it go’ plan to deal with mistakes. The whole team should be aware of the importance of letting go of past mistakes. Taking a play-by-play approach as outlined in Ravizza and Osborne (1991) is recommended.
- Clarify that self-talk, even if done aloud does not equate to being crazy.

**Relaxation/Centering**

- Many athletes will have pre-existing personalized methods to achieve relaxation and these methods should be respected.
- It should be emphasized that techniques for relaxation and centering are quite individualistic and what may be ideal for one athlete may not be ideal for another. In addition, differences may
occur intra-individually with variations in activation states, intensity or mood. Therefore, athletes should be aware of various techniques and when to employ each given their current arousal state.

♦ Although many athletes may not like a more elaborate form of relaxation such as progressive muscular relaxation, all forms of relaxation should be taught so the athlete can choose which technique he likes best.

**Imagery**

♦ Imagery can be used to facilitate skill development for the athlete, particularly when coaches are unable to provide feedback.

♦ Improving the vividness of imagery should be emphasized by incorporating all the senses along with expected emotional responses such as fear and anxiety.

**Goal-setting**

♦ Outcome goals appear to be embedded into the goal-setting of athletes to the point of obscuring the process goals involved in obtaining the desired outcome. Ultimate and/or outcome goals should be used as a source of motivation but downplayed in comparison to the smaller process goals. Athletes need to be taught, early in their careers, how to set process goals.

**Preparation and Planning**

♦ As with relaxation and centering, an athlete’s preparation and planning for games and practices can be quite varied. Individual differences should be respected.

**Life Skills**

♦ Examples should be given of how mental skills can be applied in non-sport situations, such as with academics and personal concerns.
**Situations and Events**

The following situations were sources of stress for the athletes in this study. It may be useful to design a mental skills training programme with specific coping strategies developed for similar events.

**Team Issues**

- If team cohesion is an obvious difficulty within a team it should be dealt with, not ignored. Lack of team cohesion negatively affects the team and the individuals. The coach should play an active role bringing a sense of unity to the team in conjunction with a mental skills training programme facilitator.
- Mental skills training programmes should incorporate how to deal with errors, possibly developing a ‘let it go’ routine for teammates’ errors and individual errors.

**Coaching Issues**

- Coaches should attempt to learn each athletes’ name and refer to him as such.
- Coaches should educate themselves about possible socio-cultural issues and sensitivities that may be encountered based on the composition of the team.
- Coaches should be very honest with respect to an athlete’s playing status for the season and not provide false hope that an athlete will play and/or dress. This should be reiterated throughout the season.

**Academics and Time Constraints**

- Time management with direct reference to academics may be helpful, not only during the season, but in the off-season. The veterans could provide excellent information and tips for rookie student/athletes. Pairing a rookie with a veteran may ease the road for rookies.
Distractions

♦ Game film and fans can be a distraction for football athletes. Plans should be developed to deal with distractions during games. Coaches should be aware of the distracting nature of game film and emphasize to the athlete that he should concentrate on the opponent, not on the fact that the game is being filmed.

Second String, Not Playing, and Not Dressing

♦ A great deal of frustration was expressed relating to being a second string athlete, not being played and not dressing. As stated previously, coaching staff should be completely honest with the athlete and provide feedback throughout the season regarding playing status. Off-season planning should be discussed with the coach to realistically prepare for the next season. This could be conducted in a transitional period taking place at the end of the season where concerns are brought forward from the prior season and plans developed to deal with these issues next season.

♦ Locus of control and playing status should be discussed within a mental skills training programme for football. Athletes described the need to feel like they had complete control over playing status when in actuality, this may be totally out of their immediate control.

♦ Using imagery on the sidelines as a second stringer appears to be a successful mental strategy to maintain readiness.

Losing

♦ As a team, being optimistic yet realistic would benefit the athletes in coping with the frustration of losing. This is one situation where the underlying beliefs behind positive self-talk should be explored.
Physical Size and Strength Dominance

- Intimidation, fear and frustration were related to comparisons of physical size and strength with opponents. This is a dominating theme and should be incorporated in mental skills training programmes for football. In addition to the obvious importance of off-season training and development of skills, self-talk to increase self-confidence may ease the frustrations surrounding physical domination by an opponent.
- Depth charts of the opposing team may be reviewed and possibly altered somewhat to incorporate a characteristic of the opposing individual and/or team that can be capitalized upon.

Psychological States

Intimidation, Fear and Aggression

- Intimidation and fear are experienced by athletes who lack confidence in their abilities and when an athlete compares himself with an opponent who is physically larger and stronger. Self-talk is used to counter this intimidation and fear. Aggressive self-talk is typically used when the athlete is intimidated due to an opponent’s physical size and confidence boosting self-talk is typically used when the athlete is doubtful of his abilities. Athletes’ use of aggressive self-talk needs to be explored further to determine if it is counterproductive.
- The use of self-talk relating to situations outside of football, such as thinking about arguments with parents or friends to increase aggression is not recommended due to the possibility of detracting from focusing on the task-at-hand.

Nervousness and Tension

- Athletes, even those playing the same position have individual levels of intensity with some athletes performing optimally while being a little tense and nervous while others perform
optimally when calm. This individuality should be a consideration of future mental skills programmes, particularly when working with groups of athletes.

**Motivation, Intensity and Boredom**

- Motivation, boredom and lack of intensity may be a concern, particularly for teams that are losing. It is recommended that the coach implement strategies to counter boredom but that the athlete also learn to take responsibility for self-motivation.

**Frustration, Anger and Discouragement**

- The athletes were frustrated and discouraged with the losing season but there was also frustration with coaching staff. The athletes were frustrated with the lack of honesty from the coaches with respect to playing status. It is recommended that future mental skills training programmes develop strategies to deal with the frustration athletes experience due to not being played and not dressing for games. It is recommended that coaching staff provide honest feedback throughout the season to everyone, particularly second string athletes and those who do not dress for games.

**CONSIDERATIONS FOR FUTURE RESEARCH**

A number of considerations for future research emerged from the study. In an attempt to demonstrate the effects of a mental skills training programme on injury and stress levels the first and foremost consideration is that the mental skills training programme is effective. Changes in stress levels and injury cannot be attributed to a mental skills training programme if the mental skills are not implemented correctly by the athlete. This was demonstrated in this study by Jamal who inappropriately used mental skills throughout the season. Incidentally, he was plagued with injuries this season. If Jamal had not be questioned regarding specific use of the mental skills the
fact that he misused some of the mental skills would not have been discovered. The general interview guide approach of the interview allowed for discussion about how the mental skills were implemented throughout the season uncovering Jamal’s inappropriate use of goal-setting and thinking about difficulties external to football to build up aggression for a game. It is recommended that future research allow the athlete to articulate specifically how mental skills were implemented throughout the season to ensure appropriate use.

The measurement of stress and injury have presented ongoing difficulties within sport psychology research (Petrie & Falkstein, 1998). It is my belief that stress and injury measurement will remain problematic as it is extremely difficult to control specific variables in human behaviour. For instance, Craig stated that the stress inventory used in this study was ‘awkward’ to fill out. He was not sure how to answer certain questions. It is recommended that research instruments be well thought out prior to commencing the study based on past research findings (Andersen & Stoove, 1998). It is also suggested that stress inventories be delivered several times throughout the season as was performed in the study by Kerr and Goss (1996). The football season is extremely short (12-16 weeks), but it is recommended that stress measures be administered at the beginning, once in the middle of the season and again at the end of the season.

Petrie and Falkstein (1998) state that the research should attempt to maintain control over data collection. When it comes to injury measurement the researcher must rely on medical personnel to keep accurate records. Davis (1991) suggests that the researcher should ensure that the medical personnel is supportive of the research project and will be maintaining accurate records. In addition, the type of injury measurement poses another difficulty. Petrie and
Falkstein (1998) suggest using a combination of time loss due to injury and an objective measurement of injury severity by medical personnel. A more accurate measure may be obtained by combining the two measures noted by Petrie and Falkstein (1998) in conjunction with information directly from the athlete. This would uncover injuries that were less severe, not requiring medical treatment, but injuries none-the-less. Speaking with the athlete may also reveal injuries for which the athlete sought medical treatment outside the university clinic.

With respect to playing status, it is recommended that future research attempt to obtain actual playing time. This may be unrealistic, but it was quite apparent that the athletes’ actual playing time was quite variable, particularly for second string athletes.

Finally, the foundation of the stress injury model with respect to injury definition needs to be explored. Athletes’ reporting of injury versus non-reporting of injury, possible associated personality characteristics and coping resources and the affiliation to the stress injury model warrants investigation.
REFERENCES


### APPENDICES

<table>
<thead>
<tr>
<th>Appendix A</th>
<th>Log Book page</th>
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<tbody>
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<td>Quantitative Inventories (LES, ALES)</td>
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<td>Appendix C</td>
<td>Pre-intervention Demographics and Information Sheet</td>
</tr>
<tr>
<td>Appendix D</td>
<td>Post-interview Guide</td>
</tr>
<tr>
<td>Appendix E</td>
<td>Introductory Letter Sent to Athletes in August</td>
</tr>
<tr>
<td>Appendix F</td>
<td>Letter of Information and Consent Forms</td>
</tr>
<tr>
<td>Appendix G</td>
<td>Proposed and Actual Research Design</td>
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### WEEK OF SEPTEMBER 1

<table>
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<tr>
<th>SUN (Aug 31)</th>
<th>MON 1</th>
<th>TUES 2</th>
<th>WED 3</th>
<th>THUR 4</th>
<th>FRI 5</th>
<th>SAT 6</th>
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<tr>
<td></td>
<td>Practice 5-7:30</td>
<td>Practice 5-7:30</td>
<td>Practice 5-7:30</td>
<td>Practice 5-6:30</td>
<td>@ Guelph 2:00</td>
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</tr>
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### Weekly Personal GAME Goal/s

<table>
<thead>
<tr>
<th>Goal/s - Be S.M.A.R.T.</th>
<th>Process (How?) Steps to attain goal/s.</th>
<th>Outcome and Assessment</th>
<th>End Result</th>
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</thead>
<tbody>
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</table>

### USE OF MENTAL SKILLS

<table>
<thead>
<tr>
<th>SKILL</th>
<th>BEGINNING OF THE WEEK</th>
<th>ASSESSMENT END OF WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td>RELAXATION/CENTERING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMAGERY</td>
<td></td>
<td></td>
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<tr>
<td>THOUGHT RESTRUCTURING</td>
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</tr>
</tbody>
</table>
Appendix B  Quantitative Inventories (LES, ALES)
ATHLETIC EXPERIENCES SURVEY

This survey is designed as a sport-specific measure of those stressors typically experienced by football players.

"STRESSORS" are challenges, hardships, conflicts or other demands that people tend to experience in their roles as athletes.

**DIRECTIONS:**

1. Circle ‘y’ (yes) if the stressor is applicable to you or to your sport and ‘N’ (no) if the stressor is not applicable to you **AT THE PRESENT TIME**.

2. For every item that is applicable to you (circled ‘Y’ for yes), circle the number which best describes the impact that each stressor has upon you **AT THE PRESENT TIME**. You do not need to rate the impact of those items that do not apply to you simply circle ‘N’ for no, not applicable.

**EXAMPLES:**

<table>
<thead>
<tr>
<th>EVENT</th>
<th>APPLICABLE</th>
<th>IMPACT SCALE</th>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>change of coaching staff</td>
<td>Y  N</td>
<td>-3 -2 -1   0 1 2 3</td>
</tr>
<tr>
<td>incurring a major injury</td>
<td>Y  N</td>
<td>-3 -2 -1   0 1 2 3</td>
</tr>
</tbody>
</table>

For item 1, ‘Y’ is circled because it is applicable to you. You might assess the impact as zero because the change of coaching staff did not effect you either positively or negatively.

For item 2, ‘N’ is circled because it is not applicable to you, you do not have a major injury.

SEE QUESTIONS ON FOLLOWING PAGES
<table>
<thead>
<tr>
<th>EVENT</th>
<th>APPLICABLE</th>
<th>IMPACT SCALE</th>
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<tbody>
<tr>
<td></td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>1. Relationship with coach(es)</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>2. Relationship with teammates</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>3. Performance not meeting you expectations</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>4. Have/had a minor injury</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>5. Have/had a major injury</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>6. Managing time (between training, school, work, family, etc)</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>7. Not making a starting position</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>8. Performing above your expectations</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>9. Training conditions (equipment, etc)</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>10. Unmet goal/s.</td>
<td>Y  N</td>
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</tr>
<tr>
<td>11. Thinking of leaving the team</td>
<td>Y  N</td>
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</tr>
<tr>
<td>12. Travelling (for practice or games)</td>
<td>Y  N</td>
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</tr>
<tr>
<td>13. Team cohesion</td>
<td>Y  N</td>
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</tr>
<tr>
<td>14. Racial difficulties within team</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>15. Use of performance-improving drugs by yourself, teammates, or opponents</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>16. Publicity and media coverage</td>
<td>Y  N</td>
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</tr>
<tr>
<td>17. Support from varsity administration</td>
<td>Y  N</td>
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</tr>
<tr>
<td>18. Satisfying all goals</td>
<td>Y  N</td>
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</tr>
<tr>
<td>19. Physical demands of training</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>20. Psychological demands of training</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>21. Support from others (family, peers, girlfriend)</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>22. “Politics” associated with the sport</td>
<td>Y  N</td>
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<tr>
<td>23. Financial difficulties/strain</td>
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<tr>
<td>24. Level and consistency of motivation</td>
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</tr>
<tr>
<td>25. Important upcoming game</td>
<td>Y  N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<tr>
<td>26. Your physical characteristics</td>
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<tr>
<td>27. Feedback from coach/es</td>
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<tr>
<td></td>
<td>Feedback from teammates</td>
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</tr>
<tr>
<td>29.</td>
<td>Physical preparation for games</td>
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</tr>
<tr>
<td>30.</td>
<td>Psychological preparation for games</td>
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</tr>
<tr>
<td>31.</td>
<td>Weight control</td>
<td>Y</td>
</tr>
<tr>
<td>32.</td>
<td>General frame of mind (mood)</td>
<td>Y</td>
</tr>
<tr>
<td>33.</td>
<td>Quality of sleep</td>
<td>Y</td>
</tr>
<tr>
<td>34.</td>
<td>Relationship between coaches</td>
<td>Y</td>
</tr>
<tr>
<td>35.</td>
<td>Diet</td>
<td>Y</td>
</tr>
<tr>
<td>36.</td>
<td>Coach’s expectations</td>
<td>Y</td>
</tr>
<tr>
<td>37.</td>
<td>Family’s/friend’s expectations</td>
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</tr>
<tr>
<td>38.</td>
<td>Teammates’ expectations</td>
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</tr>
<tr>
<td>39.</td>
<td>Competing for starting position</td>
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<td>40.</td>
<td>Coach’s behaviour during games</td>
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<tr>
<td>41.</td>
<td>Change of coaching staff</td>
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<tr>
<td>42.</td>
<td>General health (colds/flus/allergies, etc)</td>
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</tr>
<tr>
<td>43.</td>
<td>Fear of getting hurt</td>
<td>Y</td>
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<tr>
<td>44.</td>
<td>Coach/es not receptive to feedback</td>
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<tr>
<td>45.</td>
<td>Having a bad drill/game</td>
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</tr>
<tr>
<td>46.</td>
<td>Cheap plays or hits</td>
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</tr>
<tr>
<td>47.</td>
<td>Intimidation by opponent</td>
<td>Y</td>
</tr>
<tr>
<td>48.</td>
<td>Home field “advantage”</td>
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</tr>
<tr>
<td>49.</td>
<td>Visiting “disadvantage”</td>
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<tr>
<td>50.</td>
<td>Biased referees or bad calls</td>
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</tr>
<tr>
<td>51.</td>
<td>Racial difficulties with opponents</td>
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</tr>
<tr>
<td>52.</td>
<td>“Trash talk” by opponents</td>
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</table>

Please list and rate any other experiences that apply to you at the present time but which do not appear on this list.

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<thead>
<tr>
<th></th>
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<th>Y</th>
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</table>
**LIFE EXPERIENCES SURVEY**

Listed below are a number of events which most people experience at one time or another in their lives. These events bring about change in the lives of those who experience them.

"STRESSORS" are challenges, hardships, conflicts or other demands that people tend to experience.

**DIRECTIONS:**
1. Circle 'y' (yes) if the stressor is applicable to you or to you sport and 'N' (no) if the stressor is not applicable to you AT THE PRESENT TIME.
2. For every item that is applicable to you (circled ‘Y’), circle the number which best describes the impact that each stressor has upon you AT THE PRESENT TIME. You do not need to rate the impact of those items that do not apply to you simply circle ‘N’ for no, not applicable.

**EXAMPLES:**

<table>
<thead>
<tr>
<th>EVENT</th>
<th>APPLICABLE</th>
<th>IMPACT SCALE</th>
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<tbody>
<tr>
<td>death of your brother/sister</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
<tr>
<td>change in residence</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
</tr>
</tbody>
</table>

For item 1, ‘N’ is circled because it is not applicable to you. You do not need to rate the impact.

For item 2, ‘Y’ is circled because it is applicable to you. You might assess this event as slightly positive because you live in residence and enjoy it but you still miss home somewhat.

**SEE QUESTIONS ON FOLLOWING PAGES**
<table>
<thead>
<tr>
<th>EVENT</th>
<th>APPLICABLE</th>
<th>IMPACT SCALE</th>
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<tr>
<td></td>
<td>Y N</td>
<td>extremely negative</td>
<td>extremely positive</td>
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<tr>
<td>1. Major change in sleeping habits</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<tr>
<td>2. Death of a close family member:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) mother</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>b) father</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>c) brother</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>d) sister</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>e) grandmother</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>f) grandfather</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>g) other</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>3. Major change in eating habits</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>4. Death of a close friend</td>
<td>Y N</td>
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<td></td>
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<tr>
<td>5. Outstanding personal achievement</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
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<tr>
<td>6. Minor law violation (traffic tickets, etc)</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
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<tr>
<td>7. Girlfriend/wife pregnancy</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<tr>
<td>8. Change in work situation; different hours, responsibility, etc</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<td>9. New job</td>
<td>Y N</td>
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<tr>
<td>10. Serious illness of close family member:</td>
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<td></td>
<td></td>
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<tr>
<td>a) mother</td>
<td>Y N</td>
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<td></td>
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<tr>
<td>b) father</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<td>c) brother</td>
<td>Y N</td>
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<td>d) sister</td>
<td>Y N</td>
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<tr>
<td>e) grandmother</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<tr>
<td>f) grandfather</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>g) other</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>11. Trouble with employer</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>12. Major change in financial situation</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>13. Major change in closeness of family member</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>14. Gaining a new family member (through birth, adoption, member moving in, etc)</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>15. Major change in church activities</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
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<tr>
<td>16. Change in residence</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
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<tr>
<td>17. Major change in number of arguments with girlfriend (more or less)</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>18. Major change in type or amount of recreation</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>19. Borrowing money</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>20. Being fired from a job</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
<tr>
<td>21. Girlfriend having an abortion</td>
<td>Y N</td>
<td>-3 -2 -1 0 1 2 3</td>
<td></td>
</tr>
</tbody>
</table>
Please list and rate any other experiences that apply to you at the present time but which do not appear on this list.

<table>
<thead>
<tr>
<th>Event</th>
<th>Rating</th>
<th>Initials</th>
</tr>
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<tbody>
<tr>
<td>6.3.3 2 3</td>
<td>N</td>
<td>N</td>
</tr>
</tbody>
</table>

- 45. Parental separation or divorce of parents
- 44. Change in number of arguments between (decreased or increased)
- 43. Change in number of arguments with parents
- 42. Difficulty with a course or course
- 41. Financial problems concerning school
- 40. Joining a fraternity
- 39. Dropping a course
- 38. Failing a course
- 37. Changing a major area of study
- 36. Failing an important exam
- 35. Being dismissed from residence
- 34. Academic probation
- 33. Changing to a new school
- 32. Beginning a new school experience
- 31. Getting back together with girlfriend
- 30. Leaving home for the first time
- 29. Breaking up with girlfriend
- 28. Engagement
- 27. End of formal schooling
- 26. Brother or sister leaving home
- 25. Serious illness/injury of close friend
- 24. Major change in living conditions of family
- 23. Major change in social activities
- 22. Major personal illness or injury
Appendix C
Pre-intervention Demographics and Information Sheet
DEMographics

Name: ___________________________ Age: ________________
Address: ___________________________
________________________________________
________________________________________
E-mail: ____________________________ Telephone: ________________________
Major: _____________________________ Scholastic Year: _____ Eligibility Year: _____
Position on Team: ___________________ Starter/Nonstarter

How long and at what level have you been playing football?

How physically prepared are you for this season? Describe your training?

What prompted you to participate in this mental skills training programme? What do you wish to gain through your participation?

How do you feel (physically, mentally) before an important testing, practice or game?

Do you prepare yourself mentally for sport, let’s say before a game or practice? If so, how? Do you continue this throughout the practice and/or game?

Have you had any experience with specific techniques for preparing mentally for sport? (i.e. goal-setting, relaxation/centering, thought control, imagery, focusing of attention) If yes, where did you learn/what did you learn/do you use this technique/do you think it helps?

You have already filled out the stress inventory. Can you describe any major or minor sources of stress that you may be experiencing, both inside and outside of sport?

Do have people who you can trust, like your parents, coaches, other players, or friends, with whom you can discuss problems or concerns that you may be having? Do you use them to talk with?

What injuries have you had in the past and when did they occur? What was the cause of these injuries?
Appendix D  Post-interview Guide
POST-INTERVIEW GUIDE (semi-structured)

During the post-interview the athlete will refer to their Log book and give detailed descriptions on how (if) they utilized the techniques. Specific adaptation to the various methods will be ascertained (how they may have individually catered the programme to their situations).

INTRO  Thanks
Qualitative process  - tape recorder, transcript, review
- defense, publication

REVIEW Demo and Survey
Describe past use of mental skills (goal-setting, relaxation/centering, imagery, self-talk) either formal or informal

QUESTIONS
- What is your **general overall impression** of the sport psychology programme?
- Did you use **relaxation** throughout the season? If no, why? What did you not like/find helpful? If yes, when? How? What did you like/dislike? What did you find helpful/not helpful?
- Did you use **goal-setting** throughout the season? If no, why? What did you not like/find helpful? If yes, when? How? What did you like/dislike? What did you find helpful/not helpful?
- Did you use **attention/emotional** control throughout the season? If no, why? What did you not like/find helpful? If yes, when? How? What did you like/dislike? What did you find helpful/not helpful?
- Did you use **cognitive restructuring** throughout the season? If no, why? What did you not like/find helpful? If yes, when? How? What did you like/dislike? What did you find helpful/not helpful?
- Did you use **imagery** throughout the season? If no, why? What did you not like/find helpful? If yes, when? How? What did you like/dislike? What did you find helpful/not helpful?
- Did you use any aspect of the programme outside of sport, like in your academics or personal life?
- You filled out the stress inventory again. Can you describe any **major or minor sources of stress** that you may be experiencing, both inside and outside of sport?
- At our first interview you said that “describe social support that was identified in pre-interview”, has that changed? If so, how?
- Personally are you pleased with **your performance** this season?
- Are you pleased with the **team performance**?
- How much playing time did you have this season (games, 1/4’s, etc.)?
- Did you have any **injuries** this season? If yes, please describe? What was the cause of the injury? Did you miss any practices/games? How long did the injury bother you? (or interfere with your performance?) What treatment did you receive?
- Did you have any **colds** or other sickness this season? If yes, when and please describe?
- Overall, how would you suggested implementing a mental skills training programme for this football team?
- Did you **discuss** the programme with anyone? Did anyone **speak** to you or ask you about the programme? Did you feel uncomfortable participating?
- Were you comfortable with the programme being administered by a female/if Afro-Canadian... by a **white female**?
Appendix G

Introductory Letter Sent to Athletes in August
PROGRAMME CONSISTS OF:

- 4 sessions (1 hr each) discussing specific sport psychology strategies for football
- 2 optional follow-up sessions throughout the season
- recording of progress throughout the season in a log book which will be provided
- this log book will be reviewed for follow-up by the facilitator of the programme
- filling out a survey at the beginning and the end of the season (20 minutes)

The programme will also be offered at the end of the season in December for those who's schedules are too hectic during the football season.

If you are interested in participating in this feedback please notify the facilitator prior to summer training camp at (416) 978-3354 or via e-mail at lynn.lavallee@utoronto.ca

This programme has been reviewed by:

Doug Richards, M.D., Team Physician, U of T football
Lynda Mainwaring, Ph.D., Registered Psychologist
Gretchen Kerr, Ph.D., University Professor, Sport Psychology Consultant
Leonard Jean-Pierre, Winnipeg Blueboomers, CFL

Your feedback is an essential part of this programme. Approximately eight athletes will be asked to provide detailed feedback in the form of a 30 minute informal discussion at the beginning and the end of the season.

You've prepared physically, now prepare mentally!

This programme will allow you to:

- identify the specific individual mental preparation you require
- identify the mental readiness required for your position
- identify difficulties you may encounter in achieving this readiness and how to overcome those difficulties

These strategies have been shown to:

- enhance performance
- improve general well-being
- improve concentration
- increase motivation
- improve mental readiness
- provide coping skills
- increase self-confidence
- decrease anxiety and stress

A sport psychology consultant will be offering a programme to the football team.

This sport psychology programme will allow you to utilize specific strategies to identify and maintain your zone, specifically for the sport of football. Not only can these strategies enhance your athletic performance but they can be used to improve your academic performance as well.

PROGRAMME FACILITATOR

Lynn Lavallée, B.A., A.T.C., Rm 329A, Benson Building, University of Toronto (416) 978-5534 lynn.lavallee@utoronto.ca

- M.Sc. student, Exercise Science, U of T
- five years experience in football as an athletic trainer (certified)
Appendix F  Letter of Information and Consent Forms
Note: On U of T letterhead

LETTER OF INFORMATION

Dear Athlete,

As my Masters of Science thesis I am interested in offering a sport psychology programme to enhance personal and athletic development to the U of T football team for the 1997/98 season. I have elected to work with the U of T football team because of my past research experience with football and my familiarity with the sport, both personally and as a certified athletic trainer. The goal of this programme is to provide education and practical skills to promote self-awareness and enhance individual and team performance. This programme will expose you to several key aspects of sport psychology development such as goal-setting, attentional focus, imagery, relaxation and self-talk.

Upon consenting to participation in this programme you will be divided into two groups, one that will participate in the programme throughout the football season and a second group that will participate in the programme after the football season. If you have a preference as to which group you would like to participate in you may request this when you sign the consent form.

If you are part of or choose to be part of the first group you will be introduced to the components in four interactive sessions of 1 hour duration at the beginning of the season. The sessions will be offered at various times and will not interfere with training, rehabilitation, or academic schedules. In addition, I will provide at least two follow-up sessions throughout the season and will be available to consult with you throughout the entire season as needed. A log book will be provided to those who participate in the programme. This log book will be used to record how you implement the programme into your training which will be reviewed by the facilitator throughout the season.

I invite all who consent to participate in the programme to provide feedback. I also wish to further interview a smaller sample (6-8) before the implementation of the programme and at the end of the season. These interviews will be 30-45 minutes in duration. If you would like to be part of the interviewing process please indicate this when you sign the consent form.

If you are part of the second group you will participate in the programme at the end of the season. You may choose to be part of the second group if you feel your academic and athletic schedule will be too hectic during the football season. If this is the case and you wish to take advantage of the programme after the football season please indicate this when signing the consent form.

Both groups will be asked to fill out an inventory at the beginning and the end of the season. This procedure will take approximately 15 minutes.

There are no risks to participation, although it will require an openness and commitment for the 1997/98 season. Your involvement is voluntary and you may withdraw from the study at any time, without prejudice or repercussions. The programme will offer you education on skills that have been found to enhance personal, academic, and athletic development.

All information obtained through individual and group sessions will remain confidential and anonymity will be ensured. Two consent forms are attached. If you agree to participate in the programme please sign both forms, keeping one copy and returning the other to me. If you also wish to be interviewed, please sign where indicated.

Lynn Lavallée, B.A., A.T.C.
Principal Researcher

Gretchen Kerr, P.H.D.
Supervisor
Note: On U of T Letterhead

CONSENT FORM

I __________________ agree to participate in the sport psychology programme.

(print name)

I understand that participation in the programme is entirely voluntary and that there are no consequences for a decision to not participate. I have read and understood the attached Letter of Information.

I have chosen to participate in (choose one):

______ Four 1-hour sessions at the beginning of the season

or

______ Four 1-hour session at the end of the season

I understand that the programme will be led by a facilitator, Lynn Lavallée, and that she will be available throughout the season to answer any questions. I also understand that I will be asked to maintain a log book to monitor my progress throughout the programme. Lynn Lavallée will be the only other person to have access to my log book.

I understand that I will be required to fill out an inventory about stress at the beginning and the end of the season which will take 10-15 minutes.

I would like ___, would not like ___, to participate in the interview process outlined in the Letter of Information. This interview process involves an interview prior to the implementation of the programme and at the end of the season. Each interview will last approximately 30-60 minutes. The interview will establish my past use of sport psychology skills and my experiences with this sport psychology programme throughout the season.

I further understand that the facilitator will have access to records of injuries sustained throughout the season via the team physician, Dr. Doug Richards.

I understand that there are no risks to participation and that the benefits of the programme may consist of education on mental skills that have been found to enhance personal, academic, and athletic development.

I understand I may withdraw at any time, without prejudice and that confidentiality and anonymity will be ensured. Should I have any questions or concerns about the study at any time, I understand that I may call either person listed below.

Date: __________________

Signature: __________________ Witness: __________________

Gretchen Kerr, Ph.D. Supervisor

University of Toronto, Benson Building, Rm 329 M5S 1A1 (416) 978-6190

Lynn Lavallée, B.A., A.T.(C), Principal Researcher

University of Toronto, Benson Building, Rm 329A M5S 1A1 (416) 978-3354
Appendix G

Proposed and Actual Research Design
### Proposed Research Design

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>TIME SCHEDULE</th>
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<tbody>
<tr>
<td>Pre-interview (N=6-8)</td>
<td>(September 1997) before implementation of the programme</td>
</tr>
<tr>
<td>Pre-inventories (all)</td>
<td>(September 1997) before implementation of the programme</td>
</tr>
<tr>
<td>Sport psychology techniques</td>
<td>(September 1997) Educational components at the beginning of the season</td>
</tr>
<tr>
<td></td>
<td>(September-November 1997) Follow-up booster sessions throughout season</td>
</tr>
<tr>
<td>Injury recording</td>
<td>(August-November 1997) throughout season and athlete recording in log book</td>
</tr>
<tr>
<td>post-interviews</td>
<td>(November 1997) at the end of the season</td>
</tr>
<tr>
<td>post-inventories</td>
<td>(November 1997) at the end of the season</td>
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<tr>
<td>control-group programme</td>
<td>December 1997/January 1998</td>
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### Actual Research Design

<table>
<thead>
<tr>
<th>PROCEDURE</th>
<th>TIME SCHEDULE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-intervention demographics and information sheet (intervention group only)</td>
<td>(September 1997) before implementation of the programme</td>
</tr>
<tr>
<td>Pre-inventories (intervention group only)</td>
<td>(September 1997) before implementation of the programme</td>
</tr>
<tr>
<td>mental skills training programme</td>
<td>(September 1997) Educational components at the beginning of the season</td>
</tr>
<tr>
<td></td>
<td>(September-November 1997) Follow-up booster sessions throughout season</td>
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<tr>
<td>Injury recording</td>
<td>(August-November 1997) throughout season and athlete recording in log book</td>
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<tr>
<td>post-interviews</td>
<td>(November 1997) at the end of the season</td>
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<td>post-inventories</td>
<td>(November 1997) at the end of the season</td>
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<td>control-group programme</td>
<td>April 1998</td>
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