

Leader Anxiety During an Adventure Education Residential Experience: An Exploratory Case Study

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Abstract

Research in outdoor and adventure activities has frequently focused on participant outcomes but has seldom sought to understand the experiences of the leader. This case study evaluates changes in the anxiety of a leader during an eight day residential experience for 30 Physical Education students, based in the Langdale Valley (English Lake District). A one way analysis of variance revealed significant differences in the self confidence scores of the leader measured using the CSAI-2 for the time prior to the group completing a ridge walk supervised by members of the teaching team, and prior to the group's self contained two day expedition ($p=0.048$).

The data also supports a general trend of higher cognitive and somatic anxiety before the group activities commenced in the morning and last thing at night. Qualitative information in the form of field diary entries supported that increases in anxiety and a reduction in self-confidence were symptomatic of instances where the leader felt that they could not directly influence event outcomes.

This study recognises a potential need for leaders to consider the implementation of strategies to manage stress levels during extended residential periods, although further research is required to more fully understand the phenomenon of leader anxiety.

Introduction

Central to understanding the process of adventure education is the need to recognise the parameters effecting the operational efficiency of the leader. Recognising those factors that deter from performance, and maximising those that enhance performance would appear to be a logical step in understanding the complexities of the leader's role. Leadership is a group phenomenon that involves the influencing of others (Yukl, 1989) towards shared goals (Hemphill and Coons, 1957). Leadership seeks to optimise the interaction between persons in a manner that convinces the participants that the outcomes are desirable (Jacobs, 1970). It extends beyond the compliance with routine organisation (Katz and Kahn, 1978) and has implicit within it a power relationship that prescribes the activity patterns of group members (Janda, 1960).

Many attempts have been made to define and measure leadership effectiveness (see for example Buell, 1983; Raiola and Sugerman, 1999). This complex and controversial construct (Chelladurai, 1987) has been defined from a 'goals perspective' driven by competition outcomes, a 'process perspective' focusing on a productive working environment, and a 'resource perspective' measured by the leader's ability to obtain scarce and valuable resources (Chelladurai and Haggerty, 1991). It is perhaps the non-competitive nature of many adventurous activities and the diversity of emphasis placed upon them by practitioners in the field, which inhibits the emergence of a working definition of leadership effectiveness in this domain.

When reviewing traits contributing to leadership effectiveness, Yukl (1989) notes the importance of stress tolerance, identifying that high levels of stress can have a detrimental effect upon leader performance. Stress is generally considered as synonymous with state anxiety (Spielberger, 1983; Martens, 1987) which is defined by Spielberger (1983) as an emotional state that varies in intensity and fluctuates over time. State anxiety is related to perceived threat and is likely to be high in situations perceived as threatening regardless of the objective danger (Robinson and Stevens, 1990). According to McGrath (1982) and Martens (1987) perceived threat can be caused by an imbalance between the capabilities of the individual and the demands of the situation. Stress need not necessarily be debilitating and a certain level of stress might facilitate performance (Ewert, 1988). Research (see for example Ewert, 1988; Johnston, 1989) suggests that perception of control over event outcomes is particularly significant in determining whether stress is seen as facilitative or debilitating. Uncertainty of outcome (characteristic of adventure experiences and arising from such aspects as living in an unfamiliar and changing environment) can result in event outcomes being seen as beyond the control of the participant, with stress being experienced as feelings of fear or anxiety (Robinson and Stevens, 1990). Stress of this nature could be experienced by the leader of a large group who has to rely on other staff to organise and supervise participants and thus is removed from a position of being in direct control.

State anxiety is viewed as a complex multidimensional construct consisting of distinct cognitive and somatic components (Maynard et al., 1997). Martens et al (1990) developed a sport specific multidimensional state anxiety inventory known as the Competitive State Anxiety Inventory-2 (CSAI-2), which differentiates between cognitive and somatic components as well as assessing a third dimension. This emerged during the development of the questionnaire, and was subsequently labelled self-confidence. The CSAI-2 has been used to examine various aspects of competitive anxiety, including relationship with performance and changes over the time leading up to an event. It has been shown to have good internal consistency and construct validity (Martens et al., 1990), although it has been criticised for being based on a limited dimension of anxiety. The CSAI-2 measures intensity of response, but does not take into consideration frequency (Swain and Jones, 1993) or directional perceptions of particular anxiety symptoms (Jones, 1991). However, Swain and Jones (1993) consider what they term the limited nature of the CSAI-2 scale to be particularly evident when used over the time leading up to an event, whereas the purpose of this investigation was to examine anxiety at particular times each day.

Whilst the CSAI-2 was designed to investigate anxiety prior to competition, it has also been employed to examine anxiety in non-competitive sporting situations (see for example, Bunyan et al., 1992; Maynard et al., 1997). The aim of the current study was to further employ this questionnaire in a non-competitive situation, with the intention of providing initial insights into the antecedents of leader anxiety prior to, and during a one week residential experience. Consideration will be given to fluctuations in the three components of the CSAI-2 and where responses might be debilitating, practical coping strategies that could be employed.

Method

Thirty, year two, Physical Education undergraduate students (mean age 22.04 ± 1.96 years) undertook an eight day residential based in the Langdale Valley (Cumbria, UK). The subject (leader), a male aged 39.3 years headed the team of five lecturing staff responsible for all aspects of the residential experience. All members of the staff team undertook regular residential experiences as part of their university teaching commitment, they were all qualified teachers with at least ten years teaching experience in higher education, they held appropriate governing body awards and had completed this particular residential experience in previous years. The residential experience focused upon the development of personal skills, group dynamics and an application of academic theory in the adventure environment. Except for during the final two-day expedition where the staff acted as safety cover, the students worked in small groups under the guidance of one member of the teaching team.

For numerous reasons adventure facilitators have begun to recognise that the arena in which they work is both complex and dynamic, and as such is best examined from an interpretative stance. Allison (2000) argues that it is essential that the methods employed to explore these dynamic environments are chosen because they are 'fit for purpose', rather than a product of some epistemological tradition. The 'constructivist epistemological vision' outlined by Allison gives credibility to the case study approach adopted by this study, it also highlights the need for the salient facilitative characteristics to be made known to the reader so that they might judge the value and appropriateness of the findings.

Using the CSAI-2 inventory, leader anxiety was recorded at four points in the day for the two days prior to, and the eight days during the residential experience. These times were at the beginning of the day (8.00 am), after the daily briefing (10.00 am), during the scheduled activity (4.00 pm), and at the end of the day (10.00 pm). The deputy leader who was responsible for marking the scripts and determining the subscale scores administered the inventory. The leader also completed a field diary at the time of the CSAI-2 data collection, entries in the diary were used in an informal way to substantiate the anxiety data, indicating possible antecedents for the levels recorded.

Results

During the course of the residential experience the mean daily anxiety was seen to fluctuate (fig 1, a subsequent one way ANOVA with repeated measures revealed no significant difference in the mean daily cognitive anxiety scores $F_{(9,27)}=1.84$, $p=0.107$, and the mean daily somatic anxiety scores $F_{(9,27)}=1.99$, $p=0.08$. Significant differences were however found in the mean daily self confidence scores, $F_{(9,27)}=2.27$, $p=0.048$. A post hoc turkey test revealed these to be between the day when the participants were undertaking a supervised ridge walk (day 4) and the day when they commenced the two day unsupervised expedition (day 8). An analysis of the means and standard deviations over the period of the residential experience also reveals that during the scrambling days (5-7) there was a greater variation in the levels of self confidence. The field diary confirmed that this was in part due to the type of activity that was being undertaken that day. The means for the three sub scales over the ten-day period are given in table i.

Fig 1- Mean Daily CSAI-2 Component Scores

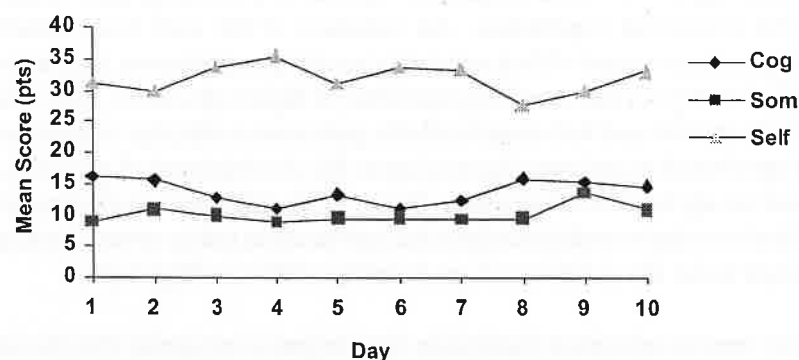


Table i - Daily Means and Standard Deviations for CSAI-2 Subscales

Day	Cognitive Anxiety	Somatic Anxiety	Self Confidence
1	16.25 ± 2.06 pts	9.00 ± 0.00	31.00 ± 0.82
2	15.50 ± 1.91	10.75 ± 3.50	29.75 ± 1.71
3	12.75 ± 1.71	10.00 ± 2.00	33.50 ± 2.38
4	11.25 ± 1.50	9.00 ± 0.00	35.50 ± .058*
5	13.25 ± 3.10	9.50 ± 1.73	31.00 ± 4.24
6	11.00 ± 2.16	9.50 ± 1.00	33.50 ± 3.00
7	12.50 ± 1.73	9.25 ± 0.50	33.25 ± 4.27
8	15.75 ± 4.65	9.50 ± 1.73	27.75 ± 1.50*
9	15.25 ± 3.77	13.50 ± 4.65	30.00 ± 4.24
10	14.75 ± 4.86	10.75 ± 3.50	33.00 ± 4.76

Significant Difference $p=0.048$

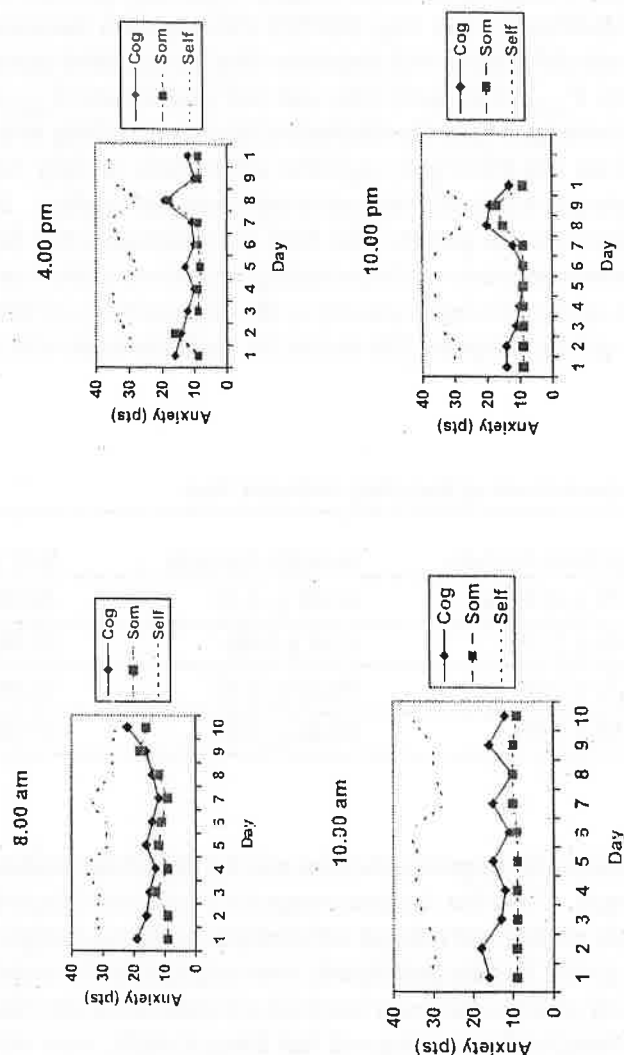
In order to evaluate the differences in the leader anxiety at the four different collection times (8.00, 10.00 am, 4.00, 10.00 pm) a one way ANOVA with repeated measures was utilised; this revealed no significant differences with respect to time for cognitive anxiety $F_{(3,27)}=2.21$, $p=0.11$, somatic anxiety $F_{(3,27)}=1.68$, $p=0.196$, and self confidence $F_{(3,27)}=1.39$, $p=3.99$. However a general trend emerged from the data indicating that first thing in the morning and last thing at night (8.00 am and 10.00 pm) cognitive and somatic anxiety were higher than during the day (10.00 am and 4.00 pm) when activities were taking place. Self confidence scores were seen to reciprocate this pattern. The field diary indicated that this was due first thing in the morning to some concerns over the prevailing weather conditions and the suitability of the planned activities, in the evening it was due to the responsibility of being in charge of a large group on a busy public campsite. The means for each sub scale with respect to time are given in table ii.

Table ii – Mean CSAI-2 Subscale Scores of Each Daily Collection Time

Time of Day	Cognitive Anxiety	Somatic Anxiety	Self Confidence
8.00 am	15.70 $\pm$ 2.95 pts	11.80 $\pm$ 3.16	30.20 $\pm$ 3.26
10.00 am	13.80 $\pm$ 2.57	9.30 $\pm$ 0.48	31.90 $\pm$ 3.07
4.00 pm	12.70 $\pm$ 2.95	10.50 $\pm$ 3.47	32.40 $\pm$ 3.69
10.00 pm	13.10 $\pm$ 3.84	10.40 $\pm$ 2.99	32.80 $\pm$ 3.99

When the data was analysed with respect to the time and the day of the residential experience (fig 2), three facts emerged. First that the unaccompanied residential experience increased both cognitive and somatic anxiety and reduced self confidence. These changes were sustained throughout the 48 hour period that the participants were engaged in the expedition. Second that the increased levels of anxiety and lower levels of self confidence previously recognised as associated with first thing in the morning and last thing at night, were minimised during the middle of the week. Third, somatic anxiety was generally lower throughout the residential experience and that a reciprocal relationship was observed between the two anxiety components and self confidence.

Fig 2 - Changes in CSAI-2 with Respect to Day and Time



Discussion

In seeking to identify the antecedents of leader anxiety during an adventure education residential experience, the nature of the leader's role needs to be considered. In addition to the concern any leader will have about their own performance and that of the group members, consideration needs to be extended to concerns over delegated responsibility that has been given to other

members of the staff team. This is highlighted by research (Ewert, 1988; Johnston, 1987) suggesting that the most important factor determining whether the effect of stress is facilitative or debilitating is the individual's control over event outcomes. When event outcomes are beyond the influence of the individual they may act as an antecedent to increased levels of anxiety and lower levels of self confidence.

When considering the scores for individual days and the significant difference identified between the leader's self confidence on days four and eight, it can be noted that the ridge walk on day four was fully supervised and involved minimal potential risk for the participants, whereas day eight was the first day of a largely unsupervised expedition during which individuals took full responsibility for decision making within a potentially hazardous mountain environment.

The field diary entries highlighted that increased levels of somatic and cognitive anxiety and reduced self confidence first thing in the morning could be attributed to apprehension about the days events, organisational details and the consequence of extraneous factors such as the weather. During the day no overt changes in anxiety or self confidence were experienced which the leader attributed to confidence in the abilities of the other leaders, the closeness of their operational philosophies to his own, and their previous experiences in the programme. The leader considered that increased anxiety and diminished self confidence at the end of the day resulted from concerns over the associated social aspects of the residential experience. This included having responsibility for a large number of university students in the close confines of a very busy public campsite. One diary entry focuses on the personal conflict that the leader experienced over wanting students to be given the freedom to review the days event in a social setting but the consequences that might result from this. When considering the role of the leader during a residential adventure experience it is important that it is viewed as experiences that span over a series of 24-hour periods.

Having recognised that increased anxiety and reduced self confidence are symptomatic of instances where the leader does not feel in complete control of event outcomes, it is important that they surround themselves with competent colleagues. The leader should feel confident in being proactive in devolving responsibility to others at potentially anxious times. Although ultimately in charge they should create times when they are void of the total responsibility by handing this over to suitably able colleagues.

The exploratory nature of this case study limited the amount of data collected and its subsequent analysis, and the reader will need to judge for themselves the relevance of these findings for situations they might find themselves in.

Due to the complexities of the adventure environment, facilitators should welcome a growth in the number of interpretative approaches used to explore it. This will however require adventure facilitators to make sense of the accounts presented to them, and decide how much decontextualisation of the findings is possible.

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