

## **ADVENTURE EDUCATION AND RESILIENCE: THE DOUBLE-EDGED SWORD**

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### **ABSTRACT<sup>1</sup>**

Adventure education philosophers have argued that controlled exposure to challenge can enhance participants' psychological resilience. This study supports this claim, demonstrating significantly greater gains in resilience for 41 young adults participating in 22-day Outward Bound programs than in a control group. All Outward Bound participants reported positive changes in their resilience and their overall change effect size was very large. Perceived levels of social support predicted 24% of the variance in resilience gain scores, with participants' ratings of the *least* supportive group member being the best predictor. The impressive findings for enhanced resilience and the important role of social support warrant wider investigation. Adventure educators are alerted to the importance of facilitating positive interpersonal relations and minimising the detrimental impact of negative group members.

### **INTRODUCTION**

Much adventure philosophy emphasises the need for humans to encounter the edges of their physical and psychological possibilities in order to enhance their capacity to deal with everyday life (Csikszentmihalyi, M., & Csikszentmihalyi, I., 1990; Ewert, 1989; Hunt, 1990; Priest, 1990). Kurt Hahn, the founder of Outward Bound claimed that:

Expeditions can greatly contribute towards building strength of character.

Joseph Conrad in *Lord Jim* tells us that it is necessary for a youth to experience events which 'reveal the inner worth of the man; the edge of his temper; the fibre of his stuff; the quality of his resistance; the secret truth of his pretences, not only to himself but others

(<http://www.kurthahn.org/quotes.htm>).

This approach represents a 'development-by-challenge' philosophy and provides an underlying justification for adventure education. In the current study, we were primarily interested in whether or not adventure education programs can enhance 'psychological resilience'. Secondly, we wished to explore whether the extent to which group support could be considered an important process for developing resilience.

Resilience has been described as an individual's capacity for maintenance, recovery or improvement in mental health following life challenges (Ryff, Singer, Dienberg Love, & Essex, 1998), successful adaptation following exposure to stressful life events (Werner, 1989), and an individual's capacity for transformation and change (Lifton, 1993)

However, the exact nature of what is meant by 'psychological resilience' is difficult to pin down and the concept can be criticised for being too amorphous. Closely related

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concepts which have received research attention include hardiness (Kobasa, 1979) and resourcefulness (Rosenbaum, 1990). Indeed, whether resilience is even best considered as a single, underlying psychological quality or a series of related, but distinct qualities remains a major theoretical and measurement issue. Nevertheless, the concept of psychological resilience is increasingly being used in education and psychology (Blum, 1998), particularly with regard to being a goal of primary prevention mental health programs.

Surprisingly, there has been a lack of investigation into whether resilience can be enhanced and how this might be best achieved:

Little has been discovered from research on how youth develop resilience or how they find the means to shape their own developmental trajectories toward health or competence. Even less is known from research about the ways that scientific intervention and prevention programs can increase the resiliency processes among youth. (Rolf & Johnson, 1999: 229)

Thus, one of the main purposes of the current study is to investigate the enhanceability of resilience via a challenging adventure education program.

Development of psychological resilience can be seen as analogous to the immunisation process (Rutter, 1993). Just as immunity to infections is gained through the controlled exposure to a pathogen (rather than avoiding the pathogen), so too successful encountering of difficult challenges can provide a form of psychological inoculation. Kurt Hahn, for example, described the Outward Bound process as a double-edged sword which cuts a person and then heals stronger than before (Richards, 1977). Hahn's lament was that post-industrial lives were becoming devoid of the inoculative, resilience-enhancing challenges which had been an everyday part of pre-industrial lives.

Interestingly, adventure education programs, whilst providing controlled exposure to challenging experiences, often also seek to create a warm and supportive group atmosphere. Social support has been identified as one of the best predictors of psychological resilience (Blum, 1998). In other words, the perceived presence of a supportive social network enhances a person's capacity to deal with life's challenges (Heatherton & Nichols, 1994; Wagnild & Young, 1993). Investigation of group support could provide valuable insight into the processes of challenge-based intervention programs (McAvoy et al., 1996). A major review of the effects of adventure education programs has proposed 'support' and 'challenge' as two major ingredients of the positive effects, along with 'difficult goals' and 'feedback' (Hattie et al., 1997). Thus, in the current study, we hypothesised that: (a) a challenging adventure education program would enhance participants' psychological resilience and; (b) that the growth in psychological resilience would be positively related to perceived social support during the adventure education program.

## **METHOD**

### ***Participants***

In the experimental group, there were 49 young adult participants who completed an Outward Bound program, 41 of whom returned complete data. There were 22 males and 19 females, with a mean age of  $21 \pm 3.1$  years. Another 14 participants had been involved in the Outward Bound programs but had not finished due to medical and/or personal problems. Analysis of the Time 1 resilience scores for these non-completers

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indicated that they had significantly lower initial Resilience Scale scores ( $t(61) = 1.96, p = .05$ ).

The control group comprised of 31 students in an undergraduate psychology subject at the Australian National University (4 males and 27 females;  $M_{\text{age}} = 24 \pm 7.1$  years). Although direct comparability between the background of the experimental and control group cannot be claimed, there was no initial difference between their Time 1 Resilience Scale scores ( $t(44.5) = .91, p = .37$ ).

### ***Instruments***

Our review of the literature identified only one available resilience instrument with published psychometrics - the Resilience Scale (RS) (Wagnild & Young, 1993), although we have since become aware of other possible instruments (Block & Kremen, 1996; Hurtes, in press; Jew, et al., 1999). The RS is a 25 item self-report questionnaire. The items reflect five resilience themes that the instruments' authors derived from reviewing related literature, then validating via interviews with 24 American women who were judged to have successfully adapted to major life events. The authors intended for the instrument to be applicable to other populations, including males and younger people (Wagnild & Young, 1993). All the RS items are positively worded and responses are on a Likert scale ranging from 1 (agree) to 7 (disagree). Concurrent validity has been supported by significant correlations between RS scores and measures of morale, life satisfaction and depression (Wagnild & Young, 1993).

We conducted an exploratory factor analysis (using Principal Axis Factoring) of all available Time 1 RS data ( $N = 131$ ) which suggested a single, global resilience factor. Examination of the items' face validity and the unrotated factor loadings lead to the retention of 15 items, accounting for 44% of the total variance, with a Cronbach's alpha of .91. Factor loading regression weights were used to create a composite RS score, with higher scores representing higher resilience. The item descriptives, factor loadings and regression weights are presented in Appendix A.

To measure social support (SS) during the Outward Bound program in this study four items were developed to assess the perceived support received from the group, the instructor, the most supportive group member, and the least supportive group member. A 10 point Likert scale was used, ranging from '1 = Very unsupportive' to '10 = Very supportive' (see Appendix B).

### ***Program***

Participants in the experimental group were involved in 22-day multi-element Outward Bound programs in Australia. These programs, based on the original Outward Bound program conducted in Wales in the 1940's, are characterised by their physical, emotional and social intensity in the context of a long wilderness expedition (Richards, 1977). The primary focus was on personal development. A guided experiential education approach was used, following a do-review-plan learning cycle (Kolb, 1984). Typical activities included expedition and food planning, a ropes challenge courses, initiative tasks, navigation, bushwalking, communication skill sessions, goal setting, group debriefings, caving, rafting and/or canoeing, rockclimbing and abseiling, solo (3 days alone), a final expedition without an instructor, and a cross-country run. Group development activities included initiative tasks, debriefing, and individual and group feedback sessions, with participants increasingly taking on responsibility for running the program themselves.

Previous outcome research has identified the Australian Outward Bound programs as highly effective in enhancing self-concept and related outcomes (Hattie et al., 1997; Marsh, Richards & Barnes, 1986, 1987).

### ***Design & Procedure***

For the experimental group, the RS scale was completed on the first day (Time 1) and last day (Time 2) of the 22 day Outward Bound program. The SS scale was only completed on the last day. For the control group, only the RS scale was completed during university tutorial classes, with Time 1 and 2 being approximately 5 weeks apart. An alpha level of .1 was used, giving the study a power of .71 for detecting an average adventure education effect size ( $d = .34$ ; Hattie, et al., 1997).

## **RESULTS**

### ***Data Screening***

Two males in the experimental group had very high resilience effect sizes<sup>2</sup> between Time 1 and Time 2 (3.32 and 2.10) and relatively low social support scores. These cases were removed from the subsequent analyses because they distorted the regression analyses. IN ADDITION, TWO OUTLIERS WERE IDENTIFIED IN THE CONTROL GROUP. (HAVE PROBLEMS WITH THIS IF THEY ARE NATURAL SCORES, NO CLEAR RATIONALE FOR EXCLUSION) They had higher resilience effect sizes (2.37, 2.24) than the main distribution (next highest ES was 1.31), and they were removed.

### ***Resilience***

The overall change in the Resilience Scale for the experimental group was very large ( $M_1 = 7.61 \pm .88$ ;  $M_2 = 8.58 \pm .73$ ; ES = 1.10) and a small-moderate change was evident for the control group ( $M_1 = 7.33 \pm 1.54$ ,  $M_2 = 7.86 \pm 1.28$ , ES = .34). Remarkably, all participants in the experimental group reported positive Resilience Scale changes. A 2 x 2 x 2 mixed design ANOVA was used, with Group (Experimental and Control) and Gender as the between subjects factors, and Time (first day and last day) as the within subjects factor. Of interest was the: (i) interaction between Time and Group which indicated a significantly greater change in resilience for the experimental group ( $F(1,68) = 6.39$ ,  $p = .01$ ); and (ii) the interaction between Time, Group and Gender which indicated that the changes in resilience were consistent across gender ( $F(2,68) = 1.86$ ,  $p = .16$ ).

### ***Social Support***

Overall, very high levels of perceived Social Support were reported, with the highest mean being for the 'most supportive person in the group' ( $M = 9.38 \pm .95$  out of a possible 10, range 8 to 10), followed by the 'instructor' ( $M = 9.21 \pm 1.08$ , range 7 to 10), and then from the 'group' ( $M = 8.87 \pm .95$ , range 7 to 10). Relatively low support was perceived to come, as expected, from the 'least supportive person' ( $M = 5.56 \pm 2.26$ , range 1 to 10).

A direct method multiple linear regression analysis was conducted using the Resilience Scale effect size between the beginning and end of the program as the DV and the four Social Support items as the IVs. Together these predictors explained 24.1% of the variance in the DV ( $F(4,38) = 2.70$ ,  $p = .05$ ; adjusted  $R^2 = .15$ ). However, the only significant predictor was the 'least supportive group member' ( $\beta = .40$ ,  $p = .02$  followed by non-significant effects for 'instructor support' ( $\beta = .21$ ,  $p = .18$ ), the 'most supportive

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<sup>2</sup> Effect sizes (ESs) in this study were computed separately for the experimental and control group by dividing the mean RS Time 1 to Time 2 difference scores by the Time 1 *SD* for the group.

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group member' ( $\beta = .08, p = .65$ ), and 'overall group support' ( $.00, p = .99$ ). In other words, the higher the level of support perceived to come from the least supportive group member, the greater the change in resilience scores reported by participants.

## DISCUSSION

Resilience describes a psychological quality that allows a person to cope with, and respond effectively to, life stressors. To date, there has been limited research evidence on the enhanceability of resilience. In the current study, all 41 participants reported increases in resilience scores. A very large effect size was evident between the beginning and end of the program. The amount of change was three times larger than the average outcome in adventure education research (Hattie et al., 1997) and significantly larger than for the control group.

A second interesting finding was that the 14 participants who did not complete the program for medical or personal reasons had significantly lower initial resilience scores. This suggests that resilience measures may be a useful screening tool for identifying participants who are at risk of dropping out of adventure education programs due to the high level of challenge.

Most interestingly, perceived social support was positively related to the growth in resilience during the Outward Bound program. More specifically, the perceived support from the *least* supportive group member was the best predictor of growth in psychological resilience. This highlights the importance of considering the relationship between group process and individual growth.

These results suggest the need for leaders is to be wary of negative group members who may retard the potential growth of other group members. Leaders 'must not only understand the process of group development; we must also understand how the individual is affected by the group' (McAvoy, et al., 1996: 59). We know from psychology that 'as persons are accepted and prized, they tend to develop a more caring attitude towards themselves' (Rogers, 1980: 116). Thus, it is important that leaders nurture a caring attitude towards each individual in the adventure education setting (Mitten, 1995). The 'elements of a humanistic approach, such as respect for the dignity and individuality of each member and belief in each member's potential for growth and development, are essential in all group work efforts' (McAvoy, et al.: 59).

It is worth considering ways in which this 'unconditional positive regard' can be fostered in situations where there are group members who offer low or negative support to others. Prevention is better than cure, so early intervention, involving feedback to individuals who provide others with low or negative support, as well as to those individuals who perceive that they are receiving low support, is recommended. If chronic negative social behaviour persists, an ethical dilemma is faced in choosing between the optimisation of learning benefits for a whole group versus some individuals. Removal of participants who are retarding the growth of others seems justified on the basis of the results in the current study.

In many ways, the findings from the current study invite more questions than they answer. For example, it would be useful to know more about the effectiveness of other intervention techniques for enhancing psychological resilience in order to better assess

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the relative efficacy of the Outward Bound program. The transferability of the remarkably large resilience gains to everyday life also warrants investigation.

In terms of measurement issues, we were satisfied with the overall structure of the 15-item Resilience Scale in the current study and believe there is much appeal to a short, reliable, easy-to-administer scale to measure global resilience scale. Ten items were eliminated from the original scale by Wagnild and Young (1993) based on poor factor loadings, providing a highly reliable global scale ( $\alpha = .91$ ). Some researchers and program evaluators may like to experiment with a shorter global scale using the top four loading items ( $\alpha = .80$ ; see Appendix A). On the other hand, if a multidimensional approach is preferred, then instruments by Jew, et al. (1999) and Hurtes (in press) should be considered.

The measures of perceived social support used in this study were somewhat limited because they were previously untested single-item indicators. Future investigations of social support should consider developing reliable multiple-item scales and strive for composite scales which are less subject to ceiling effects. Negative indicators of social support (e.g., least supportive person) may prove to be less skewed than positive indicators (e.g., most supportive person). Other related indicators of group processes such as 'emotional safety' and 'social warmth' should also be considered. Sociometric measures of social support could be employed to examine whether participants consistently identify the same person as the least supportive group member. Another possibility would be to conduct qualitative investigations to better understand exactly what sort of behaviours in an adventure education setting are considered by participants to be particularly supportive or unsupportive. Finally, it would also be useful know which of these behaviours are most amenable to change (e.g., through behaviour contracts).

In conclusion, this study provides encouraging empirical support for the philosophy of stress-inoculation training as implemented in an Outward Bound program. The cutting edge of challenge, it seems, can and does make people stronger, particularly when the salve of social support is applied. This study only involved young adults in long Outward Bound Australia programs, so replication in other samples and other programs is needed. In the future, we may come to recognise that experiencing challenges with social support offers an effective mechanism for building psychological resilience.

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**APPENDIX A:** Resilience Scale (Wagnild & Young, 1993) items retained in this study, with descriptive statistics, factor loadings (FLs) and regression weights (RWs) for creating a composite score.

<b>Resilience Scale Items</b>	<b><i>M</i></b>	<b><i>SD</i></b>	<b><i>FL</i></b>	<b><i>RW</i></b>
When I make plans I follow through with them.	5.25	1.17	.64	.073
I usually manage one way or another.	6.09	.90	.62	.085
I feel proud that I have accomplished things in my life.	5.90	1.20	.63	.105
I usually take things in my stride.	5.21	1.20	.64	.058
I am friends with myself.	5.31	1.30	.62	.077
I feel that I can handle many things at a time.	5.15	1.43	.63	.147
I am determined.	5.84	1.16	.52	.107
I have self-discipline.	5.11	1.34	.59	.056
I keep interested in things.	5.40	1.13	.75	.143
I can usually find something to laugh about.	5.58	1.26	.71	.060
My belief in myself gets me through hard times.	5.27	1.22	.56	.154
I can usually look at a situation in a number of ways.	5.47	1.23	.73	.074
My life has meaning.	5.52	1.43	.54	.068
When I am in a difficult situation, I can usually find my way out of it.	5.47	1.05	.74	.081
I have enough energy to do what I have to do.	5.12	1.40	.60	.110

## **APPENDIX B: Social Support Items**

1. How supportive to you **personally** have you found your **group** to be throughout the course?
2. How supportive to you **personally** have you found your **instructor** to be throughout the course?
3. Think about the group member who you have felt the **most** supported by over the course (not your instructor). How supportive to you **personally** have you found this person to be throughout the course?
4. Think about the group member who you have felt the **least** supported by over the course (not your instructor). How supportive to you **personally** have you found this person to be throughout the course?

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***Katica L. Dias*** is currently studying a Masters of Community Development and Management at the Northern Territory University while working as a psychologist. Katica was previously employed as a program development consultant in Nepal and she has worked as an education consultant in Burma. Previously she was an adventure education facilitator, working for several organisations around Australia. Her research interests include human and community development, sex trafficking and military sexual violence, and women's equity.

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