Exploring Post-program Psychological Adjustment for Adult Staff Facilitating a Wilderness Adventure Program

Ellie Lawrence-Wood and Ivan Raymond

This paper outlines a pilot study of the post-program psychological adjustment outcomes of adult staff facilitating an Australian-based wilderness adventure program for youth at risk. The descriptive and correlational survey study (N = 62) examined the psychological adjustment processes staff underwent following program completion, and the factors that predicted adjustment. The study found that post-program psychological adjustment is neither an abnormal nor a drawn-out process, with the majority of staff reporting broadly positive experiences. A number of significant predictors of post-program psychological adjustment were identified, with perceived “program success” positively related to increased “reflective” and decreased “reactive” adjustment experiences. Level of physical challenge experienced by staff was also positively related to reflective adjustment outcomes. These findings are discussed in light of organisational responses and directions for future research.

Keywords: Wilderness Therapy, Staff Adjustment, Psychological Outcomes
The aim of this research was to conduct a broad and exploratory survey of the post-program adjustment process for adult staff facilitating an Australian-based wilderness adventure program. The aim of this program is to foster self-esteem, motivation, teamwork, and self-responsibility in a client group of males and females, aged 13 to 17, who have either breached the law, or who are at risk of breaching the law. Consistent with a “wilderness therapy” approach (e.g., Cason & Gillis, 1994; Crisp, 1997; Davis-Berman & Berman, 2002; Hattie, Marsh, Neill, & Richards, 1997; Paxton & McAvoy, 2000; Russell, 2005, 2006; Wilson & Lipsey, 2000), participants complete demanding outdoor challenges and receive intensive support from adult leaders and counsellors over an eight-day trek in a remote wilderness location. This particular program has undergone two robust (pretest-posttest control group design) psychological evaluations (Mohr, Heseltine, Howells, Badenoch, Williamson, & Parker, 2001; Raymond, 2003). Both Mohr et al. and Raymond found that participants, in comparison to controls, had statistically significant and/or near significant differential improvements in self-esteem and school behaviour, and reductions in criminal cognitions and anger—the latter of which is predictive of future offending behaviour. A burgeoning body of research has also demonstrated that, more generally, intensive wilderness adventure programs can have a positive effect on participant self-efficacy, self-esteem, attitudes, and behaviour (Cason & Gillis, 1994; Hattie et al., 1997; Wilson & Lipsey, 2000). Wilderness programs are theorised to provide a catalyst to challenge young people’s longstanding beliefs and behaviour patterns through removing participants from potentially dysfunctional surroundings and exposing them to emotionally and physically demanding situations and environments (e.g., Davis-Berman & Berman, 2002; Gass, 1993; Paxton & McAvoy, 2000; Russell, 2005, 2006).

Wilderness programs are designed to be physically and emotionally intense for participants, with program intensity often related to larger program outcomes or effect sizes (e.g., Wilson & Lipsey, 2000). Importantly, adult staff members also describe similar physically and emotionally intense experiences, reporting that after program completion they undergo a period of adjustment, where they experience a range of positive and negative adjustment symptoms. In relation to the program in this study, a small number of adult staff have described symptoms suggesting that this program was experienced as a minor “traumatic event,” with symptoms including periods of crying, sleep difficulties, and self-reflective rumination.
number of staff also reported difficulty in discussing and normalising their experience with their close family and friends. These experiences are largely consistent with those identified by Bunce (1998). Symptoms include feelings of achievement and euphoria, sleep disturbances, and restlessness, and they relate to cognitive, emotional, and behavioural functioning. Taken as a whole, there is compelling, albeit anecdotal, evidence that adult staff attending wilderness adventure programs can experience a period of psychological, emotional, and behavioural adjustment after program completion. Despite this, the exact nature of this adjustment process—including the length, intensity, and interpretation of adjustment symptoms—remains unknown, and this is the basis for the current research.

**Brief Review of Literature**

There is a paucity of studies within the outdoor literature that examine the psychological impact on staff conducting or managing intensive wilderness-based activities. Two descriptive studies indicate that, at an organisational level, outdoor practitioners and managers experience elevated levels of stress and are vulnerable to occupational “burnout” (Edwards & Gray, 1998; Thomas, 2002/2003). Bunce (1998), through anecdotal reports of wilderness facilitators’ experiences, also finds that stress and burnout are likely to be common among wilderness therapy staff, as are negative cognitions associated with self-efficacy, self-confidence, and perceptions of success (or lack thereof). Bunyan and Boniface (2000) found that wilderness leaders experienced higher anxiety and lower self-confidence when they engaged in activities they had less control over during an eight-day residential outdoor program. Self-confidence and trait anxiety were mediated by time of day and specific activities undertaken. The clinical literature finds that the construct of perceived control remains an important mediator of anxiety and stress reactions (Endler, Speer, Johnson, & Flett, 2000). However, the impact of this is further mediated by specific coping style and strategy (Endler, 1997).

In response to stress, people will use a variety of coping mechanisms (Endler, 1997). Although most people engage in different forms of coping at various times, some people have a predilection for specific coping strategies, and this can be problematic when there is a mismatch between the coping style and the specific stressor (see Endler, 1997). Considering the exploratory nature of the present study, specific coping styles were not examined. Instead a subjective and generalised construct of coping was examined as a potential predictor of post-program adjustment experience.

Research examining staff adjustment and responses in the area of intellectual disability care, although not strictly analogous to wilderness adventure programming, provides some insight into the types of
adjustment responses that may be normal for staff working in stressful situations. Consistent with the previous discussion of wilderness therapists’ experiences, staff who work with disability care sector clients who have challenging behaviours are at increased risk of experiencing stress and related psychological problems (Hastings, 2002). However, this relationship is mediated by the interaction of both person-based and situational factors (Endler, 1997). Person-based coping variables include behavioural responses to stressors, emotional reactivity, sociability, and cognitive appraisals of self and stressor (Endler, 1997). In contrast, situational variables include the nature, context, and intensity of the stressor. Hastings and Brown (2002) found that coping ability moderated the relationship between challenging client behaviour and staff stress reactions, such that poor coping ability coupled with highly challenging clients led to high levels of burnout and emotional exhaustion. Therefore, in terms of wilderness programming, a facilitator’s experienced stress will be impacted by both personality (e.g., self-efficacy, coping strategies) and situational (e.g., participants’ behaviours, intensity of wilderness experience) factors, both of which are captured in the current study.

A variable postulated to impact the coping process is perceived program success. This represents a cognitively constructed process where facilitators evaluate the outcomes they perceived as being achieved from their facilitation as they relate to the outcomes they had anticipated would have occurred. Given that wilderness adventure programs generally have only modest effects on participants (Cason & Gillis, 1994; Hattie et al. 1997; Wilson & Lipsey, 2000), facilitators’ expectations of “successful” program outcomes have the potential to be inconsistent with the reality of what occurs. Less successful program outcomes require the facilitator to cognitively rationalise them, and one such rationalisation is self-blame (e.g., poor program outcomes are attributable to poor facilitation skills). There is evidence within the clinical psychology literature that the cognitive process of self-blame, when occurring repeatedly (cognitive rumination), is likely to trigger and then maintain distressing affect states (Beck, 1976), in particular as it relates to an individual’s adjustment to significant stressors (e.g., Buckelew, Baumstark, Frank, & Hewett, 1990). For these reasons, perceived program success, self-blame, and various “stress symptoms” are explored within this study.

Various symptoms can be expected to occur as a normal part of dealing with a stressor. These include increased arousal of the sympathetic nervous system (e.g., difficulty sleeping or relaxing, motor restlessness), shifts in cognitive patterns and appraisals (e.g., dissociative responses, thought intrusion), changes in behaviour (e.g., avoidance of trauma stimuli), and reexperiencing of the traumatic event (Harvey & Bryant, 2002). It is worth highlighting that the majority of individuals experiencing these
types of stress reactions spontaneously recover, and these stress reactions generally represent a “normal” response. It is when responses persist over time and/or are distressing that they become maladaptive (Harvey & Bryant, 2002). Therefore, in the current study, the length and distressing nature of a variety of stress symptoms are examined.

The Present Study

The specific aims of this study were to conduct a broad and preliminary overview of the type and intensity of psychological adjustment responses experienced by adult staff members completing an Australian-based wilderness adventure program, as well as to conduct an exploratory analysis of predictors of post-program adjustment.

Method

Program Outline

The program that formed the basis for this study is an eight-day wilderness adventure program conducted four times a year in the Northern Flinders Ranges, South Australia. Clients are young people who present with poor classroom behaviour, high levels of truancy, and at-risk or criminal behaviour, and who have been referred to the program by a number of government and nongovernmental agencies. On each exercise, up to 10 teams, each comprised of between 7 and 10 clients (males and females, aged 13 to 17), independently backpack a 100-kilometre circuit through rugged and undulating terrain. Teams complete various activities (abseiling, cultural awareness, and bush survival) and challenge-based exercises (e.g., raft and bridge building). These are aimed at improving self-confidence, engendering self-reliance and self-esteem, teaching the basic values of caring, sharing, and respect, and also demonstrating the value of various philosophical and practical approaches to managing difficult situations. Accompanying each team is a team leader, at least one counsellor (or teacher) from each referral agency, an assistant team leader, and a peer group mentor (where available).

Participants

Participants for this study included three cohorts of adult staff ranging in age from 18 to 55 years (N = 62, 44 of whom are male), who performed leadership and counselling roles on separate wilderness adventure program exercises between June 2006 and March 2007. There are two distinct roles and originating points for staff supporting participants on this program. First, “team leaders” and “assistant team leaders” are directly recruited, trained, and supervised by the organisation. These individuals have overall responsibility for the technical skills, safety, and conduct of
the program for individual teams. For the purpose of this study, as team leaders and assistant team leaders perform the same tasks, their roles are combined and are designated as “field staff” \( (n = 34) \). Second, a staff member originating from the referring agency accompanies each team and provides the participants counselling support and guidance. They are designated as “counsellors” \( (n = 28) \). Experience levels varied between these two groups, with the majority of counsellors experiencing between one and three exercises whereas the majority of field staff facilitated between four and seven exercises. Considering their distinct roles and experience levels, it is assumed that both field staff and counsellors may experience the wilderness program differently, and it was postulated that this may translate to the adjustment process.\(^1\)

**Instrument**

A self-report questionnaire was designed to examine a range of adjustment reactions, post-program outcomes, and subjective adult experiences of the program. Twenty items were developed to tap post-program psychological adjustment reactions. Literature and anecdotal reports suggest that the type of stress wilderness facilitators experience has unique elements (e.g., the client group and the environment) that validated stress measures may not capture. Furthermore, although wilderness adventure programs are expected to be stressful, they are not necessarily comparable to “traumatic events,” and for this reason, post-trauma checklists should not be expected to pick up the moderate responses anticipated. Therefore, a separate checklist was developed and modified from the Depression Anxiety Stress Scale (Lovibond & Lovibond, 1995). Items were chosen to tap physiological, emotional, and behavioural functioning. Additional items were included, and these related to subjectively positive post-program adjustment reactions that had been previously reported to the authors. Respondents were asked to identify “symptoms” they (a) had experienced since completing their exercise, (b) were still experiencing at the time of questionnaire completion, and (c) had experienced as “distressing.”\(^2\) These items load onto two largely distinct factors that we refer to as “reflective” and “reactive” adjustment.

Reflective adjustment (a more subjectively “positive” adjustment process) comprises a reflective cognitive process where staff appraise their

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\(^1\) A Pearson chi-square test was used to determine whether there were any significant differences between these groups in respect to age, experience levels, and sex. Although the sample had twice as many males as females, there were no significant sex-related differences between field staff and counsellors. The only significant between groups difference was that field staff had attended more programs than counsellors, \( \chi^2 = 17.27, p = .001 \).

\(^2\) Ellie Lawrence-Wood will provide copies of the complete items by request.
experience and outcomes. This construct includes items such as pride, achievement, being on top of the world, missing participants and staff, and reflection on the program experience. Reactive adjustment consists of more “overt” symptomology, reflecting more intense physiological and emotional reactions, and less adaptive cognitive processing, following the program experience. It includes aspects such as sleep difficulties, lack of energy, and irritability, as well as having difficulty relaxing and concentrating and experiencing perceived “self-blame” regarding program outcomes. In contrast to reflective adjustment, this construct reflects potentially more distressing or subjectively negative symptoms and processes.

The questionnaire also contained items tapping a range of demographic variables that could be used to identify profiles of staff that may experience particular post-program adjustment responses. These included age, sex, role on program (field staff or counsellor), and number of previous programs completed. Five further items tapped staff subjective appraisals of the wilderness experience, reflecting those issues identified in the literature. Staff were asked to rate on a 9-point continuous scale items related to perceived coping, program intensity, nature of participant group, program success, and perceived support (see Table 1 for specific items).

**Procedure**

Staff were mailed questionnaires two weeks after program completion. Three separate programs were sampled and these included sample sizes of 27, 20, and 15. Questionnaires were returned via reply paid confidential envelopes and were received by the authors between 2.5 and 8 weeks post-program. The mean response rate across all groups was 77.5% and did not differ between counsellors and field staff. The computer program SPSS was used to analyse all data. First, staff experiences of the program, thought to represent potential predictors of psychological adjustment, were examined. Following this, specific post-program psychological adjustment symptoms were explored, then a series of regressions were used to examine the effects of the predictors on psychological adjustment outcomes.

**Results**

Table 1 presents an overview of staff experiences of the program. The majority of staff reported that they coped well with the program, felt supported by the other adult staff members, and believed that the program had been moderately to extremely successful for their client group. Respondents indicated that they experienced both the participant group and the physical nature of the program as moderately challenging. Despite this, a small number of staff reported that they did not feel supported by the other adult team members during the program, and a similar number
reported that there were times during the program they found it difficult to cope. There was no evidence that field staff and counsellors experienced the program differently on any of these dimensions or that level of staff experience had an effect. However, increased staff age was associated with

<table>
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<tr>
<th>Item description (label)</th>
<th>Field staff</th>
<th>Counsellors</th>
<th>Total</th>
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<tbody>
<tr>
<td>How physically challenging did you find the most recent Operation Flinders exercise? <em>(Physical challenge)</em></td>
<td>Male 4.84 (1.70)</td>
<td>Female 3.89 (2.03)</td>
<td>Total 4.59 (1.81)</td>
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<td>How well do you think you coped during the most recent Operation Flinders exercise? <em>(Perceived coping)</em></td>
<td>Male 6.83 (1.69)</td>
<td>Female 8.22 (0.97)</td>
<td>Total 7.21 (1.64)</td>
</tr>
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<td>How challenging was the participant group you had on this program? <em>(Participant group profile)</em></td>
<td>Male 4.76 (1.59)</td>
<td>Female 5.11 (1.54)</td>
<td>Total 4.85 (1.56)</td>
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<tr>
<td>Looking back, how supported did the other adult staff (e.g., Operation Flinders TL, ATL, counsellors) make you feel during the Operation Flinders exercise? <em>(Perceived support)</em></td>
<td>Male 7.36 (2.06)</td>
<td>Female 8.44 (0.88)</td>
<td>Total 7.65 (1.87)</td>
</tr>
<tr>
<td>How successful do you think the most recent Operation Flinders exercise was for the participant group you were involved in? <em>(Perceived success)</em></td>
<td>Male 7.04 (1.37)</td>
<td>Female 6.44 (1.60)</td>
<td>Total 6.88 (1.43)</td>
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Note. Each item was responded to on a 9-point scale, with three anchor points (beginning, middle, and end). These anchors varied for each item such that they reflected the construct being measured; but for all items, lower scores reflected lower levels and higher scores reflected higher levels.
higher perceptions of physical challenge, \( r(n = 62) = .271, p = .03 \). A 2 (Role: field staff, counsellor) by 2 (Sex: male, female) Analysis of Variance (ANOVA) showed that male staff experienced the exercise, \( F(1, 57) = 4.75, p = .034 \), and participant groups, \( F(1, 57) = 5.34, p = .024 \), as more challenging in comparison to female staff. Female staff also reported better coping than male staff, \( F(1, 57) = 4.24, p = .044 \).

**Post-program Psychological Adjustment Symptoms**

Examination of specific adjustment symptoms showed that all respondents (\( N = 62 \)) experienced both pride and achievement after program completion, with the overwhelming majority (97%) of staff reporting that their minds wandered “back to the experience.” Sixty-five percent of staff experienced “a sense of loss” or “missing the participants and/or adult staff.” Seventy-four percent of staff also indicated that they had “difficulty in adjusting back to normal life” and “felt different, just not my normal self,” after program completion. Other responses included “becoming upset more easily,” “difficulty in relaxing,” “difficulty in concentrating,” “sleep difficulties,” “being quieter than normal,” “having less energy than normal,” and, for a small number of respondents, “periods of crying,” “becoming upset more easily,” increased irritability, “being in a daze,” and “withdrawing from others.”

Half of all staff surveyed (\( n = 31 \)) had adjustment experiences that persisted to the point of questionnaire completion (i.e., two to three weeks post-program). However, these were largely related to positive reflective experiences (e.g., “pride and achievement,” “missing the participants”) as opposed to more reactive emotional experiences (e.g., irritability, crying, withdrawing, “becoming upset more easily”). Notably, only one staff member subjectively reported their experiences as “distressing.”

**Prediction of Post-program Outcomes**

By examining potential predictors of post-program outcomes, the opportunity is provided to identify characteristics of staff who reported more intense post-program responses, in addition to identifying factors that may influence different types of adjustment outcomes. To improve the reliability of the following analyses, they were performed on the reflective and reactive factors rather than individual symptoms.

Initial analyses indicated that there were no significant differences between counsellors and field staff in their reflective \( [F(1,60) = .122, \text{ ns}] \) or reactive \( [F(1,60) = .909, \text{ ns}] \) adjustment experiences. Neither the level of experience (e.g., number of previous programs) nor the profile of the participant group (e.g., how challenging they were) were related to post-program outcomes. A number of other factors were significantly related to post-program outcomes. Older staff reported higher levels of reflective experiences compared to younger staff \( (r = .260, n = 62, p = .04) \) and those
who found the exercise more physically challenging also reported more reflective experiences \( (r = .369, n = 62, p = .003) \). It was interesting that while staff who perceived the program as being more successful reported more reflective experiences \( (r = .326, n = 62, p = .01) \), they also reported less reactive adjustment \( (r = -.321, n = 62, p = .01) \). Furthermore, staff who reported better coping also reported significantly less reactive adjustment \( (r = -.325, n = 62, p = .01) \). Finally, results from a between groups ANOVA also showed that females \( (n = 18) \) reported less reactive adjustment \( (M = 0.16, SD = 0.22) \) than males \( (n = 44, M = 0.37, SD = 0.39) \), \( F (1, 60) = 4.80, p = .032 \).

Regression analyses were carried out to further test the relationships between the aforementioned significant predictors and the post-program outcomes. Because of the small size of the participant sample, adjusted \( R^2 \) is reported for both analyses. First, a simultaneous multiple regression was performed between reflective adjustment as the dependent variable (DV) and the three independent variables (IVs) shown to be most strongly related to the DV—age, physical challenge, and success. Beta values are presented in Table 2. Together, age, physical challenge, and success predicted a significant 17.6% of the variance in levels of reflective experience, \( R^2 = .173, F (3, 57) = 5.18, p = .003 \). Examination of Beta values for each IV showed that age alone was not a significant independent predictor of these outcomes. Success was a near significant predictor, with how physically challenging the program was having the greatest impact on levels of reflective adjustment. A simultaneous multiple regression analysis was then performed between reactive adjustment as the dependent variable and the three IVs most strongly related to the DV—perceived program success, perceived coping ability, and participant gender. Together, these three variables accounted for a total of 18.7% of the variance in levels of reactive adjustment, \( R^2 = .187, p = .002 \). Examination of the unique contribution of each of the three predictors showed that perceived coping ability did not account for a significant unique portion of the variance in reactive adjustment. However, both perceived success and staff gender were significant independent predictors, with success accounting for the highest proportion of variance. As shown previously, female staff reported less reactive adjustment symptoms than male staff.

**Discussion**

Together, the results from this study suggest that although staff did experience the program and the participants as challenging, the majority also reported coping well, feeling supported, and perceiving the program as successful. Staff facilitating this program experienced mainly subjectively positive outcomes, but for a large number of them, they also underwent a
The finding that level of staff experience and how challenging participants were did not influence post-program outcomes is not consistent with research demonstrating that challenging client behaviour is associated with higher staff stress and burnout (Hastings & Brown, 2002). However, the current study used a subjective measure of challenging behaviour, and there is some evidence that more objective measures of this variable (e.g., behavioural observations) may be more reliable (Hastings, 2002). Alternatively, it may be that challenging participant behaviour, when able to be dealt with and managed effectively, could be associated with feelings of competence (Reeve, 2005; see also Boniface, 2000). The finding that the more physically challenging a program, the more reflective experiences staff had, is again consistent with the idea that physical challenge (that has been met) can be associated with feelings of pride and achievement (Boniface, 2000; Reeve, 2005). It was interesting to discover that preliminary analyses showed that age was associated with higher perceptions of physical challenge—a finding that could be explored in future research.

The finding that perceived success was related to increased post-program reflective experiences is in line with the proposal that this construct taps into positive reflective processes. That is, positive cognitive reflection of program outcomes will not only trigger a positive affective state (Beck, 1976) but likely validate the physical efforts of staff during the program. The results from this study suggest that the more successful the exercise was perceived to be, the less reactive adjustment staff experienced. This seems consistent with the viewpoint that reactive adjustment represents a more overt pattern of symptomology associated with a more intensive stressor (analogous to a minor “traumatic” experience). It would be expected that less successful program experiences were more stressful and intensive. In addition, less success is likely to trigger a state

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<tr>
<th>Predictor variable</th>
<th>Reflective adjustment</th>
<th>Reactive adjustment</th>
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<tr>
<td>Age</td>
<td>.131</td>
<td>.295</td>
</tr>
<tr>
<td>Physical challenge</td>
<td>.286</td>
<td>.023*</td>
</tr>
<tr>
<td>Perceived success</td>
<td>.239</td>
<td>.054</td>
</tr>
<tr>
<td>Perceived coping</td>
<td>-.163</td>
<td>.208</td>
</tr>
<tr>
<td>Sex</td>
<td>-.281</td>
<td>.027*</td>
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*Denotes significance level of $p < .05$. 
of dissonance (distressing internal state) in staff, as their evaluation of the outcomes they perceived were achieved from their facilitation conflicted with the outcomes they had expected to occur. As discussed earlier, cognitive rumination about this perceived “lack of success” could trigger further negative responses such as those tapped by the reactive adjustment construct, including self-blame (e.g., Buckelew et al., 1990).

The current study found that female staff experienced less intense reactive adjustment symptoms than males. Although it cannot be ruled out that this result is a by-product of a small sample, there is research to suggest that, in comparison to males, females are more likely to seek social support when dealing with intense stressors (Tamres, Janicki, & Helgeson, 2002). Therefore, it is possible that females may have engaged in more adaptive post-program coping, which had a positive impact on their adjustment experience. Supporting this, initial analyses of the potential predictors of adjustment showed that female staff reported higher levels of coping than male staff.

In summary, the findings suggest that adults who facilitate intensive wilderness adventure programs (e.g., involving young offenders and youth at risk) undergo a transition period when returning to their home environment. Their reactions in this period are suggestive of a process where they attempt to understand, appraise, and integrate their experiences; recover from the physically intense nature of the experience; undergo a period of mourning; and cope with significant environmental changes. For the majority of staff, this psychological adjustment includes (a) feeling universal pride and achievement, (b) experiencing feelings of loss or missing the adults/participants, and (c) having their attention drawn back to their wilderness adventure experience. It appears that this adjustment is neither an abnormal nor a drawn-out process; however, it is one that is possibly unique to wilderness adventure programs, given the physically and emotionally challenging nature of the client group and work environment.

Overall, these results suggest not only that the cognitive perceptions of physical challenge and success (relating to feelings of competence and self-efficacy) may be associated with more subjectively positive adjustment outcomes (i.e., pride and achievement), but also that perceptions of success could prove to be protective against adjustment symptoms that are more reactive, and possibly more maladaptive. One way of supporting improved adjustment is through informal debriefing, in the form of casual conversations with fellow staff members or other social contacts. This type of social support has been shown to be beneficial (Treatment Protocol Project, 2004). Social support not only may normalise reactive symptomology but also may provide an opportunity for outsiders to challenge less-adaptive cognitive processes. Newer approaches to support, labeled in some areas as “psychological first aid” (McEvoy, 2005), advocate for a process
of normalisation where individuals are supported to utilise their own coping mechanisms. This includes fostering and maintaining meaningful social connections with peers, friends, and colleagues, within the context of the adjustment process (McEvoy, 2005; Treatment Protocol Project, 2004). Wilderness adventure programs may benefit from policies and employee assistance programs that reflect these best-practice criteria.

**Limitations of Research and Future Directions**

Although the findings from this pilot study have provided meaningful information about staff psychological adjustment processes following participation in a wilderness adventure program, they are limited by the small sample size and the exploratory nature of the study. This necessitates the most cautious interpretation of results from the exploratory analyses carried out. Nonetheless, the findings provide important direction for future research.

Considering the correlational nature of the study, conclusions can only be drawn insofar as they relate to the variables the authors included. It is possible that important variables may have been omitted, however, our inclusion of open-ended items in this study provided the opportunity for deeper content depth, and qualitative data supported the internal validity of the study’s findings. Furthermore, although findings seemed consistent with issues highlighted in the literature, we are unable to determine the causal direction of the relationships identified. In terms of addressing these issues in future research, over time a pre-post design should be utilised to measure changes in the behaviours, emotions, and cognitions examined in this study. In addition, other potential mediating variables (e.g., different coping styles, perceived control over stress) should also be examined. This paper has argued that staff outcomes for wilderness adventure programs such as the one described here may be unique due to difficult and complex client groups. This issue could be addressed in the future by comparing staff outcomes in relation to different program client groups (youth at risk versus school students).

The current research did not find evidence to suggest that a staff member’s post-program adjustment to intensive wilderness adventure experiences is in any way abnormal. However, the findings do suggest a quite complex adjustment process that has the potential to be distressing. The nature of this adjustment process not only suggests the need for more carefully tailored services to support and assist staff during this period but also highlights the importance of better understanding this neglected research area.
References


