

## **ACHIEVEMENT GOAL PROFILES, TRAIT-ANXIETY AND STATE-EMOTION OF YOUNG FEMALE COMPETITIVE HORSE RIDERS**

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### **ABSTRACT**

*The goal orientations of female riders (N=83) between the ages of 9 and 20 were investigated with a view to extracting goal profiles from the collected data. Goal orientations were identified by means of the Achievement Goal Questionnaire for Sport (AGQ-S), which is based in the 2x2 achievement goal model. Goal profiles were created using cluster analysis. Seven distinct goal profiles emerged from the data. The goal profiles were compared to measures of the rider's trait-anxiety and state-emotion in competitive horse riding. The profile that was high in the approach orientations and low in the avoidant orientations emerged as the most emotionally robust profile. It was also the most competitively successful profile. The profiles where the avoidant orientations were high emerged as the most emotionally vulnerable profiles. Furthermore, they did not demonstrate any particular competitive success.*

**Key words:** Cluster analysis; Achievement goal profile; Horse riding; Trait-anxiety; State-emotion.

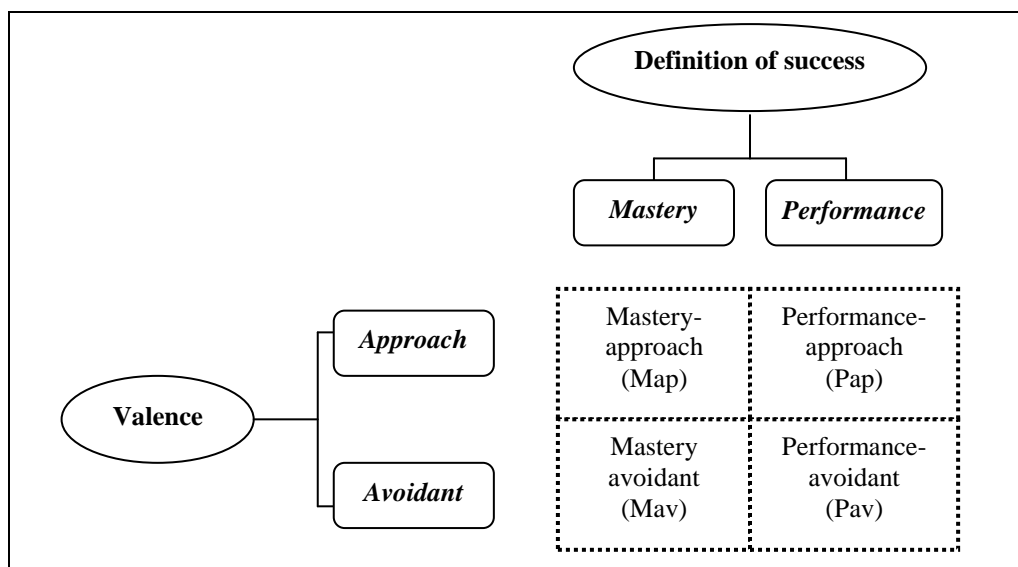
### **INTRODUCTION**

Achievement goal theory has been used for some decades as a model for research into motivational processes in education, work and sport (Nicholls, 1984; Duda & Nicholls, 1992; Roberts, 1992). The basic tenet of the original achievement goal theory is that the primary motivating force in an achievement environment (e.g., sport) is the need to demonstrate success or competence. A more recent form of the achievement goal model is the two dimensional model proposed by Elliot and McGregor (2001). The first dimension of this model is the definition of success, which consists of mastery and performance orientations. This dimension is thought to be orthogonal (Roberts *et al.*, 1996) in that a person may score high in both mastery and performance orientation. The second dimension of the model is valence, consisting of approach and avoidant orientations.

According to Duda *et al.* (1992), mastery orientation is associated with a number of adaptive achievement behaviours such as choosing appropriately difficult tasks, exerting full effort, maintaining intrinsic interest in the activity, improving and/or sustaining levels of performance, and positive association with high levels of intrinsic motivation. On the other hand, high levels of performance orientation have been found to be associated with a number of maladaptive achievement behaviours such as choosing tasks that are unreasonably easy or difficult, devaluation of the task, dropping out of the activity, holding back in terms of effort expended and feelings of incompetence. These findings have been confirmed by other research (Duda *et al.*, 1995; Tank & White, 1996; Elliot, 1999).

Although research shows that the results are consistent within the mastery orientation, they are less so within the performance orientation. In the original model proposed by Nicholls (1984), he observed that predicted behaviours would differ depending on whether an individual had high or low levels of self-efficacy. For example, individuals with high performance orientation and high levels of self-efficacy are likely to choose appropriately demanding tasks to demonstrate their skill against others. However, when individuals with high performance orientation have low levels of self-efficacy, they are likely to show maladaptive behaviour in selecting inappropriately difficult tasks. In such situations, the individual may choose tasks that are either very difficult (they will not get shown up as others will also fail) or which are insufficiently challenging (they are sure of doing better than others) (Elliot, 1999).

In order to account for these differences in behaviour within performance orientated individuals, the incorporation of the additional dimension of valence was proposed by Elliot (1999). The dimension of valence indicates whether an individual is motivated to adopt an approach or an avoidant orientation (Elliot *et al.*, 2000; Elliot & McGregor, 2001). In the approach orientation, behaviour is motivated by a positive event, for example, success. In the avoidance orientation, behaviour is motivated by an unpleasant event, for example, failure. In Elliot's model there are four possible combinations of goal orientation: mastery-approach (Map); mastery-avoidant (Mav); performance-approach (Pap); and performance-avoidant (Pav) (Figure 1).



**FIGURE 1: 2X2 ACHIEVEMENT GOAL MODEL**

Types of people who might fit into the mastery-avoidant category are perfectionists and people who perceive their abilities to be dwindling or the person who spends long hours practising at home but never feels good enough to compete. These people will differ from those with a mastery-approach orientation in that, instead of focusing attention on how to

attain success, they will focus on trying to avoid failure (Elliot & McGregor, 2001). Where a person has a strong performance-approach orientation, they may be driven to cheat if they do not see their way to winning through other means, such as their need to go out and demonstrate success. On the other hand, the performance-avoidant personality will show the maladaptive choice in tasks demonstrated in other research (Duda *et al.*, 1995; White, 1998).

According to Elliot and McGregor (2001), the performance-avoidant goal orientation appears to be the most vulnerable orientation in the achievement environment. The mastery-avoidant orientation, although associated with the same social antecedents as the performance-avoidant orientation, does not lead to the same array of negative consequences. In particular, the adoption of a mastery-avoidant orientation can facilitate the subsequent adoption of mastery-approach and performance-approach goals, which the performance-avoidant approach does not (Elliot, 1999; Elliot *et al.*, 2000).

Most of the abovementioned research examines each goal orientation in isolation. Given the assumption of orthogonality of the definition of success, it may be argued that achievement goal orientations of sportspeople are best studied through analysis of goal profiles rather than the levels of goal orientations in isolation (Hodge & Petlichkoff, 2000). In their study involving rugby players, these authors identified four clusters: low-performance/high-mastery; high-performance/low-mastery; high-performance/moderate mastery; and low-performance/moderate mastery. The main factors contributing to the difference between groups were perceived rugby ability/competence and the importance of perceived rugby ability/competence. In a study by Smith *et al.* (2006a) on soccer players, similar clusters emerged. Where mastery orientation was relatively lower, less adaptive responses to motivational climate and less enjoyment and satisfaction with sport were reported. However, it was observed that high performance orientation on its own is not maladaptive. Rather, it is in situations where mastery orientation is low in combination with high performance orientation that maladaptive behaviour occurs.

A further study by Carr (2006) looked at goal profiles using cluster analysis with the trichotomous model (mastery, performance-approach, and performance-avoidant). Four clusters were identified: (a) high mastery, high performance-approach, high performance-avoidant; (b) high mastery, high performance-approach, low performance-avoidant; (c) low mastery, high performance-approach, high performance-avoidant; and (d) high-mastery, low performance-approach, low performance-avoidant.

## **PURPOSE OF THE STUDY**

There do not appear to be any documented studies as yet in the physical domain, which create goal profiles using the 2x2 model. Such an investigation could be very revealing in that it could help to explain much of the inconsistency around the findings regarding the performance orientations. For example, a profile that is high in the approach orientations and low in the avoidant orientations would not be possible in the previous models. This study was designed with such a contribution in mind. In addition, goal profiles were analysed with a view to identifying the most competitively successful and emotionally robust ones.

## METHODS

### Participants

Data were obtained from female horse riders (N=83) between the ages of 7 and 19 years (M=13.82; SD=2.34), who were approached while they competed at horse shows. The parents of the riders read and signed the informed consent forms and the riders were asked to sign an assent form. The research was reviewed and accepted by an ethics review board of the Faculty of Humanities at the University of Cape Town.

### Measures

A demographic questionnaire was used to obtain general information about the child and her riding experience and expectations.

#### *Achievement Goal Questionnaire for Sport (AGQ-S).*

This questionnaire measures achievement goal orientation in sport on the 2x2 achievement goal model (Conroy *et al.*, 2003). The questionnaire has four subscales, which measure the mastery-approach, mastery-avoidant, performance-approach, and performance-avoidant goal orientations. Each subscale consists of three questions to be assessed on a 7-point Likert scale. Cronbach's  $\alpha$  values were: mastery-approach ( $\alpha=0.69$ ); mastery-avoidant ( $\alpha=0.84$ ); performance-approach ( $\alpha=0.86$ ); and performance-avoidant ( $\alpha=0.84$ ).

#### *Sport Anxiety Scale-2 (SAS-2).*

This scale is a measure of multi-dimensional trait-anxiety in sport (Smith *et al.*, 2006b). There are three subscales: somatic-anxiety; worry; and concentration-disruption. Each subscale has five questions to be rated on a 4-point Likert scale. Internal consistency was tested with the following results: somatic-anxiety ( $\alpha=0.79$ ); worry ( $\alpha=0.89$ ); and concentration-disruption ( $\alpha=0.76$ ).

#### *Sport Emotion Scale (SES).*

This scale is a measure of emotion in sport (Jones *et al.*, 2005), with five subscales: anxiety; dejection; anger; excitement; and happiness. The questionnaire is based on a 4-point Likert scale rating. Internal consistency was tested and found to be above 0.7 for all five subscales: anxiety ( $\alpha=0.83$ ); dejection ( $\alpha=0.82$ ); anger ( $\alpha=0.84$ ); excitement ( $\alpha=0.73$ ); and happiness ( $\alpha=0.79$ ).

## RESULTS

### Goal profiles

In an attempt to find naturally occurring goal profiles within the 2x2 model, cluster analysis was used to create the profiles. Seven clusters emerged: (i) HiHiHiHi (n=13); (ii) HiMHH (n=11); (iii) HiLoHiLo (n=5); (iv) HiHiMHi (n=15); (v) HiLoLoLo (n=12); (vi) HiHiMLo (n=17) and (vii) HiHiLoLo (n=10).

TABLE 1: CLUSTER MEANS AND STANDARD DEVIATIONS FOR 7-CLUSTER SOLUTION

| Goal orientation | HiHiHiHi<br>(n=13) |      | HiMHiHi<br>(n=11) |      | HiHiMHi<br>(n=15) |      | HiLoHiLo<br>(n=5) |      |
|------------------|--------------------|------|-------------------|------|-------------------|------|-------------------|------|
|                  | M                  | SD   | M                 | SD   | M                 | SD   | M                 | SD   |
| Map              | 6.64               | 0.37 | 6.76              | 0.30 | 6.33              | 0.78 | 7.00              | 0.00 |
| Mav              | 6.03               | 0.64 | 3.55              | 0.50 | 6.00              | 0.56 | 1.73              | 0.64 |
| Pap              | 6.33               | 0.58 | 5.21              | 0.97 | 4.18              | 0.73 | 5.80              | 1.26 |
| Pav              | 6.26               | 0.72 | 5.48              | 0.70 | 5.67              | 0.85 | 2.40              | 1.30 |

| Goal orientation | HiLoLoLo<br>(n=12) |      | HiHiMLo<br>(n=17) |      | HiHiLoLo<br>(n=10) |      |
|------------------|--------------------|------|-------------------|------|--------------------|------|
|                  | M                  | SD   | M                 | SD   | M                  | SD   |
| Map              | 5.17               | 1.36 | 6.71              | 0.37 | 6.57               | 0.39 |
| Mav              | 2.38               | 0.84 | 5.36              | 1.24 | 5.33               | 0.99 |
| Pap              | 1.56               | 0.50 | 3.76              | 0.99 | 1.30               | 0.29 |
| Pav              | 1.94               | 1.05 | 2.51              | 0.87 | 1.63               | 0.81 |

Map= Mastery-approach; Mav= Mastery-avoidant; Pap= Performance-approach; Pav= Performance-avoidant

Validity was tested using MANOVA (Pillai's trace=2.39:  $p=0.0001$ ). The results indicated that there were significant differences between the clusters. The univariate results (Map:  $F=10.22$ ,  $p=0.001$ ; Mav:  $F=40.49$ ,  $p=0.001$ ; Pap:  $F=67.78$ ,  $p<0.001$ ; Pav:  $F=63.4$ ,  $p=0.001$ ) showed significant differences (at the 5% level) in each of the four goal orientations. A summary of the means and standard deviations, for each cluster, are reported in Table 2.

The HiHiHiHi profile incorporates riders who scored high in all four goal orientations. These riders place high emphasis on both the mastery and performance definition of success. Furthermore, while they work towards achieving the required success they also consider it important to avoid failure.

The HiMHiHi profile is similar to the HiHiHiHi but there is less emphasis placed on avoiding personal failure in mastery pursuits. For example, a person in this cluster may be prepared to risk failure in attempting to learn something new but is less likely to risk failure within the competition environment.

The HiLoHiLo profile is made up of sportspeople who define success in terms of both mastery and performance goals. These sportspeople are driven by the need to improve their skills, as well as by the need to demonstrate their skills against others in competition. The fact that they are high in both Map and Pap indicates their tendency to work towards achieving success. On the other hand, these sportspeople will not expend much effort in attempting to avoid failure.

TABLE 2: CLUSTER MEANS AND STANDARD DEVIATIONS FOR 7-CLUSTER SOLUTION

| Goal orientation | HiHiHiHi<br>(n=13) |      | HiMHiHi<br>(n=11) |      | HiHiMHi<br>(n=15) |      | HiLoHiLo<br>(n=5) |      |
|------------------|--------------------|------|-------------------|------|-------------------|------|-------------------|------|
|                  | M                  | SD   | M                 | SD   | M                 | SD   | M                 | SD   |
| Map              | 6.64               | 0.37 | 6.76              | 0.30 | 6.33              | 0.78 | 7.00              | 0.00 |
| Mav              | 6.03               | 0.64 | 3.55              | 0.50 | 6.00              | 0.56 | 1.73              | 0.64 |
| Pap              | 6.33               | 0.58 | 5.21              | 0.97 | 4.18              | 0.73 | 5.80              | 1.26 |
| Pav              | 6.26               | 0.72 | 5.48              | 0.70 | 5.67              | 0.85 | 2.40              | 1.30 |

| Goal orientation | HiLoLoLo<br>(n=12) |      | HiHiMLo<br>(n=17) |      | HiHiLoLo<br>(n=10) |      |
|------------------|--------------------|------|-------------------|------|--------------------|------|
|                  | M                  | SD   | M                 | SD   | M                  | SD   |
| Map              | 5.17               | 1.36 | 6.71              | 0.37 | 6.57               | 0.39 |
| Mav              | 2.38               | 0.84 | 5.36              | 1.24 | 5.33               | 0.99 |
| Pap              | 1.56               | 0.50 | 3.76              | 0.99 | 1.30               | 0.29 |
| Pav              | 1.94               | 1.05 | 2.51              | 0.87 | 1.63               | 0.81 |

Map= Mastery-approach; Mav= Mastery-avoidant; Pap= Performance-approach; Pav= Performance-avoidant

The HiHiMHi profile is similar to the HiHiHiHi in that members define success in terms of both mastery and performance goals. They are also high in the avoidant orientation in that they consider it important to avoid failure in attempting to achieve their goals whether they are defined in terms of mastery or performance goals. However, in the performance dimension these riders showed a stronger tendency to avoid failure rather than to expend energy in moving towards success. There is no such differentiation in the mastery dimension where both the approach and avoidant tendencies are high. These riders will not consider it very important to demonstrate success in the competitive environment but will consider it extremely important to avoid failure in this environment. This profile is of particular interest in that it is the only profile where the avoidant tendency is so much stronger than the approach tendency that it justified classification at a separate level.

The HiLoLoLo profile incorporates riders who appear to define success in terms of mastery goals only. The high Map orientation indicates a strong tendency to drive towards their goals while the low Mav score indicates a low tendency to avoid failure. The low Pap and Pav scores indicate that success for these riders was not defined in terms of showing superiority over other riders.

The HiHiLoLo profile is the classic high mastery, low performance profile, which governed the original thinking around achievement goal orientation. These riders define success firmly in terms of self-referenced mastery goals and not in terms of demonstrating superiority over others. Within the mastery orientation, these riders demonstrate a strong tendency to work towards their achievement goals but at the same time also consider it important to avoid

failure. Since success is not defined in terms of competitive success, the drive to both achieve success and avoid failure in the competitive arena is low.

The HiHiMLo profile is similar to the HiHiLoLo but there is a slightly greater drive to demonstrate success in terms of performance goals. These riders will be more driven to demonstrate their prowess over others but will not be overly concerned about avoiding failure in the competitive environment.

Riding is a competitive sport where performance is often measured in terms of a child's ability to obtain a place on a provincial team. Team membership has, therefore, been used as a tool for identifying the "elite" riders in this sample. The proportion of members in each profile, which had been members of teams in the last two years, was calculated in an attempt to see if there were any observable differences amongst the percentage team membership across the profiles. These figures are summarised in Table 3.

**TABLE 3: PERCENTAGE OF COMPETITIVE RIDERS IN DIFFERENT CLUSTERS**

| Cluster  | Team membership |
|----------|-----------------|
| HiHiHiHi | 45.4%           |
| HiMHiHi  | 44.4%           |
| HiLoHiLo | 100.0%          |
| HiHiMHi  | 28.5%           |
| HiLoLoLo | 18.1%           |
| HiMMLo   | 86.6%           |
| HiHiLoLo | 37.5%           |

Overall, 51% of the girls in the sample had been members of some provincial team over the last two years. In the HiLoHiLo goal profile, 100% of its members reported that they had ridden in teams over the last two years. The HiMMLo profile reported the next highest proportion of 86.67%. The lowest proportion of team members was reported in the HiLoLoLo profile (18.18%).

### Trait-anxiety by Goal Profile

Means and standard deviations were calculated for the worry, concentration-disruption, and somatic-anxiety subscales of the SAS-2, for all seven of the goal profiles (Table 4).

Riders in the HiHiHiHi and HiHiMHi profiles demonstrated the highest levels of trait-anxiety. These two profiles also exhibited substantial variability in anxiety scores. The HiLoHiLo profile clearly showed the lowest levels of trait-anxiety. These differences were tested using a MANOVA analysis (Pillai's trace=0.5731;  $F(18, 207)=2.9516$ ;  $p<0.001$ ) and found to be significant at the 2.5% level.

TABLE 4: DESCRIPTIVE STATISTICS FOR TRAIT-ANXIETY BY GOAL PROFILE

| Cluster    | n  | Concentration-disruption |      | Somatic-anxiety |      | Worry |      |
|------------|----|--------------------------|------|-----------------|------|-------|------|
|            |    | M                        | SD   | M               | SD   | M     | SD   |
| HiHiHiHi   | 13 | 1.66                     | 0.65 | 2.35            | 0.85 | 2.89  | 0.94 |
| HiLoLoLo   | 11 | 1.25                     | 0.34 | 1.58            | 0.35 | 1.44  | 0.36 |
| HiMHiHi    | 11 | 1.27                     | 0.47 | 2.18            | 0.75 | 1.84  | 0.54 |
| HiHiMLo    | 17 | 1.28                     | 0.43 | 2.04            | 0.72 | 2.25  | 0.88 |
| HiHiLoLo   | 10 | 1.34                     | 0.34 | 1.94            | 0.61 | 2.16  | 0.73 |
| HiHiMHi    | 15 | 1.83                     | 0.62 | 2.08            | 0.65 | 2.85  | 0.72 |
| HiLoHiLo   | 5  | 1.20                     | 0.28 | 1.40            | 0.47 | 1.32  | 0.30 |
| All Groups | 82 | 1.44                     | 0.53 | 2.00            | 0.70 | 2.23  | 0.89 |

The effect size (Multiple- $R^2=0.6169$ ) for the worry subscale indicates that a substantial amount of the variability in the worry score is associated with the goal profile to which the participant belongs. Concentration disruption (Multiple- $R^2=0.4419$ ) and somatic anxiety (Multiple- $R^2=0.3836$ ) showed smaller effect sizes. However, these figures still indicate that a fairly impressive proportion of the variability in the trait-anxiety subscales may be considered a function of goal profile.

### Emotion by Goal Profile

Means and standard deviations were calculated for all five subscales of the SES, for all seven goal profiles. These figures are summarised in Table 5.

The implication of these results is that the HiHiHiHi and HiHiMHi profiles were the most emotionally vulnerable goal profiles in this sample. On the other hand, the HiLoHiLo goal profile appeared to be the most emotionally robust goal profile. This profile consistently showed one of the lowest scores in the anger, anxiety and dejection subscales and the highest score in happiness subscale.

The HiLoLoLo profile also appeared to be a fairly emotionally robust profile, as it showed low levels of anxiety, anger and dejection. However, riders in this profile did not exhibit the high levels of excitement and happiness in competitive riding shown by the HiLoHiLo profile.



TABLE 5: DESCRIPTIVE STATISTICS FOR EMOTION IN COMPETITIVE RIDING BY GOAL PROFILE

| Cluster    | Anger |      | Anxiety |      | Dejection |      | Excitement |      | Happiness |      |
|------------|-------|------|---------|------|-----------|------|------------|------|-----------|------|
|            | M     | SD   | M       | SD   | M         | SD   | M          | SD   | M         | SD   |
| HiHiHiHi   | 1.10  | 1.15 | 2.14    | 0.90 | 1.12      | 0.99 | 3.37       | 0.54 | 3.23      | 0.79 |
| HiLoLoLo   | 0.41  | 0.89 | 0.89    | 0.77 | 0.38      | 0.48 | 2.89       | 0.96 | 2.95      | 0.95 |
| HiMHiHi    | 0.70  | 0.58 | 1.95    | 0.86 | 0.80      | 0.72 | 3.20       | 0.86 | 2.93      | 0.90 |
| HiHiMLo    | 0.75  | 0.60 | 1.66    | 0.84 | 0.73      | 0.69 | 3.57       | 0.52 | 3.38      | 0.75 |
| HiHiLoLo   | 0.50  | 0.70 | 1.82    | 0.97 | 0.60      | 0.57 | 3.38       | 0.44 | 3.38      | 0.64 |
| HiHiMHi    | 1.00  | 0.93 | 2.31    | 0.71 | 1.27      | 1.09 | 2.85       | 0.87 | 3.20      | 0.51 |
| HiLoHiLo   | 0.50  | 0.59 | 1.16    | 1.06 | 0.40      | 0.47 | 3.40       | 0.65 | 3.60      | 0.76 |
| All Groups | 0.75  | 0.83 | 1.78    | 0.94 | 0.82      | 0.82 | 3.23       | 0.74 | 3.22      | 0.76 |

These observations were tested using a MANOVA (Pillai's Trace=0.5533;  $F(30, 286)=1.882$ ;  $p=0.034$ ) which indicated a statistically significant result at the 5% level. The only significant univariate result (at the 5% level) was established for the anxiety subscale ( $F(75, 6)=3.927$ ;  $p=0.002$ ).

## DISCUSSION

The seven goal profiles that emerged from the cluster analysis will be discussed separately.

### HiHiHiHi

Investigations into the riders' experience of trait-anxiety and state-emotion in competitive riding indicated that this was one of the more, if not the most, emotionally vulnerable goal profile/s. Riders in this profile showed the highest levels of somatic-anxiety and worry. They also showed the second highest levels of concentration-disruption.

Riders who place pressure on themselves to achieve in both the mastery and performance orientation, but who do not allow themselves room to make mistakes, therefore may be more vulnerable to experience anxiety about competition. It is also probable that these riders do not allow themselves room for mistakes in the learning environment outside of the competitive environment. This means that these riders will loathe taking the risks necessary for optimal learning, which will prevent them achieving the success they desire.

In the investigation into emotion experienced in competitive riding, the riders in this profile scored second highest in anxiety and highest in dejection and anger. The only profile to score higher in the anxiety subscale was the profile in which riders scored high in all except the performance-approach orientation (HiHiMHi). It is possible that, in the heat of competition, the high performance-approach orientation balances the high performance-avoidant orientation and anxiety may be tempered and experienced as excitement. It appears that when

these riders do not achieve the success they desire, they experience higher levels of anger and dejection than riders with different goal profiles. The experience of anger in riding is of particular concern as it can easily be taken out on the horse, leading to abuse of the animal. The riders in this profile scored in the lower middle portion of the excitement and happiness scales in the experience of emotion investigation, implying that these riders were not enjoying their competitive riding as much as they might, and were therefore vulnerable to drop out at a later stage (Scanlan & Simons, 1992).

### **HiMHiHi / HiHiMHi**

These two profiles are discussed together as they are very similar to each other and to the profile discussed above (HiHiHiHi). However, they show a distinct difference in that the one profile has a slightly lower performance-approach orientation, while the other has a slightly lower mastery-avoidant orientation. These differences illustrate how a difference in one orientation may affect the trait-anxiety and emotion of the rider.

The profile where the performance-avoidant orientation score is medium is of particular interest as it is the only profile, which has an avoidant orientation higher than the approach orientation. This profile showed the highest scores in the concentration-disruption subscale of the trait-anxiety scale and the third and second highest scores in somatic-anxiety and worry subscales respectively. It also showed the highest scores in the anger and dejection subscales and the second highest score in the anxiety subscales of the SES. On the other hand, it showed the lowest scores in the excitement subscale and the third lowest score in the happiness subscales. These individuals therefore score highest on those aspects which are thought to be detrimental to the child's enjoyment of competitive riding, and low on aspects which encourage the child's enjoyment of competitive riding. From this it appears that this goal profile is at least as emotionally vulnerable, if not more so, as the goal profile in which scores are high for all four goal orientations (HiHiHiHi).

The profile in which riders scored high in all orientations except the mastery-avoidant orientation, looks similar to the previous two profiles discussed, but appears to be less emotionally vulnerable. The most vulnerable area of this profile was in the somatic-anxiety domain, where it attained the second highest score. It also showed the lowest score in the happiness subscale of the SES. The remaining scores were mostly in the mid-range, indicating that this profile sits at the higher end of average in terms of emotional vulnerability in competitive riding. These findings are consistent with the proposals of Elliot (1999) and Elliot and McGregor (2001), that when it is an avoidant orientation, which is lower, the negative consequences for the rider are slightly reduced.

### **HiLoHiLo**

The riders in this profile emerged as the most emotionally robust in the competitive environment. These riders scored lowest in all the SAS-2 subscales and second lowest in the anger, anxiety and dejection subscales of the SES. They also scored highest in the happiness subscale of the SES. Furthermore, these riders also demonstrated excellence in performance in that 100% of these riders have ridden in provincial teams at some time over the past two years.

The preparedness of these riders to accept failure may facilitate their learning in that they will be more willing to try new things and be better prepared to accept, and move on from, failure when it happens. These riders would also be using their energy to achieve their goals rather than trying to avoid failure. The fact that these riders scored high in both the performance-approach and mastery-approach orientations was probably an important factor in the high level of provincial team membership. These riders want to go out and prove themselves against others but also realise that they need to work on self-referenced goals in order to achieve such success.

This finding adds to the evidence that it is the avoidant orientation, rather than the performance orientation, which causes the negative consequences in sport. These riders score high in both mastery-approach and performance-approach orientations and do not seem to show the vulnerabilities expected of those demonstrating a high performance-approach. Once again this is consistent with the proposals of Elliot (1999) and Elliot and McGregor (2001).

### **HiLoLoLo**

In this profile riders scored high in the mastery-approach orientation and low in the three other orientations. This is the only other goal profile, apart from the previous one discussed, in which low scores were shown in both the avoidant orientations. The riders in this goal profile are driven to achieve success defined in terms of self-improvement. On the other hand, these riders appeared to feel little need to demonstrate superiority over others and were not afraid of failure in that they felt little need to work actively towards avoiding failure.

The riders in this profile demonstrated the lowest levels of anger, dejection and anxiety in competitive riding. They also scored the second lowest in all three subscales of the SAS-2. However, they did not show the corresponding high scores in excitement and happiness in competitive riding that were demonstrated by the profile in which riders scored high in the approach orientations and low in the avoidant orientations. The implication of this is that, while these riders did not feel any great anxiety or the other negative emotions in competitive riding, they did not get the enjoyment and excitement that was experienced by riders in other profiles. This profile also showed the lowest percentage of members participating in competitive riding over the last two years.

### **HiHiLoLo / HiHiMLo**

The final two profiles include one where the riders scored high in mastery-approach and mastery-avoidance and low in performance-approach and performance-avoidance (HiHiLoLo); and high in mastery-approach, high in mastery-avoidance, medium in performance-approach and low in performance-avoidance (HiHiMLo). Both of these profiles scored higher in the mastery orientations than in the performance orientation. However, within performance orientation the second profile scored lower in avoidant orientation than in approach orientation.

Following Elliot (1999) and Elliot and McGregor (2001), it appeared that the high mastery-approach orientation and the low performance orientations protected the riders in this profile from the extreme levels of anxiety and negative emotion experienced by those riders who scored high in all four orientations. However, the higher level of mastery-avoidance

orientation renders the rider more vulnerable to trait-anxiety and negative emotion in competition.

An interesting result from these two profiles was that the HiHiMLo profile showed the second highest (83%) level of participation in provincial teams, indicating that this is a competitively successful profile. On the other hand, the HiHiLoLo profile showed the third lowest (38%) level of participation in provincial teams. It is possible that these two profiles would respond readily to interventions to increase the approach orientations and minimise the avoidant orientations.

## CONCLUSIONS

It is fair to say that overall three groups of profiles emerged: one which was comprised of three profiles, all defined in terms of high or medium scores in all four orientations; a second group that contained two goal profiles, both high in terms of mastery orientations and low or medium in terms of performance orientations; and a final group, comprising two goal profiles, both characterised by low levels of avoidant orientation.

From both a theoretical and practical perspective, these profiles are of particular interest. They indicate that valence has a more significant effect on emotion in support than definition of success. More specifically, they imply that a high performance orientation can be positive from both an emotional and competitive aspect, as long as it is combined with a strong approach orientation and a weak avoidant orientation. Thus, the inclusion of the valence dimension in the achievement goal model is supported.

The existence of the goal profile, which is high in the approach orientations and low in the avoidant orientations, is of great use in practical application. Here is a profile, which is not only emotionally robust in the competitive environment, but also competitively successful. This gives a model goal profile that parents and coaches can encourage, and which meets the needs of both the drive to win and the emotional health of the child.

The findings surrounding the profile with low avoidant orientations and high approach orientations show how both the mastery and performance definitions of success can be developed in a way which is healthy for the young rider. In the dichotomous goal orientation model, competition-based goals were deemed to be unhealthy. This research indicates that it is not competitive goals *per se* that are a problem but the way in which the riders seek to attain these goals (approach success or avoid failure).

## REFERENCES

- CARR, S. (2006). An examination of multiple goals in children's physical education: Motivational effects of goal profiles and the role of perceived climate in multiple goal development. *Journal of Sports Sciences*, 24: 281-297.
- CONROY, D.E.; ELLIOT, A.J. & HOFER, S.M. (2003). A 2x2 achievement goals questionnaire for sport: Evidence for factorial invariance, temporal stability, and external validity. *Journal of Sport and Exercise Psychology*, 25: 456-476.

- DUDA, J.L.; CHI, L.K.; NEWTON, M.L.; WALLING, M.D. & CATLEY, D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology*, 26: 40-63.
- DUDA, J.L.; FOX, K.R.; BIDDLE, S.J.H. & ARMSTRONG, N. (1992). Children's achievement goals and beliefs about success in sport. *British Journal of Educational Psychology*, 62: 313-323.
- DUDA, J.L. & NICHOLLS, J.G. (1992). Dimensions of achievement-motivation in schoolwork and sport. *Journal of Educational Psychology*, 84: 290-299.
- ELLIOT, A.J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist*, 34: 169-189.
- ELLIOT, A.J.; FALER, J.; MCGREGOR, H.A.; CAMPBELL, W.K.; SEDIKIDES, C. & HARACKIEWICZ, J.M. (2000). Competence valuation as a strategic intrinsic motivation process. *Personality and Social Psychology Bulletin*, 26: 780-794.
- ELLIOT, A.J. & MCGREGOR, H.A. (2001). A 2x2 achievement goal framework. *Journal of Personality and Social Psychology*, 80: 501-519.
- HODGE, K. & PETLICHKOFF, L. (2000). Goal profiles in sport motivation: A cluster analysis. *Journal of Sport and Exercise Psychology*, 22: 256-272.
- JONES, M.V.; LANE, A.M.; BRAY, S.R.; UPHILL, M. & CATLIN, J. (2005). Development and validation of the Sport Emotion Questionnaire. *Journal of Sport and Exercise Psychology*, 27: 407-431.
- NICHOLLS, J.G. (1984). Achievement-motivation conceptions of ability, subjective experience, task choice, and performance. *Psychological Review*, 91: 328-346.
- ROBERTS, G.C. (1992). Motivation in sport and exercise: Conceptual constraints and convergence. In G.C. Roberts (Ed.), *Motivation in sport and exercise* (3-29). Champaign, IL: Human Kinetics.
- ROBERTS, G.C.; TREASURE, D.C. & KAVUSSANU, M. (1996). Orthogonality of achievement goals and its relationship to beliefs about success and satisfaction in sport. *Sport Psychologist*, 10: 398-408.
- SCANLAN, T.K. & SIMONS, J.P. (1992). The construct of sport enjoyment. In G.C. Roberts (Ed.), *Motivation in sport and exercise* (199-215). Champaign, IL: Human Kinetics.
- SMITH, A.L.; BALAGUER, I. & DUDA, J.L. (2006a). Goal orientation profile differences on perceived motivational climate, perceived peer relationships, and motivation-related responses of youth athletes. *Journal of Sports Sciences*, 24: 1315-1327.
- SMITH, R.E.; SMOLL, F.L.; CUMMING, S.P. & GROSSBARD, J.R. (2006b). Measurement of multidimensional sport performance anxiety in children and adults: The Sport Anxiety Scale-2. *Journal of Sport and Exercise Psychology*, 28: 479-501.
- TANK, K. & WHITE, S.A. (1996). Goal orientation and trait-anxiety among male and female athletes at different levels of sport involvement. *Research Quarterly for Exercise and Sport*, 67 (Supplement): S123.
- WHITE, S.A. (1998). Adolescent goal profiles, perceptions of the parent-initiated motivational climate, and competitive trait-anxiety. *Sport Psychologist*, 12: 16-28.