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**An evaluation of the relevance of the Kübler-Ross model to the
post-injury responses of competitive athletes**

by

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Submitted in accordance with the partial requirements for the degree

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at the University of the Free State.

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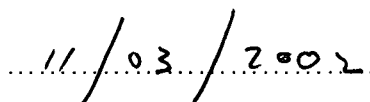
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A handwritten signature in black ink, appearing to read 'J.H. van der Poel', written over a horizontal dotted line.

J.H. van der Poel

A handwritten date '11/03/2002' in black ink, written over a horizontal dotted line.

Date

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According to the regulations of the Faculty of Humanities at the University of the Free State, this thesis is submitted in the form of an article.

OPSOMMING

Sportbeserings is 'n negatiewe ervaring met beduidende persoonlike en finansiële implikasies. Gedurende die afgelope twee dekades is daar op die gebied van die sportsielkunde verskeie opinies ten opsigte van atlete se reaksie op sportbeserings toegevoeg. Die tendens het gevolglik ontstaan om van kontemporêre modelle van rou gebruik te maak ten einde hierdie opinies te rugsteun. In die bestudering van sportsielkundige literatuur blyk dit dat die model van Kübler-Ross (1969) in die besonder vir hierdie doel gebruik word, afgesien daarvan dat die teoretiese gronding van die model gebaseer is op 'n skynbaar ontoepaslike populasie. Kübler-Ross (1969) het bevind dat die ervaring van 'n verlies gepaard gaan met verskeie stadia van rou, naamlik ontkenning en isolasie, woede, onderhandeling, depressie en aanvaarding. Hierdie stadia is gegrond op die waarneming van 200 terminale kanker pasiënte, en gevolglik word die toepaslikheid van die model ten opsigte van reaksies op beserings bevraagteken. Die studie het ten doel gehad om ondersoek in te stel na die relevansie van Kübler-Ross (1969) se model ten opsigte van sportlui se reaksies op sportbeserings. Daar is van 'n bestaande databasis gebruik gemaak. Die steekproef het bestaan uit 21 atlete wat weens 'n sportbesering vir 'n minimum periode van twee maande van aktiewe sportdeelname moes onttrek. Die steekproef was verteenwoordigend van verskeie kulturele groepe, en subjekte se ouderdomme het gewissel van 12 jaar tot 35 jaar. Die vlak van deelname het gewissel van provinsiale vlak tot internasionale vlak. Deur middel van semi-gestruktureerde onderhoude is subjekte die geleentheid gebied om 'n retrospektiewe oorsig te gee oor hulle reaksies na afloop van die besering. Daar is van die QSR NUD*IST rekenaar program gebruik gemaak om response te identifiseer soortgelyk aan dié voorgestel deur Kübler-Ross (1969). 'n Proses van triangulasie is gebruik om die geldigheid van die proses te steun. Resultate dui op die besliste insidensie van response soortgelyk aan dié van Kübler-Ross (1969), met die uitsondering van onderhandeling. Die model blyk ook relevant te

wees as 'n hulpmiddel in die identifisering van verskeie onderliggende tendense tydens die rehabilitasie tydperk, veral ten opsigte van die voorkoms van depressie en isolasie. Op grond van hierdie bevindinge is verskeie aanbevelings gemaak ten opsigte van die toekomstige hantering van beseerde atlete.

Key terms: psychology, sports psychology, post-injury responses, athletic injury, Kübler-Ross, denial, isolation, anger, depression, acceptance.

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AN EVALUATION OF THE RELEVANCE OF THE KÜBLER-ROSS MODEL TO THE POST-INJURY RESPONSES OF COMPETITIVE ATHLETES

ABSTRACT

*Past attempts to explain and/or predict the post-injury responses of competitive athletes have often relied upon the use of current models of grief. The stage model of Kübler-Ross (1969) has been particularly popular among sports psychologists and cited frequently in sports psychology literature. Since the model was based upon a very different subject population, its relevance to the post-injury responses of competitive athletes has been questioned. The study therefore proposed to evaluate the relevance of the model to the post-injury responses of competitive athletes. An existing database was utilized. The research sample consisted of 21 subjects who, as a result of injury, could not partake in sport for a minimum duration of two months. The sample represented various cultural groups, with ages ranging from 12 years to 35 years. Levels of participation ranged from provincial to international. Through a process of qualitative analysis, post-injury responses most similar to the grief responses proposed by Kübler-Ross (1969) were identified and coded with the aid of the QSR NUD*IST computer program. Results indicated the frequent existence of post-injury responses similar to those proposed by Kübler-Ross (1969), with the exception of responses of bargaining. The model also proved to be a relevant aid in the identification of several underlying tendencies occurring during the post-injury period. In terms of these results several further recommendations were also made.*

INTRODUCTION

Athletic injury is essentially a negative experience, which often has far-reaching personal and financial implications. There is a tendency among medical and paramedical personnel to dwell upon an injury's physical dimensions. As of late, medical professionals have come to realise the importance of incorporating psychological strategies into rehabilitation.

Several authors seem to be in agreement on this (Crossman, 1997; Wagman and Khelifa, 1996) as they stress the need for addressing psychological issues related to athletic injury and rehabilitation. Miller (1998) verified the sudden onset of emotional responses during rehabilitation and the necessary consequence of attaining a better understanding thereof.

Attempts to comprehend and eventually predict the nature of post-injury responses in athletes have relied heavily on existing theoretical models of grief. Amongst these, the stage theory of Kübler-Ross (1969) has been a popular frame of reference among sport psychologists, perhaps due to the fact that –to date- it remains one of the better-known models on grief.

The superimposition of a theory of grief on the experience and consequences of athletic injury affords the opportunity to ask relevant questions. Does athletic injury constitute a loss and can post-injury responses be regarded as responses of grief? In this respect the attachment theory of Bowlby (1991) offers a framework for understanding loss through injury. Bowlby (1991) suggests that injury threatens important attachments in terms of bodily function, self-image, self-esteem, the context of important relationships and the basis of many forms of gratification. In terms of this theory, athletic injury may pose a likely threat to the healthy equilibrium of these concepts. Apart from the more immediate loss of

physical fitness and athletic agility, athletic injury may therefore also result in the secondary loss of significant attachments.

In terms of the equation of post-injury responses to grief-like responses, Engel (1964) suggested that grief occurs as a result of the loss of anything that a person has come to consider as part of his or her natural environment, and a source of psychological gratification. Considering the competitiveness of professional athletics and the level of devotion an athlete needs to demonstrate, the sudden void of psychological gratification obtained from athletics could be of such a proportion that they could result in grief-like responses.

Regarding the nature of post-injury responses in athletes Evans and Hardy (1995) recommended that newly acquired knowledge should at least reflect on the utility of current models of grief which aim to explain and/or predict the nature of these responses. Considering this recommendation, this study aimed to evaluate qualitatively the relevance of the Kübler-Ross (1969) model to the post-injury responses of competitive athletes.

Consequently the focus of the research suggested two dimensions, the first of which centres on the nature of post-injury responses in competitive athletes, and the second on the relevance of the Kübler-Ross (1969) model as utilised in explaining and/or predicting how athletes will respond to an injury. The research therefore focused on the extent to which the post-injury responses of athletes are similar to or different from responses proposed by Kübler-Ross (1969) and on the resulting implications for the supposed applicability of this model.

The mere application of a well-known model of grief to describe or predict post-injury responses in athletes, without a thorough evaluation of its true applicability,

could be unscientific. In conducting the proposed study, more clarity can be obtained regarding the relevance of Kübler-Ross's (1969) model, since it is more often than not cited as a grief model in sport psychology literature, regardless of the fact that it is ostensibly based upon the least applicable subject population.

Cited models of grief as related to sport

The importance of psychological factors in the rehabilitation of injured athletes has become an increasingly relevant topic in sport related literature (Evans and Hardy, 1995; Brewer, 1999). In the past, several studies have focused on the athlete's post-injury reactions. Chan and Grossman (1988) assessed the mood states of injured runners in an attempt to determine the effect of an interrupted running routine due to an injury. When compared with non-injured runners, injured runners presented with significantly more depression, confusion and tension as well as lower self-esteem on various measurement instruments. Results of an earlier study by Pearson and Jones (1992) suggested a significantly higher incidence of depression and anger among injured athletes. Depression scores for athletes with severe injuries were also thirteen times higher than for athletes with minor injuries.

In a comparison between injured athletes and a control group, Leddy, Lambert & Ogles (1994) also found injured athletes to have significantly higher levels of state anxiety (tension) and that injured athletes had higher levels of depression and lower self-esteem scores than non-injured and recovered athletes.

Attempts to explain and/or predict the post-injury responses of athletes have led to the application of grief response models to the post-injury and rehabilitation phase (Gordon and Lindgren, 1990; Quackenbush and Grossman, 1994). Kübler

Ross's (1969) five stage model of the grief process, which resulted from over 200 interviews with terminally ill patients, is one upon which sport psychologists appear to have based their comparisons and assessments of the nature of grief responses during the post-injury phase (Evans and Hardy, 1995). Some of the first authors to contemplate the application of grief related models to sport psychology were Pederson (1986) and Gordon (1986). Strongly influenced by the work of Kübler-Ross (1969), they discussed the hypothesis that athletes may exhibit grief responses subsequent to sports injury.

The work of Kübler-Ross (1969) has been popularized since its inception, proposing a sequence of five stages of grief that are widely encountered among the bereaved. The first stage is characterized by denial and isolation, during which patients may deny the reality of the diagnosis and/or prognosis of their condition. Kübler-Ross (1969) reports the function of denial as being a buffer, which affords the patient time for recollection, and for the possible mobilization of other defences. As part of this first stage, isolation seems to be a situational variable, as patients' reports of isolation were strongly related to the extent to which they subjectively experienced a lack of empathy and support from significant others. Anger seems to be the predominant response in the second stage, where patients often direct their anger toward the clinician, hospital staff, family and friends, or at themselves. The anger may, more often than not, stem from a desire for control in a situation in which they subjectively experience a loss of control. From the point of view of significant others, this stage is potentially the most difficult (Kübler-Ross, 1969).

During the subsequent stage there is a tendency for patients to bargain, wanting to fulfil several pledges in return for a possible cure. Bargains may often have a religious focus, and are mostly kept secret or disclosed to trustworthy individuals

only. According to Kübler-Ross (1969) the postponement of the inevitable acceptance of the prognosis supplies the most energy to the bargaining process.

Depression follows as the fourth stage in the bereavement process. During this stage Kübler-Ross (1969) differentiates between an initial reactionary depression, followed by a preparatory kind of depression, with the latter serving as a tool to facilitate the acceptance of the impending losses, be it of loved objects or loved ones. Although Kübler-Ross (1969) does not explicitly mention the symptoms of depression, these could be implied as being the manifestation of several clinical signs of depression, including withdrawal, psychomotor retardation, hopelessness, insomnia and even suicidal ideation (Kaplan and Sadock, 1998).

The final stage constitutes the acceptance of the prognosis and the inevitability of death. Patients may freely express their feelings of the unknown, even with an underlying euphoric mood (Kübler Ross, 1969).

The stage model of Kübler Ross (1969) seems to display contextual similarities with other models of grief referred to by sports psychologists. Averill (1968) and Karl (1987) proposed stage models of their own, essentially differing only in the number and inclusiveness of their stages from Kübler-Ross's (1969) five stage model.

Averill (1968) ascribed three stages to the grief process, the first of which is shock and disbelief, bearing much of Kübler-Ross's (1969) content. Averill (1968) names his second stage despondency and depression. This stage includes depressive symptoms, as well as anger and hostility. The third and final stage is that of recovery, during which acceptance is implied, leaving only the stage of bargaining exclusively to Kübler-Ross (1969).

Karl (1987) proposed a closely related model of grief, making use of the word 'phase' instead of 'stage', possibly implying a less rigid or prescriptive line of thought, with provision for regression and oscillation between phases. He distinguished three phases, namely shock, coping and adaptation. The first phase again constitutes feelings of disbelief, with the second phase focusing on the avoidance and repression of the painful reality of a loss, bringing this phase in close proximity to that of denial in the model of Kübler-Ross (1969). He deviates from the previous two models in that he follows a problem solving approach to the new painful reality, suggesting elements of a task approach. The third phase again refers to a concept of adaptation and resolution, akin to Kübler-Ross (1969) and Averill (1968). It seems therefore that among the grief models cited most in sports psychology literature, there is some agreement on the nature of grief responses, with differences occurring mostly along semantic lines.

Loss through injury in the context of grief related literature

For athletes who diligently invest in sport participation, especially at a competitive level, any event which threatens their ability to function in an athletic role may constitute a significant personal loss (Brewer, 1999). In terms of this experienced loss, evidence further suggests that injured athletes experience a higher incidence of emotional turmoil than do athletes without injuries. In this respect the model of Kübler-Ross (1969) affords a means by which loss through injury could possibly be contextualized.

Malt (1992) verified the occurrence of emotion focused adjustment after an injury, a tendency confirmed by Smith (1996), who suggests that injury in athletes is often accompanied by depressive symptoms, low self esteem, tension and anger, representing at least two of the stages proposed by Kübler-Ross (1969). According to Smith (1996) there also seems to be a relation between the

incidence of mood disturbances in athletes and their personal progress in rehabilitation, with mood being inversely related to attendance of rehabilitation sessions. This evidence also serves to confirm the relation between post-injury mood state in athletes and their perceived loss of control, possibly lending an amount of support to the hypothesis of Kübler-Ross (1969) that anger might serve to regain a subjective feeling of control.

Research by Mekarski (1999) also concluded that individuals with a diagnosis of an athletic injury might experience post-injury responses similar to the grief-like responses proposed by Kübler-Ross (1969). The nature of these post-injury responses is similarly elaborated upon in an earlier study by Blinde and Stratta (1992), who undertook an in-depth investigation into the psychological reactions of athletes following an involuntary and unexpected exit from participation in sport at a competitive level. Athletes in this sample of twenty experienced the exit as traumatic and reported affective experiences similar to the loss of someone with whom they had a close relationship.

Blinde and Stratta (1992) also equated post-injury responses to the stage theory of Kübler-Ross (1969), making specific mention that among other factors that could lead to an early career exit, athletic injury remains one of the causative factors contributing to the existence of grief-like emotional reactions. Blinde and Stratta (1992) furthermore argue that despite the criticism against the application of the model of Kübler-Ross (1969), her stage theory could still be instrumental as a frame of reference for a better understanding of the psychological factors at play during the exit process. This can be done, however, without having to allow the theory to dictate or control the interpretation of the athlete's post-injury experience.

Blinde and Stratta (1992) also indicated that depression – stage four in the model of Kübler-Ross (1969) – seems to be the most prolonged stage experienced by athletes after an unexpected exit from competitive participation in sports. Characteristic of this stage were feelings of purposelessness, with several domains of the athletes' lives being affected, including their academic, social and psychological domains. Specific psychological responses were qualified as mood-changes, a sense of being out of control, sadness and a decrease in motivation.

Possible theoretical grounding for the findings of Blinde and Stratta (1992) comes from a behaviourist school of thought. Lewinsohn and Amenson (1978) suggested that dysphoria is assumed to result when there is either too little positive reinforcement, or too much punishment. The authors also suggested that the feeling of dysphoria is the core phenomenon of depression, and that the so-called cognitive symptoms (e.g. low self-esteem, pessimism and guilt) are viewed as the individuals' efforts to explain their dysphoric (unpleasant) mood. In the case of an incapacitating injury, events that are reinforcing may become unavailable. An injury may therefore prevent the individual from engaging in sports or social activities that have previously been significant in maintaining an euthymic (healthy) mood. Morgan (1977) has verified this tendency in an earlier study of elite long distance runners. The study indicated that athletes often persist with exercise despite indications of an injury. The author suggests that athletes prefer the physical discomfort of exercising with an injury to the emotional discomfort of anxiety and depressive symptoms associated with the cessation of exercise.

Injury and the loss of athletic identity

The loss of athletic identity seems to be a primary consequence of athletic injury, especially when retirement from active participation is indicated. Webb and

Nasco (1998) argue that the nature of the reaction to retirement from participation seems to be dependent upon two variables: the strength of the participant's athletic identity, and the circumstances that prevailed when retirement occurred. Injury therefore represents a variable that has a profound influence upon both the athlete's identity and the circumstantial experience at the time of inevitable exit, resulting in a stronger predicted relationship between athletic injury and retirement difficulty for injured athletes. Webb and Nasco (1998) also indicated that the post-injury athletic identity among the studied subject population was strongly associated with a sense of vagueness, reiterating the functional nature of an intact identity dependent on optimal physical condition.

The authors suggest then, that whatever the underlying process, injury related retirements seem more problematic to individuals with strong athletic identities, which increases the probability for highly competitive athletes to experience an acute loss. At least some of the loss reactions could be similar to those proposed by the cited grief models, including that of Kübler-Ross (1969).

Injury and meaning

Grianto (2001) suggests that loss through injury constitutes a process during which the emphasis shifts from the perceived loss to the possible meaning of the injury itself. Although this direction of thought might represent a slightly philosophical approach to the athlete's post-injury experience, Grianto (2001) recognizes the parallel existence of reactions closely related to those posited by Kübler-Ross (1969). These include depression, anger, and resolution or relief. He also identified several other post-injury responses, namely boredom, fear and confusion. These terms are new with regard to the model of Kübler-Ross (1969) and possibly represent a move away from a stage/ phase approach or an adherence to a specific theoretical underpinning.

Although Grianto (2001) introduces 'meaning' as a separate process, it could be argued that post-injury reactions represent the athlete's very attempt to ascribe meaning to the injury and that the variations in post-injury responses reflect the progress or difficulty in ascribing meaning to the injury.

Despite different angles of approach, there is general agreement on the existence of post-injury responses, many of which bear strong resemblance to grief-like reactions observed in individuals who have suffered a significant loss. In this context it seems especially significant to obtain clarity on the relevance of a model of grief such as Kübler-Ross's (1969).

RESEARCH DESIGN AND METHODOLOGY

Nel (1999) approached several sportsmen and women in collaboration with the sports bureaus of the University of the Free State and Technicon Free State, and schools and sports clubs. The sample consisted of 21 participants who, as a result of injury, could not partake in sport for a minimum duration of two months. The participants were involved in different kinds of sports, with ages ranging from 12 to 35 years, and representing different levels of competition. Both genders as well as various cultural groups were represented (Table 1).

Table 1: Background demographics of subjects

Sub- ject	Sex	Age	Cultural origin	Type of Sport	Level of competition
1	MALE	23	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
2	MALE	38	WHITE	HIGH RISK NO CONTACT : INDIVIDUAL	INTER- NATIONAL
3	FEMALE	12	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	INTER- NATIONAL
4	FEMALE	16	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
5	FEMALE	17	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
6	MALE	19	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	INTERNATIONAL
7	MALE	25	COLOURED	CONTACT SPORT	PROVINCIAL
8	MALE	20	COLOURED	CONTACT SPORT	NATIONAL
9	MALE	27	COLOURED	LOW RISK NO CONTACT : TEAM	NATIONAL
10	MALE	23	WHITE	CONTACT SPORT	INTERNATIONAL
11	MALE	28	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	INTERNATIONAL
12	FEMALE	31	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
13	MALE	26	WHITE	HIGH RISK NO CONTACT : INDIVIDUAL	INTERNATIONAL
14	MALE	26	WHITE	CONTACT SPORT	INTERNTIONAL
15	MALE	19	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	PROVINCIAL
16	MALE	20	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
17	FEMALE	20	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	PROVINCIAL
18	MALE	18	BLACK	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
19	FEMALE	15	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
20	FEMALE	22	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	NATIONAL
21	FEMALE	20	WHITE	LOW RISK NO CONTACT : INDIVIDUAL	INTERNATIONAL

Semi-structured interviews were conducted, affording the subjects the opportunity to elaborate retrospectively on their post-injury experiences throughout different phases of rehabilitation. The phases were identified as follows: injury phase, treatment decisions and planning phase, early rehabilitation phase, late rehabilitation phase and return to competition phase.

Transcribed interviews were coded, providing specific post-injury responses for all phases of rehabilitation. This resulted in the identification of certain predominant themes, suggesting different types of post-injury responses throughout the phases of rehabilitation.

Analysis of the data isolated the cognitive, emotional and behavioural responses of athletes during the different phases of rehabilitation. The latter was done with the aid of the QSR NUD*IST computer program, designed specifically for the purpose of analysing and coding qualitative data.

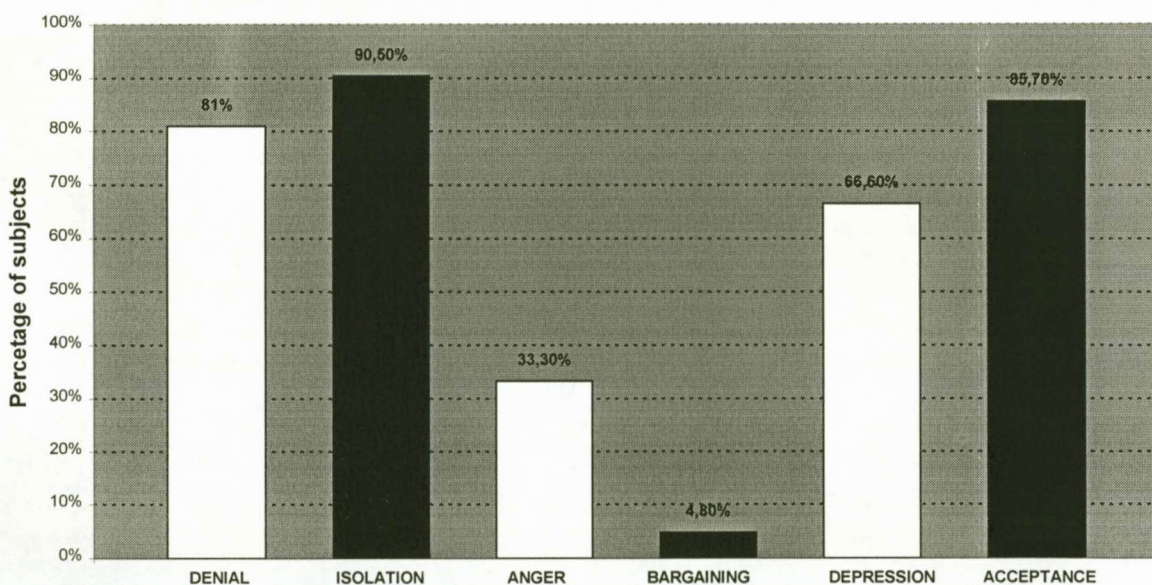
The researcher undertook still further qualitative exploration of these cognitive, emotional and behavioural responses, also with the aid of the QSR NUD*IST computer program. The purpose was to isolate the post-injury responses most similar to the grief responses proposed by the model of Kübler-Ross (1969) (Appendix A).

Inferences made were independently verified by two intern psychologists to make provision for a process of triangulation, validating the reliability of the process. Although the exploration of the data was done in a qualitative manner, results mostly indicate percentages to allow for comparison.

RESULTS AND DISCUSSION

Diagram 1 highlights the distribution of post-injury responses for all subjects across the whole time span covered retrospectively by the interviews. Eighty-one percent of all subjects experienced some form of denial with 90.5% of subjects experiencing isolation. Post-injury responses of anger existed among 33% of subjects. One subject reported some form of bargaining. Indications of depression were found in 66.6% of subjects. Responses of acceptance were reported by 85.7% of the subjects. Although denial and isolation are noted separately, it should be taken into account that both still form part of the first stage proposed by Kübler-Ross (1969).

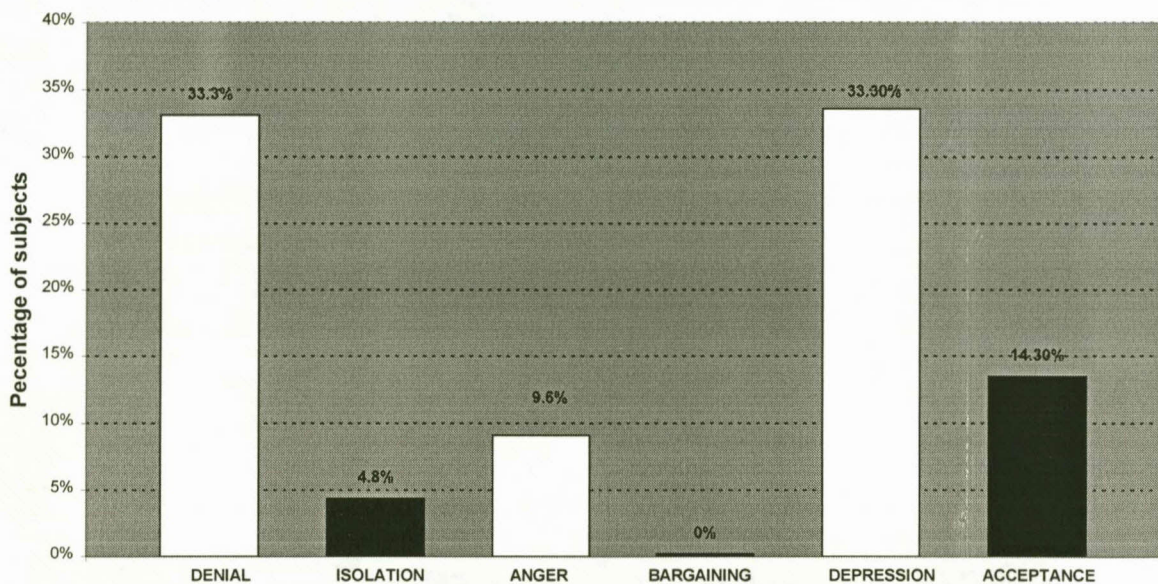
Diagram 1: Post-injury responses for all phases of injury



Injury phase

During the injury phase (Diagram 2), the predominant post-injury responses were denial and depression (33.3%). No bargaining was reported, and only one subject (4.8%) gave an indication of experiencing isolation. Roughly 14% of subjects reported acceptance in various ways.

Diagram 2: Post-injury responses for the injury phase



Denial in the injury phase included the following first order themes: denial of the pain, denial of the presence of an injury and denial of a weak prognosis. One subject also denied the severity of the injury. Reported motivational aspects for the denial were as follows:

- ◆ Fear of missing training.
- ◆ Admitting to an injury would lead to cessation of training.
- ◆ Wanting to blame other factors for the injury, for example running shoes.

Depression (33.3%) was indicated by the following responses:

- ◆ Withdrawal from interpersonal contact.
- ◆ Pronounced sadness.
- ◆ Feelings of worthlessness, inappropriate guilt and feelings of dysphoria (unpleasant mood).

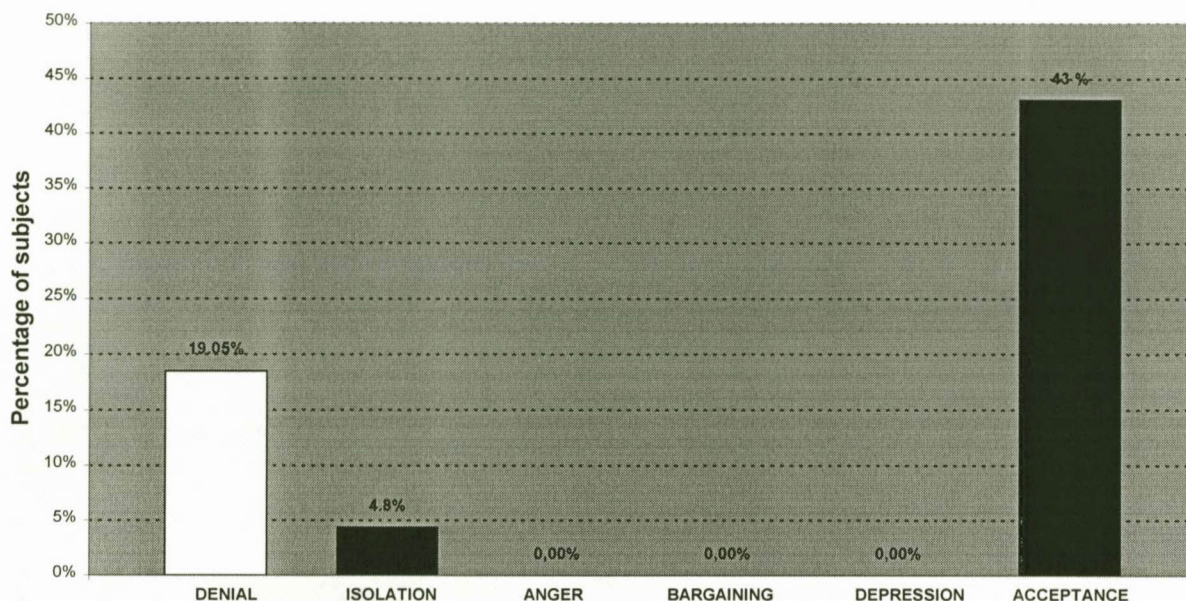
Only one subject who experienced depression also displayed behavioural indications of acceptance of the injury. None of the subjects who experienced anger (9.6%) in the injury phase reported any indications of acceptance in this phase as well. Only one subject experienced isolation, which could possibly be indicative of the fact that the attention is focussed on the athlete during the injury phase, with many role players still actively involved with the injured athlete.

Treatment decisions and planning phase

The treatment decisions and planning phase (Diagram 3) seem to differ significantly from the injury phase.

- ◆ None of the subjects reported anger and depression and there is also an absence of bargaining.
- ◆ There is an increase of reported acceptance of almost 30% (from 14.3% to 43%), while there was a 14.3% decrease in denial, to 19.05%.
- ◆ A third (33.3%) of the subjects accepted medical and paramedical interventions to be appropriate for the kind of injury, along with an acceptance of the professional opinion on the diagnosis as being correct.

Diagram 3: Post-injury responses for the decision-making and planning phase



- ◆ A further 9.6% accepted time as being a crucial factor in the rehabilitation process.

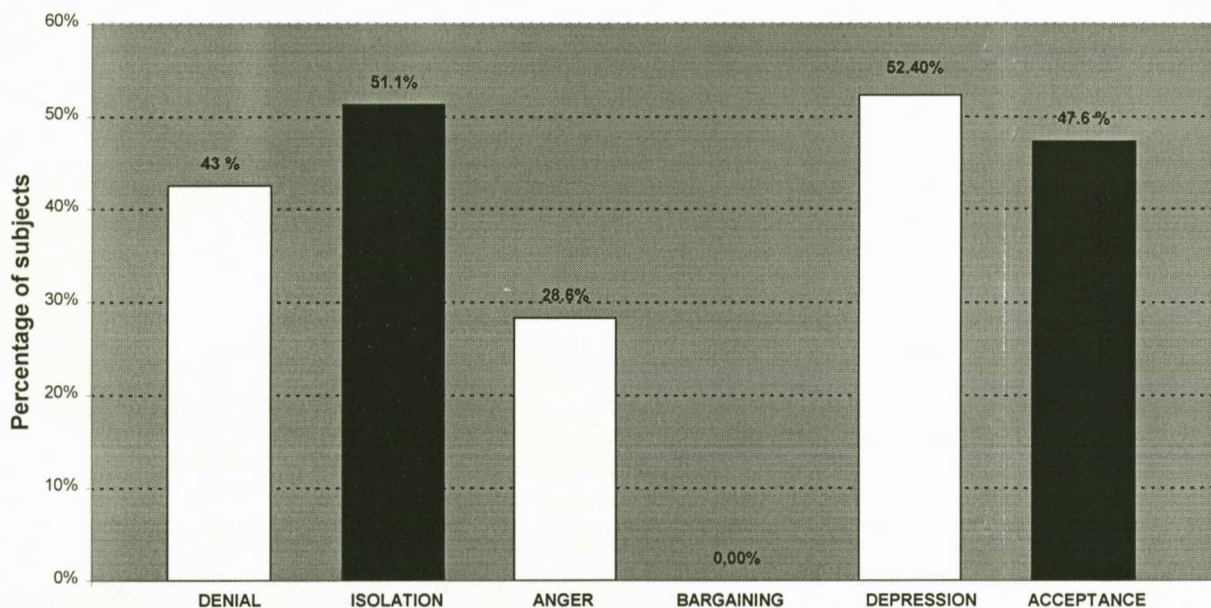
Denial (19.5%) was related to pain and the reality of the prognosis. Athletes knew cessation would be consequential to admitting the presence of an injury.

A possible explanation for the absence of anger could coincide with the function ascribed to anger by Kübler-Ross (1969). Anger is often present in the individual who subjectively experiences a loss of control over his circumstances, as anger has the function of regaining control. Through treatment decisions and planning, along with various professional individuals being involved with the athlete, he / she might still experience a fair amount of control over the injury and the recovery process. Kübler-Ross (1969) also differentiated between a reactionary

and preparatory kind of depression. The first kind can be functionally equated to a buffer, during which time the individual might mobilize resources and other defences. However, this kind of depression quickly subsides, being replaced by a kind of depression with its focus on impending losses (Kübler-Ross, 1969).

In this light it could be hypothesized that the reactionary kind of depression predominated during the injury phase, affording the athlete an opportunity for recollection. The depression subsided during the phase of treatment decisions and planning.

Diagram 4: Post-injury responses for the early rehabilitation phase



Early rehabilitation phase

The subsequent early rehabilitation phase (Diagram 4, previous page) has the highest incidence of depression (52.4%), lending further support to the hypothesis of Kübler-Ross (1969). The depression reported in this phase could possibly be over impending losses still foreseen by the athlete, losses that are gradually becoming a greater reality. Chan and Grossman (1988) confirmed the incidence of post-injury depression as well as confusion and tension. The phase of early rehabilitation also has the highest occurrence of anger (28.6%), possibly indicating a rise in the subjective loss of perceived control among the subjects. Subjects reported:

- ◆ Experiencing anger due to a lack of understanding and empathy from significant others like immediate family and coaches.
- ◆ Anger was also expressed towards medical professionals for not being decisive enough regarding the injury.

The results confirm the findings of Pearson and Jones (1992) who reported significant levels of depression and anger among injured athletes. Leddy et al. (1994) reported similar tendencies of post-injury depression.

The experience of isolation increased by more than 50% when compared to the previous phase.

- ◆ Fifty-seven percent (57.1%) of subjects reported feeling isolated during early rehabilitation phase, with only one subject reporting feelings of isolation during the treatment decisions and planning phase. This tendency continues into the late rehabilitation phase (isolation 52.4%), indicating that athletes may experience these two phases as particularly difficult.

Subjects reported several different reasons for feeling isolated:

- ◆ There were diminished contacts with training partners and lack of support from significant others.
- ◆ Subjects also felt isolated due to a loss of normal training routine, with no substitute for their specialized activity.
- ◆ Isolation was also experienced due to a lack of finances to facilitate an appropriate medical intervention.

The incidence of acceptance also peaked during early rehabilitation:

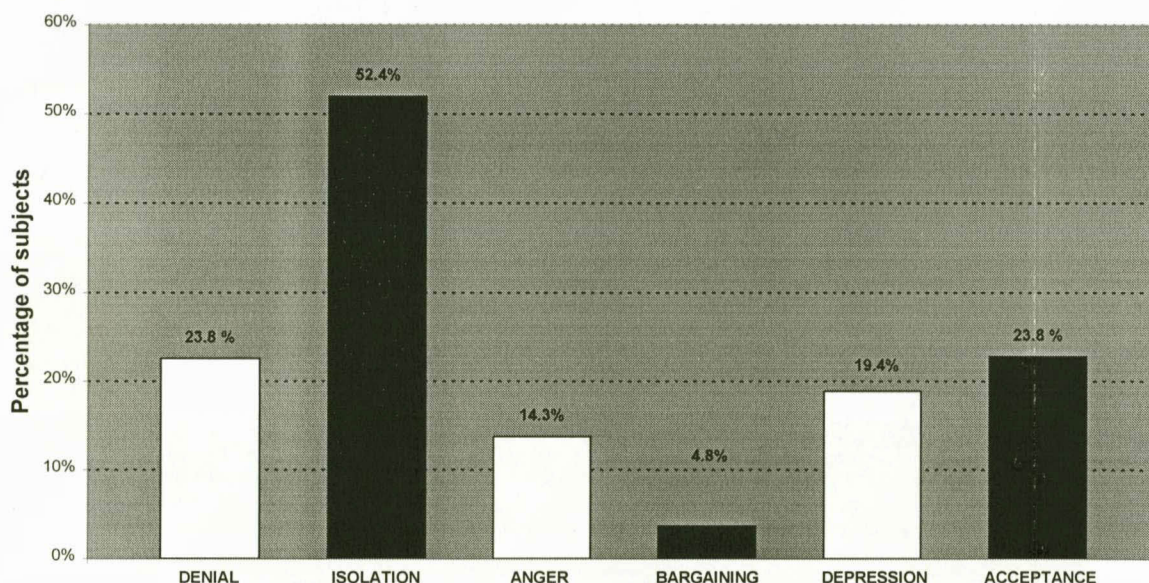
- ◆ Nearly twenty-nine percent of subjects accepted that rehabilitation is a gradual process and that adherence to the prescribed program will yield the best results. The same percentage of subjects accepted the nature of the prognosis and that the pre- and post-injury performance level might differ.
- ◆ Two (9.6%) subjects accepted the medical/ surgical interventions as appropriate.
- ◆ There was a 10% higher incidence of denial during the early rehabilitation phase than during the injury phase. Almost 29% of the subjects denied the existence of emotional turmoil during early rehabilitation, with 14.2% denying the reality of the (weak) prognosis, or the probability that the injury would have significant influence on future performance.

Significant to notice is the presence of emotional turmoil during early rehabilitation and the denial thereof. This could coincide with the high incidence of depression and isolation as likely sources of emotional turmoil. Brewer (1999) confirms the presence of emotional turmoil among injured athletes.

Late rehabilitation phase

The late rehabilitation phase (Diagram 5) is the first and only phase with a reported incidence of bargaining (4.8%). The nature of the bargaining was religious. The low incidence of bargaining could be explained in terms of the documented observation of Kübler-Ross (1969) that bargaining is rarely if ever disclosed, usually only in very private conversation. The possibility therefore exists that significantly more subjects could have bargained during any of the phases of rehabilitation.

Diagram 5: Post-injury responses for the late rehabilitation phase



As mentioned before, the incidence of isolation is still relatively high during late rehabilitation (52.4%). The incidence of denial, anger and acceptance were significantly lower (by roughly 50% each) and depression decreased by 63% compared to the incidence in the early rehabilitation phase. As more than half of the subjects were still experiencing isolation, it suggests that particular interest should be taken into the reported reasons for this tendency:

- ◆ More than a third (38.1%) of the subjects felt isolated from training partners and experienced lack of support from team management and coaches. They also reported insufficient support from their primary support group.
- ◆ One subject (4.8%) felt isolated due to a loss of physical independence and one subject experienced isolation due to a loss of athletic identity – the way others, and herself, used to see her in the role of an athlete.

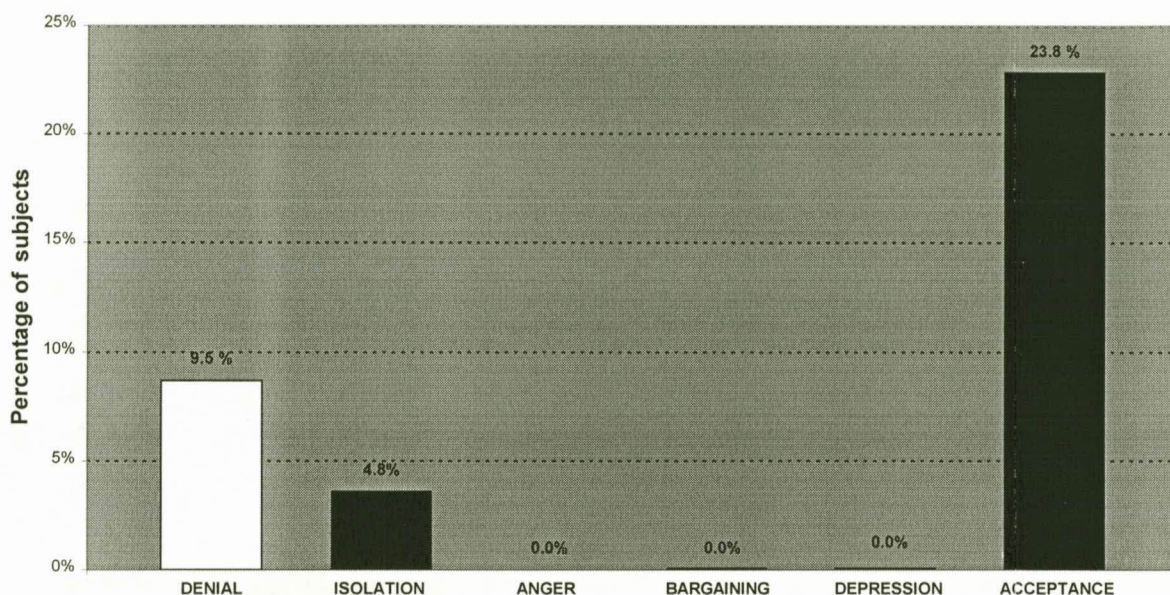
Web et al. (1998) accentuated the implications of a loss of athletic identity as they indicated that post-injury athletic identity is often associated with a feeling of vagueness and that injury seems more problematic to athletes with strong athletic identities. The remaining subject experienced isolation due to a lack or loss of competitiveness, i.e. not being able to sustain a particular level of performance.

Return to competition phase

The return to competition phase (Diagram 6) again differs significantly from the phases of early and late rehabilitation:

- ◆ There is no incidence of anger, bargaining or depression
- ◆ There is a 90% reduction in the incidence of isolation, probably indicative of the strong positive influence of becoming part of a joint exercise program and the resulting higher frequency of social interaction.
- ◆ One (4.8%) subject indicated feelings of isolation, reporting that he felt estranged from training partners and team members due to a lack of regular contact and loss of previously reckoned performance.

Diagram 6: Post-injury responses for the return to competition phase



Acceptance during this phase of rehabilitation was related to two areas:

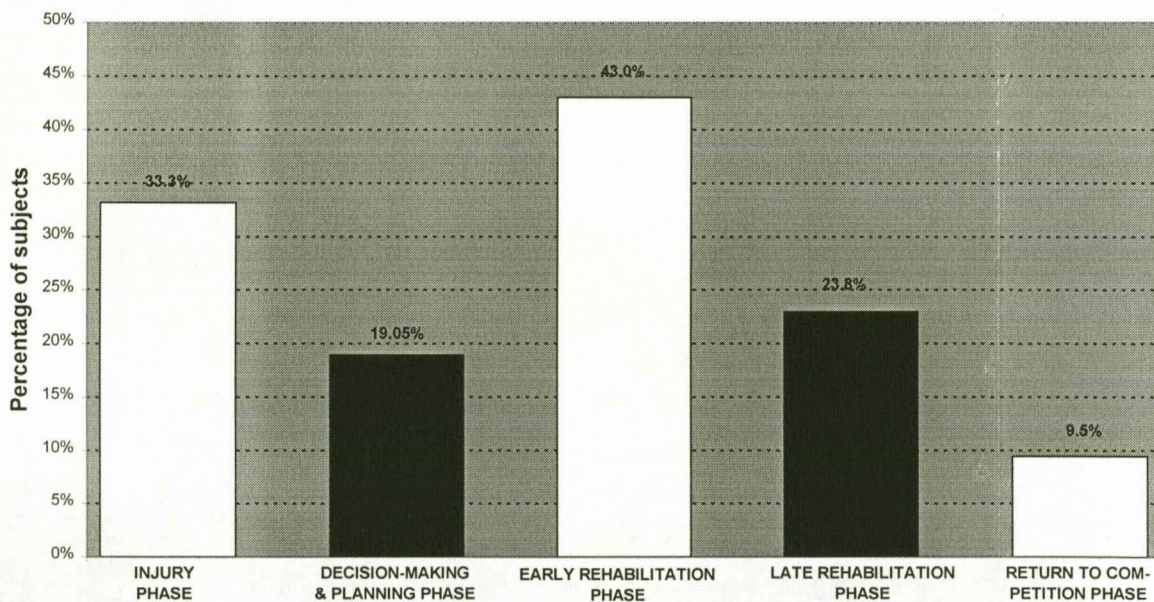
- ◆ Almost twenty-four percent of subjects accepted that the level of performance would be at a significantly lower level than the pre-injury performance.
- ◆ One subject additionally accepted that the injury might not be fully rehabilitated and still is latent, with exercise being adjusted accordingly.

Two subjects (9.6%) denied the severity of the initial injury, and wanted quick results soon after rehabilitation.

Results are further illuminated when specific post-injury responses are viewed in terms of the different phases of rehabilitation (Diagrams 7 to 9):

- ◆ Responses of denial (Diagram 7) have the highest incidence during the early rehabilitation phase and the lowest incidence when athletes return to competition, with the difference accounting for a third of the subjects (33.5%).
- ◆ Acceptance also has the highest incidence during the early rehabilitation phase.
- ◆ During early rehabilitation only 14.3% of subjects could be accounted for simultaneously for denial and acceptance.
- ◆ Denial and acceptance for this phase were mutually exclusive for 85.7% of the subjects.

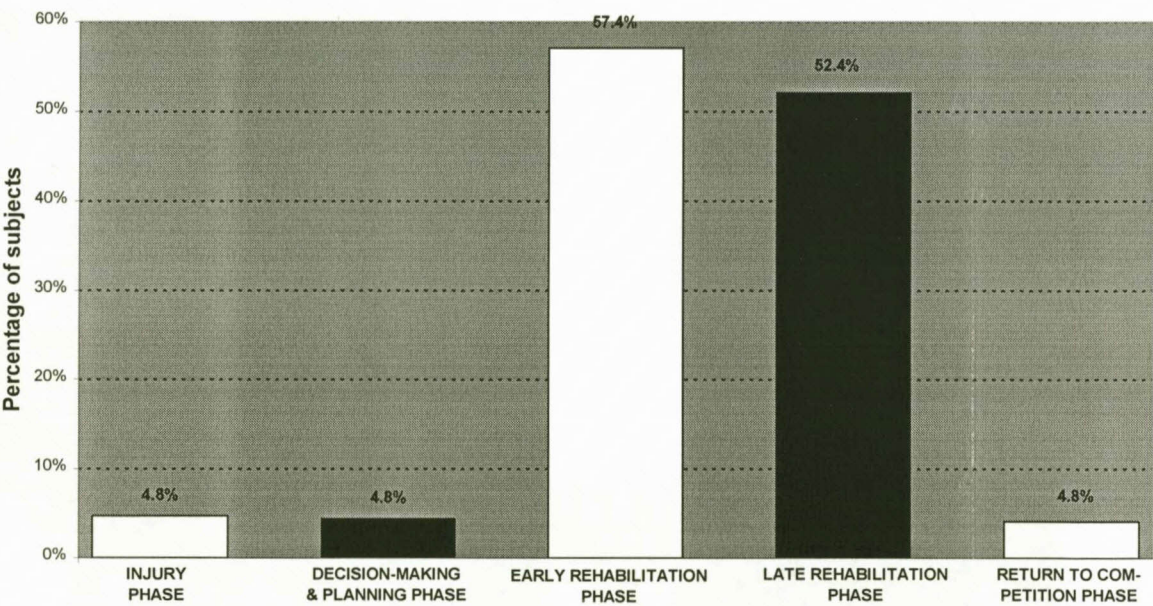
Diagram 7: Responses of denial for all phases of rehabilitation



- ◆ Subjects reported the highest incidence of isolation during the early and late rehabilitation phase, with a difference of only 4.8%.

In this regard it could be hypothesized that factors accounting for isolation (i.e. support and empathy from team members, immediate family and friends and coaches) were still sufficiently present during the injury phase and treatment decision and planning phase (Diagram 8).

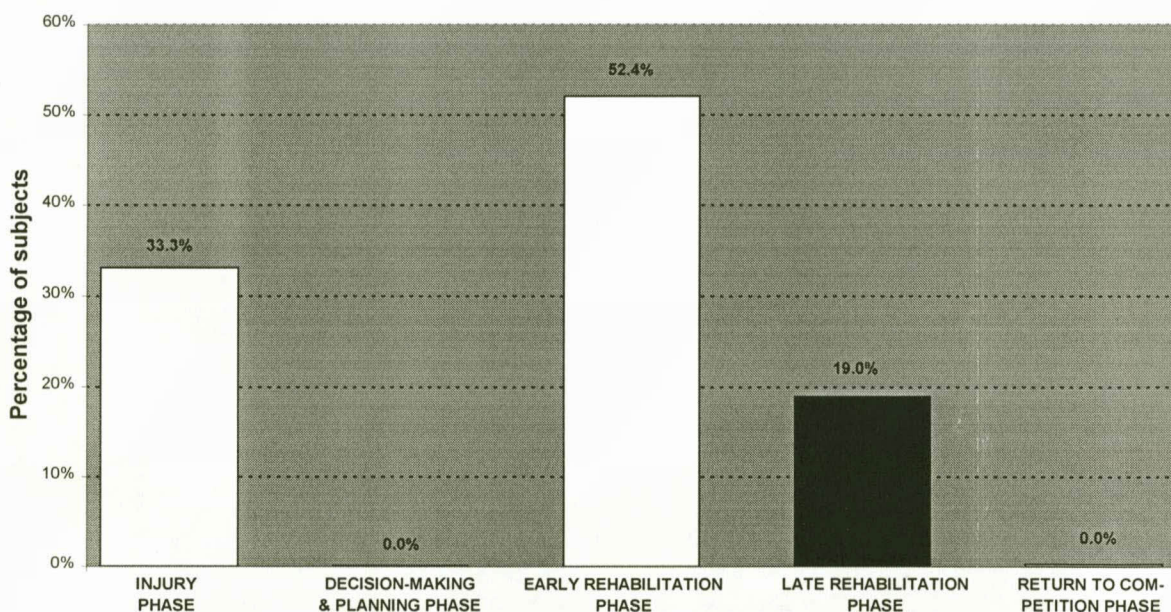
Diagram 8: Responses of isolation for all phases of rehabilitation



As noted before, Kübler-Ross (1969) stated that the function of expressed anger is regaining a sense of control. It might therefore be hypothesized that the early- and late rehabilitation phases as well as the injury phase hold the greatest

probability for athletes to sense a loss of perceived control. The absence of anger during the treatment decision and planning phase and the return to competition phase could lend support to the hypothesis for the following reason: treatment decisions and planning probably offer the athlete a sense of control, possibly because there is a degree of direction and personal involvement - albeit temporarily - with treatment decisions. Similarly, during the return to competition phase athletes possibly regain a sense of personal control through being back in familiar circumstances.

Diagram 9: Responses of depression for all phases of rehabilitation



Depression (Diagram 9) existed across the span of three phases of injury with:

- ◆ At least a third of the subjects experiencing depression during the injury phase.
- ◆ At least fifty percent being depressed during early rehabilitation.
- ◆ Nineteen percent still experiencing depression in the late rehabilitation phase.

These results tend to confirm the findings of Blinde and Stratta (1992) who indicated that depression seems to be the most prolonged state of mood experienced by athletes after an unexpected exit from sports participation. The steady decline in the incidence of depression across the last three phases of rehabilitation (see Diagram 9) might be due to an increase in positive reinforcement. Lewinsohn et al. (1978) suggested that a dysphoric mood would result in the absence of positive reinforcement like exercise.

CONCLUSION

The model is relevant to the degree to which it could be instrumental in providing a better understanding of the way in which athletes respond to injury. In this regard it proved to illuminate several underlying tendencies in an existing body of post-injury responses, affording the researcher a better understanding of the different factors at play during the rehabilitation process. Results indicate that it could be as unscientific to discard the model as it is to ascribe to it an all-encompassing value. It remains a theoretical model and therefore has a limited scope of generalization. Regarding the post-injury responses of competitive athletes the model can be of definite value in one's attempt to understand and / or predict how athletes may respond to injury, provided that it is applied with a cautious knowledge of its own theoretical origin. In the light of these results it is also evident that athletic injury can be considered as a loss and that the resulting post-injury responses bear much resemblance to grief-like responses.

Overview of core findings

- ◆ The highest incidence of isolation occurred during the phases of early rehabilitation and late rehabilitation. The incidence of isolation during these phases was also 50,1% more than during any other phase of injury. The incidence of depression and anger peaked during the early rehabilitation phase. The simultaneous occurrence of isolation and depression accentuates

athletes' susceptibility to mood instabilities during this period, especially in the absence of sufficient primary support. The majority of the responses of denial for this phase were related to emotional turmoil. This indicates the possible reluctance of athletes to admit to the presence of turmoil, which reiterates the potentially difficult nature of the early rehabilitation phase. The highest incidence of acceptance was also reported during the early rehabilitation phase. It should be noted, however, that the content of the reported acceptance was in relation to the nature of the rehabilitation process, and not to the injury itself. Therefore it cannot be inferred that athletes accepted the injury, but rather certain inevitable implications thereof.

- ◆ The incidence of anger displays a gradual decline across the last three phases of rehabilitation, with its peak during early rehabilitation. This phenomenon might reflect a manifestation of the hypothesis of Kübler-Ross (1969) that anger serves to compensate for a loss of control, thus indicating that the athlete might regain a sense of control during the final two phases of rehabilitation.
- ◆ Depression similarly displays a diminishing incidence across the last three phases of rehabilitation (52,4% during the early rehabilitation phase to 0% during the return to competition phase). This tendency could represent the differentiation that Kübler-Ross (1969) makes between reactionary depression and depression over impending losses. The incidence of 33.3% during the injury phase might represent the reactionary kind of depression with its buffering function, affording the athlete time to recollect and mobilize other mechanisms or sources of coping. The subsequent phase has no incidence of depression, with a sudden high onset during early rehabilitation, when the athlete might realize the full impact of the impending loss (and a peak in anger as a likely coping strategy). The depression then subsides as

the progress of the rehabilitation process puts the losses into context, or as the athlete regains a sense of control.

- ◆ Acceptance has a higher initial incidence among the subjects, with a reduction of almost 50% towards the end of rehabilitation. Significant to note is that the themes reported for the initial acceptance were related to logistical concerns resulting from the injury. As rehabilitation progressed, the incidence of acceptance decreased and themes were more related to current and anticipated levels of athletic performance, possibly implying that acceptance of reduced performance levels is more difficult than acceptance of logistical concerns due to an injury.
- ◆ The role of an intact athletic identity cannot be underestimated, as many of the subjects indicated that the loss of that identity contributed to the experience of isolation.
- ◆ Only one subject reported engaging in bargaining. However, this could be expected, as Kübler-Ross (1969) indicated that bargaining is a rarely disclosed phenomenon.

Limitations

Qualitative research is essentially oriented to exploration, discovery and inductive reasoning (Patton, 1990). The researcher attempted to adhere to these principles without being influenced by pre-conceived ideas or hypotheses. A process of triangulation was incorporated to facilitate this venture. Results were presented in the context of a model of grief as proposed by Kübler-Ross (1969). The researcher used this model as a frame of reference to explore the post-injury responses of competitive athletes in an existing data base. Responses most similar to those posited by Kübler-Ross were isolated and reported. The results

remain void of responses not relevant to the model of Kübler-Ross (1969). This could create a disproportionate view of the relevance of the model.

Further recommendations

- ◆ The results of the study indicate that the most difficult time for the athlete is when he finds himself on his own. This is especially true for the early and late rehabilitation phases, when the athlete has lost most comparatives, and must try to anticipate his / her level of post-rehabilitation performance. It is therefore during this specific time when follow-up support and interest from a coach and/or team management is most appreciated and significant. The loss of primary support during this time has been indicated to precipitate mood disturbances and feelings of isolation.
- ◆ The existence of an athletic identity relies heavily on optimal physique and athletic performance. An injury depletes the very foundation of that identity with a resulting demand on the athlete's ability to recollect and focus on its gradual restoration. This attempt can be especially difficult without the necessary empathy and professional support. Athletes often report feelings of vagueness and worthlessness due to a sudden loss of athletic identity.
- ◆ Athletes who were part of a team often feel isolated and marginalized due to a sudden lack of any significant contribution to that team. When this coincides with financial loss, it often culminates in the onset of mood disturbance and self-reproach. Particular interest should be taken in the establishment of some form of continuity during follow-up with athletes in this category.

APPENDIX A

TABLE 2: Raw data themes, 1st order themes and frequency analysis (percentage of subjects) for the post-injury responses during the injury phase.

Injury Phase: <u>Raw Data Theme</u>	<u>1st Order theme</u>	<u>P=person /Frequency Analysis</u>
<i>Reasoned that the pain is transient; still continued with exercise; blamed running shoes as the cause for the pain.</i>	Denial of pain	P1 4.8%
<i>Refused to admit presence of pain; athlete knew cessation is inevitable if admitting that pain is being caused by an injury.</i>	Denial of pain	P1 4.8%
<i>Not admitting the presence of the pain or injury due to the fear of having to stop with training and 'loosing out' on progress and practicing with partners.</i>	Denial of pain / injury	P3;P6; P15;P17;P19 24%
<i>Athlete applied do-it-yourself-treatment for symptomatic relief; hoping the symptoms will subside in due time.</i>	Denial of the severity of the injury	P19 4.8%
<i>Reasoned that the injury is transient; that injury has a good prognosis.</i>	Denial of a weak prognosis	P17 4.8%
<i>Not admitting the pain due to possible negative reaction/s from team members / training partners.</i>	Denial of injury due to peer pressure / pressure to participate	P5 4.8%
<i>Not admitting to pain in order to avoid personal disappointment.</i>	Deny pain to avoid disappointment	P5 4.8%
<i>Athlete experienced disbelief about the injury from training partners; experienced marginalization from coach after injury.</i>	Isolation	P21 4.8%

TABLE 2 continues / injury phase

<i>Athlete experienced anger towards the injury and the pain.</i>	Anger (towards injury / pain)	P5 4.8%
<i>Athlete felt angry towards herself; anger about not being able to partake in a different kind of (substitute) activity.</i>	Anger (self directed)	P5 4.8%
<i>Athlete felt angry with himself for being negligent; felt angry about unfair circumstances at the time of injury.</i>	Anger (self directed / towards circumstances)	P13 4.8%
<i>Athlete withdrew from interpersonal contact; wanted to be alone; lost the need for interpersonal contact.</i>	Depression	P2; P13 9.6%
<i>Athlete experienced pronounced sadness about the injury; felt sad during the immediate time after the injury.</i>	Depression	P3; P21 9.6%
<i>Athlete experienced depressed mood most of the time; felt 'very down'</i>	Depression	P7; P14; P4 14.3%
<i>Athlete experienced feelings of worthlessness and inappropriate guilt; felt rejected.</i>	Depression	P4; P21 9.6%
<i>Athlete's behaviour indicated the acceptance of the injury; athlete started to implement recuperative measures as soon as possible after the injury.</i>	Acceptance of injury	P18; P20; P21 14.3%

TABLE 3: Raw data themes, 1st order themes and frequency analysis (percentage of subjects) for post-injury responses during the treatment decisions and planning phase.

Treatment decisions and planning phase: <u>Raw Data Theme</u>	<u>1st Order theme</u>	<u>P=person /Frequency Analysis</u>
<i>Reasoned that pain is transient; continued with exercise; blamed sports gear.</i>	Denial of pain	P1 4.8%
<i>The athlete is reluctant to admit to injury; knows the consequence is lay-off / rest.</i>	Deny injury to avoid lay-off / rest	P6; P15 9.6%
<i>The athlete does not admit that pain indicates an injury; does not consider pain as indicative of an injury.</i>	Denial of pain as indicative of injury	P6; P15 9.6%
<i>Denial of the reality of the prognosis by opposing the medical opinion.</i>	Denial of the prognosis	P13 4.8%
<i>Athlete experienced a lack of understanding from immediate family members; experienced lack of empathy about pain.</i>	Isolation	P5 4.8%
<i>Athlete accepts the appropriate medical and paramedical intervention for the injury.</i>	Acceptance (of recuperative intervention)	P3; P7; P20 14.3%
<i>Athlete accepts the diagnosis as appropriate and correct; athlete agrees with the medical professional and the given diagnosis.</i>	Acceptance (of diagnosis)	P4; P8; P11; P19 19.02%
<i>Athlete accepts the fact that time is a factor in the rehabilitation process; accepts that rehabilitation will require time and rest.</i>	Acceptance (of time as a factor in rehabilitation)	P5; P16 9.6%

TABLE 4: Raw data themes, 1st order themes and frequency analysis (percentage of subjects) for post-injury responses during the early rehabilitation phase.

Early Rehabilitation Phase: <u>Raw Data Theme</u>	<u>1st Order theme</u>	<u>P=person /Frequency Analysis</u>
<i>Denial of personal emotional turmoil; not admitting personal turmoil to friends; projecting turmoil into other activities like drinking; trying to 'stay positive' despite inner turmoil</i>	Deny emotional turmoil	P2;P4;P9; P11; P16;P17; 28.6%
<i>Not admitting to the reality of a weak prognosis; not believing objective opinion on the injury.</i>	Deny the nature of the prognosis	P6 4.8%
<i>Not wanting to admit that the injury will have a significant influence on future performance.</i>	Deny consequences of injury	P8; P17 9.6%
<i>Failure to admit to injury due to knowledge of likely personal financial implications.</i>	Deny injury to avoid financial loss	P14 4.8%
<i>Avoidance and/or neglect of the real injury by excessive exercise of non-injured parts of the athlete's body.</i>	Deny injury	P17 4.8%
<i>Athlete felt isolated from team members and training partners; also experienced lack of support from significant others.</i>	Isolation	P1; P2; P4; P6; P7; P9; P10; P13; P15 P17; P19 52.4%
<i>Athlete felt isolated due to a loss of the normal athletic training routine. Finding a substitute for the usual activities was difficult.</i>	Isolation (due to loss of routine)	P6; P14; P17 14.3%
<i>Athlete felt isolated due a lack of finances to facilitate an appropriate intervention (medical or paramedical).</i>	Isolation (due to financial constraints)	P15 4.8%

TABLE 4 continues / early rehabilitation phase

<i>The athlete experienced anger that was not directed towards any particular object or person.</i>	Anger	P4; P6 9.6%
<i>The athlete experienced anger towards significant others due to a lack of understanding/ empathy from them, including from their coaches.</i>	Anger	P4; P17; P21 14.3%
<i>The athlete experienced anger towards the medical professionals for not being decisive enough regarding the diagnosis and wasting time in the process.</i>	Anger	P14 4.8%
<i>Athlete experienced depressed mood and sadness for some duration.</i>	Depression	P3; P4; P5; P8; P9; P12 P14; P17 38.1%
<i>Athlete withdrew socially and/ or lost interest in social interaction.</i>	Depression	P4; P13; P19 14.3%
<i>Athlete experienced psychomotor agitation, diminished experience of pleasure and feelings of worthlessness.</i>	Depression	P4; P5; P6; P13 19.05%
<i>Athlete accepts that the rehabilitation process is a gradual one; accepts that adherence to the prescribed program will yield the best results.</i>	Acceptance	P1; P5; P10; P12; P14; P21 28.6%
<i>Athlete accepts the medical/ surgical intervention as appropriate.</i>	Acceptance	P2; P10 9.6%
<i>Athlete accepts the nature of the prognosis; that the pre- and post-injury performance levels will not be the same; that it might never be the same again.</i>	Acceptance	P3; P10; P14; P17; P20; P21 28.6%

TABLE 5: Raw data themes, 1st order themes and frequency analysis (percentage of subjects) for post-injury responses during the late rehabilitation phase.

Late Rehabilitation Phase: <u>Raw Data Theme</u>	<u>1st Order theme</u>	<u>P=person /Frequency Analysis</u>
<i>Suppression of pain through mental effort and pharmacological substance / analgesics / other substance.</i>	Denial of pain	P2; P11; P17 14.3%
<i>Failure to adhere to prescribed treatment time; not following prescribed exercise program.</i>	Deny that rehabilitation is a process	P19; P20 9.6%
<i>Athlete felt isolated from training partners; experienced a lack of support from coach/ management; Experienced a lack of understanding from primary support group.</i>	Isolation	P3; P6; P7; P9; P15; P16; P17; P21 38.1%
<i>Athlete experienced isolation due to a loss / lack of competitiveness; was not able to sustain level of performance.</i>	Isolation	P11 4.8%
<i>Athlete felt lonely due to a loss of athletic identity – the way others and herself used to view her in the particular role of athlete.</i>	Isolation	P12 4.8%
<i>Athlete felt isolated due to loss of physical independence; being dependent on others was a negative experience.</i>	Isolation	P13 4.8%

TABLE 5 continues / late rehabilitation phase

<i>The athlete experienced anger towards the medical professionals for not being decisive enough regarding the diagnosis and wasting time in the process</i>	Anger	P14 4.8%
<i>Athlete experienced anger towards the coach for being apathetic regarding the rehabilitation process – for being more interested in non-injured athletes.</i>	Anger	P17; P21 9.6%
<i>Athlete experienced depressed mood and withdrew socially.</i>	Depression	P8; P14; P13; P2 19.01%
<i>Athlete had recurrent thoughts about suicide and death.</i>	Depression	P13 4.8%
<i>Athlete accepted the responsibility of adhering to the prescribed rehabilitation program.</i>	Acceptance	P5; P21 9.6%
<i>Athlete accepted that rehabilitation could take more time than was initially foreseen.</i>	Acceptance	P8; P20; P21 14.3%
<i>Athlete accepted he had to start from 'scratch' after rehabilitation.</i>	Acceptance	P16 4.8%

TABLE 6: Raw data themes, 1st order themes and frequency analysis (percentage of subjects) for post-injury responses during the return to competition phase.

Return to competition phase: <u>Raw Data Theme</u>	<u>1st Order theme</u>	<u>P=person /Frequency Analysis</u>
<i>Not accepting that the rehabilitation process takes longer than what was planned; wanting quick results too early after injury.</i>	Deny the severity of the injury	P7; P8 9.5%
		TOTAL: 9.5%
<i>Athlete felt estranged from training partners and team members due to lack of regular contact and loss of previous reckoned performance.</i>	Isolation	P6 4.8%
<i>The athlete accepts that the level of performance on return to competition will be at a much lower level compared to pre-injury performance.</i>	Acceptance (of performance level)	P5; P13; P17; P18; P20 23.8%
<i>The athlete accepts that the injury may not be fully rehabilitated, and still be latent; adjusts exercise accordingly.</i>	Acceptance of possible latent injury	P20 4.8%

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