

The Impact of Outdoor Education Camp Program in Building Resilience among University Students

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Abstract: Resilience is gained through life experiences that local university students lack from a classroom environment. This study investigated the effect of outdoor education camp programs on the levels of resilience among Physical Education students from two selected universities in Malaysia. A questionnaire was utilized as the primary research tool in this study to assess the participants' perceptions and knowledge acquisition as well as their level of resilience toward the outdoor education camp programs. A total of 162 undergraduate students were studied using a pre-test and post-test approach and a modified version of the Connor-Davidson in a 25 items self-report scale. Analysis of paired t-test showed differences in factors involved in resilience variables, personal competence, instincts and tolerance of negative behavior, positive acceptance of change, control, and spiritual influence. The findings indicated a positive effect towards resilience upon completion of the 14-day outdoor education camp program. A multivariate analysis of variance (MANOVA) was carried out to evaluate if participation in the outdoor education program influenced participants' perceived level of resilience. Overall, there were statistically significant increases in resilience levels from the pre-test to the post-test stage. These results lead to the need for in-depth research into the assessment of internal factors in an outdoor camp program to provide valuable information on the effect of the intervention and implications towards enhancing resilience of the participants in low to high-risk activities.

Keywords: Outdoor education, Personal Development, Program Evaluation, Physical Education, Resilience

1. Introduction

Outdoor education programs in universities employ various approaches, methods, and learning principles, such as lectures, practical demonstrations, discussions, contributions, guided discovery, and problem-solving. Specified goals and objectives are generally included in an Outdoor Education Program

(OEP) to assist participants understand their own limitations, abilities, and personal beliefs (Neill, 2008). The results of the program may be divided into short-term and long-term outcomes. Four objectives are short-term outcomes, namely, mastering outdoor education skills, designing teaching and outdoor education activities, program implementation, and the ability to evaluate program implementation effectiveness. On the other hand, the long-term outcome is implementing the syllabus goals to produce resilient and good students, and young teachers (Neill, 2008).

1. Outdoor Education Program in Malaysian Universities

The OEP was introduced in Malaysia's modern education system in 1956 as a co-curricular activity for the Advanced Physical Education Program at the Maktab Perguruan Ilmu Khas or MPIK (Ministry of Education, 2011). The students were obliged to take part in three outdoor education activities that took place in natural settings. The main objective of the program was to produce hardworking teachers with high proficiency in teaching to develop a positive attitude among school children in their communities (Scholer & Teoh, 1980). In 1979, outdoor education was listed as an academic course to Physical Education students at Universiti Pertanian Malaysia (currently known as Universiti Putra Malaysia) and Universiti Pendidikan Sultan Idris. As a result, more Physical Education teachers were being exposed to the unique and interesting learning concept of outdoor education (Ministry of Education, 2011). In 1991, the Ministry of Education under the School Division had set up a Co-Curricular Center in all states in Malaysia (Ministry of Education, 2016). The center was equipped with various facilities for outdoor education and served as a base camp for primary and secondary school activities. This was followed by the introduction of sub-topics on outdoor recreation in the national curriculum of Physical Education and Health, in 1995, by the Curriculum Development Center, Ministry of Education.

Apart from being in the co-curriculum and other academic courses, outdoor education served as a special program to produce more resilient Malaysian educators. This concept led the Teachers Education Division to introduce a Spiritual Training Course to all teacher trainees in 1990. In 1995, outdoor education focused only on Physical Education students in teacher training institutions. However, in 2001, a new program was introduced to all teacher trainees in the Teacher Training Program. This program aimed to develop soft skills through a combination of extreme outdoor activities and group dynamics conducted by the Teacher Education Division in 2005. Outdoor education is also a core course for students majoring in Sports Science and Physical Education in Malaysian universities. In local universities, outdoor education is carried out through theoretical and practical classes and reinforced with a series of outdoor camping (Ministry of Education, 2016). Outdoor education not only targets Sports Science and Physical Education students but also all university students through a co-curriculum medium, such as outdoor recreation, nature recreation, outdoor recreation professional skills and water recreation skills. This initiative reflects the National Education Philosophy that aims to produce well-rounded individuals with physical, emotional, spiritual, and intellectual strength (Ministry of Education, 2016).

2. Resilience

Resilience is defined as the ability to develop throughout a stressful period (Richardson, 2002). The acceptance of the resilience concept signaled a qualitative change in the psychological literature, with a shift away from a deficit-based paradigm and more towards an emphasis on positive characteristics and their development. (Fletcher & Sarkar, 2012, 2013; Overholt & Ewert, 2015). In the meta-theory of Resilience and Resiliency, Richardson (2002) explored the evolution of current knowledge of resilience. Resilience research was classified into three phases. The first wave describes the characteristics of resilient people, the second wave expands beyond descriptions to look at how people develop resilience, and the third wave focuses on how certain events may boost or build resilience. Individuals can reconcile resiliently, return to homeostatic or default, reintegrate with losses, or reintegrate dysfunctional. Instead of just getting through the experience or feeling some loss, resilient reintegration refers to the experience of development or understanding via the disturbance. While most of the research on resilience has focused on catastrophic conditions or recovery from extremely stressful

life events, it has also been recognized that resilience is a typical attribute that may emerge from ordinary settings (Herrman et al., 2011; Sandy Allen, 2002).

Several researchers have previously shown an interest in building particular interventions to help improve resilience. Workplace training is one of the treatments, (Becker et al., 2017; Caizzi et al., 2018; Fägerstam, 2014; Forbes & Fikretoglu, 2018; Overholt & Ewert, 2015), counseling services among international students in universities (Khairina, Samsilah, Noorlila, Zeinab & Nurazidawati, 2020), clinical interventions for youth (Amir, 2014; Ewert & Yoshino, 2011; Hayhurst et al., 2015) and created adventure program for army members and veterans. (Ewert & Yoshino, 2011). The notion of enhancing resiliency through specialized training or experiences has piqued the interest of the outdoor education sector. Mountain climbs, abseiling courses, and rock climbing are all common activities in outdoor education programs that can be hard and stressful for participants. Aspects of involvement that are social and emotional, such as living and working in a group or by being away from friends and family, can be quite difficult. For numerous decades, the concept that these experiences may lead to growth and progress has been a cornerstone of study and theory in the outdoor education literature (Neill & Dias, 2001).

3. Outdoor Education as a Resilience Intervention

Outdoor Education frequently includes organized exposure to adventurous activities in natural settings to enhance intrapersonal and interpersonal development (Overholt & Ewert, 2015; Amir, 2014; Neill, 2014; Stephens, 2012). Outdoor education program often has set ideologies, goals, and objectives that allows the participants to comprehend their personal resources, strengths, and limitations (Mazuki, 2016; Mackenzie et al., 2018; Gray, 2019), teach transferable life skills (Priest & Gass, 2005; Priest & Gass, 2017), and foster resilience (Neill & Dias, 2001; Shellman & Hill, 2017). Key elements of the outdoor education program related to coping with stress and building resilience are the outdoors or new natural surroundings, group dynamics, coordinated facilitation of the outdoor experience, and intense adventure-based activities. These traits, taken together, produce a condition of constructive anxiety (Gloria & Steinhardt, 2016; Cheng & Catling, 2015). Participants are expected to comply with these challenges using a variety of coping methods. Many outdoor education programs follow the stress inoculation theory, which says that confronting stress might also be beneficial and improve the ability to cope with everyday pressures (Miles & Priest, 1999). The goal of outdoor educators is to assist people experience eustress instead of distress, and to react by using cognitive, sociological, psychological, physiological, and spiritual coping skills (Kumpfer, 1999). Outdoor education provides many opportunities for individuals to explore the relationships between different coping strategies and consequential outcomes. Although the development of resilience is a popular aim of personal development-orientated outdoor education programs, the topic has attracted relatively little research (Ewert & Yoshino, 2011). Moreover, studies that have measured positive changes in resilience demonstrated mixed results, and the findings are still inconsistent and debated by researchers in the outdoor education field.

Internal skills and external variables have a role in creating a resilient workplace. Stressors are created by environmental circumstances, which are dealt with by employing internal skills. Cognitive, spiritual, emotional, physical, and social dimensions are all included in internal competences (Kumpfer, 1999). As a result of the diversity in tolerance levels for diverse environmental stressors, each individual has varied resources accessible from such a domain. Individuals can use the platform of an OEP to examine the link between their own skills and external variables (Kumpfer, 1999). Key techniques used to enhance the nature of challenges include experiential, high-impact, and high-energy activities (James & Williams, 2017). These activities assist participants to completely immerse themselves in the objectives of the outdoor education program through activities such as expeditions, high ropes activities, canoeing, caving, and rock climbing (Kumpfer, 1999). In this regard, to facilitate a higher degree of personal development, the outdoor education experiences are guided. Staff facilitators assist participants in assessing their experiences via guided reflection and linking the experiences back to their daily lives (Priest & Gass, 2017) through facilitated debriefing of significant experience, reflection and goal settings, and the use of metaphors during the program (James & Williams, 2017). Lastly, outdoor education provides a social milieu relating to the unique social and cultural environment that

participants become immersed in (Dumont & Provost, 1999; Prinyaphol & Chongruksa, 2008). In this way, a sense of reciprocity is created among group participants as they face a foreign environment where the challenge is virtually constant. Thus, the group has a mutual dependence as they tackle common objectives (Papanastasiou et al., 2012; Cooley et al., 2015).

Many research has been performed to determine the impact of outdoor education programs on the participants' personal and social development (Lekies et al., 2015; McGowan, 2016). The OEP includes systematic exposure to outdoor adventure activities to aid intrapersonal and interpersonal growth (Booth & Neill, 2017). As demanding events create a state of constructive anxiety, the unknown outdoor environment improves resilience abilities among the participants (Ewert & Yoshino, 2011). The process of effectively adjusting to difficult life events, as well as the qualities and capacities to overcome the influence of biological, psychological, and social variables that risk an individual's health, is known as resilience (Ungar, 2015). Resilience is a skill that may be acquired and developed, with varied outcomes depending on the person. Community connections, goal-setting, self-challenges, positive psychology and change acceptance, debriefing, introspection, and learning from prior experiences are all examples of strategies to increase psychological resilience (Tugade et al., 2004; Sibthorp & Jostad, 2014; Hayhurst et al., 2015). Therefore, resilience can be gained through various life experiences that participants are not exposed to inside the classroom.

With regards to the camp program, study by Lynch et al., (2018) suggested summer camp as a force for 21st-century learning, emphasizing on understanding programs in terms of creativity, activity offerings, and camp culture as a benefit for youth. Other previous studies also discussed the effects of camp programs on youth in many other aspects. There are studies on the effects of a nutrition- and health-oriented camp on youth with an increasing in awareness of healthy eating behaviors and self-perceived competence, higher on dimensions of self-concept and self-esteem growth after participating in a 12-day camp and studied on youth resilience in a summer day camp focusing on outdoor adventure and community volunteering (Merryman et al., 2012). Recent studies have been undertaken on outdoor program or camp program outcomes measured through evidence-based evaluation (Sibthorp & Jostad, 2014). Since outdoor education is a powerful medium for the learning process, many studies have examined the effects of outdoor education program, especially on the participants' personal development (Institutes, 2005; Mawarni & Siti, 2014; Mazuki, 2016). However, little research exists regarding the effects of camp on improving resilience and some studies have not evaluated the outdoor education program's effectiveness in developing resilience (Cunneen & White, 2007). The evidence supporting the positive impact of an outdoor education experience is often incomplete, anecdotal, and based on studies involving small and restricted populations. The lack of sufficient and rigorously derived data has been particularly evident in the context of the impact of the outdoor education program on resilience (Ruiz, 2012). This study emphasizes the outdoor education program's long-term impact, where the main variables are the students' resiliency and emotional outcomes.

2. Methodology

Participants' pre- and post-perceptions of the issue, content, and input of the outdoor education camp program have been used in this study, which is based on quasi-experimental research. A questionnaire was utilized as the primary research tool in this study to assess the participants' perceptions and knowledge acquisition as well as their level of resilience toward the outdoor education camp programs. The level of resilience in this study was measured using the total score of the Connor-Davidson Resilience Scale (Davidson, 2013). The CD-RISC is a 25 items self-report scale, and the items were rated on a seven-point Likert scale. In the questionnaire, participants were required to choose the most appropriate rating based on how he or she felt about the programs. The total mean score ranges from 1 - 7, with higher scores indicating greater resilience. Factor analysis yielded five factors consistent with the theoretical framework. Factor 1 indicates personal competence, high standards, and tenacity. Factor 2 is relevant to trust in one's instincts and tolerance of negative behavior, and the impact of stress. Factor 3 relates to the positive acceptance of change and secure relationship whereas Factor 4 relates to control and Factor 5 to spiritual influences (Connor & Davidson, 2003).

1. Participants

A total of 162 students participated in a 14-day education camping program and were required to complete a questionnaire before and after the camping program. The purposive sampling technique involved with two local universities chosen to form the research population. The two universities that fulfilled the criteria of the Physical Education program are Universiti Putra Malaysia (UPM) and Universiti Pendidikan Sultan Idris (UPSI). The research population consisted of first year undergraduate students from the Bachelor of Education (Physical Education) (2018/2019 intake) at UPM and UPSI. These universities were chosen based on the following criteria: (1) the university offers a Physical Education program at degree level; (2) the Ministry of Education has declared the niche area of the university is Physical Education; and (3) the university includes Outdoor Education as a compulsory subject for first and second-year students of Physical Education.

2.2 Outdoor Education Camp Program (OECF)

Both campuses conducted their final camping programs for 12 to 14 days in a remote area setting secluded from the main campuses. According to the syllabus, the purpose of OECF is to develop personal and social skills, enhance outdoor skills and strengthen management skills. For this OECF, 21 different activities were integrated as a medium to achieve the objectives. The camp was managed by the lecturer-in-charge and assisted by facilitators competent and well-trained in the outdoor education program. The camp based on traditional outdoor education camping practices required students to sleep in tents at the wilderness base camp, cook their meals, and build camp gadgets and basic facilities according to their creativity. Conducive learning environment involved separating students into smaller groups which consisted of 10 to 15 students per group (depending on the number of enrolments in each campus). In addition, positive development was encouraged by dividing the activities into adventure-based activities and camp-based activities (Table 1 and Table 2). The selection of activities depended on the level of risks involved ranging from moderate to high-risk activities. The classification of the category of activities and level of risk was in line with the recommendation by De Graaf (Degraaf et al., 2010).

Table 1. List of Camp-Based Activities

Ref.	Activity	Category of Activity	Level of Risk
1.	Camp Craft	Individual Task	Moderate
2.	Community Service	Group Problem Solving	Low
3.	Cooking in Group	Group Problem Solving	Low
4.	Creative Games	Group Problem Solving	Low
5.	Cultural Night	Group Problem Solving	Low
6.	Discussion in Group	Group Problem Solving	Low
7.	Fishing	Environmental Activity	Low
8.	Flora and Fauna	Environmental Activity	Low
9.	Group Meeting	Goal Setting	Low
10.	Morning Exercise	Spirituality Activity	Low
11.	Religious Activities	Spirituality Activity	Low
12.	Training in Group	Group Problem Solving	Low

Table 2. List of Adventure Based-Activities

Ref.	Activity	Category of Activity	Level of Risk
1.	Abseiling and Rappelling	Outdoor pursuit	High
2.	Night Walk	Outdoor pursuit	High
3.	Orienteering	Outdoor pursuit	High
4.	Sea Kayaking	Outdoor pursuit	High
5.	Snorkeling	Outdoor pursuit	High
6.	Survival	Outdoor pursuit	High

7.	Trekking	Outdoor pursuit	High
8	Wilderness Camping	Outdoor pursuit	Moderate
9.	Cycling	Outdoor pursuit	High

3. Data collection

The data was derived and recorded from the two camp programs organized between January to August 2019 and the delayed effects about two months after the last day of the said program. The pre-test was conducted at the campus before the participants left for the camp to establish the baseline measurement. The post-test was administered immediately after the end of the camp program, and the delayed post-test was conducted two months after the camp program.

4. Data Analysis

The statistical analysis in this study utilized the IBM Statistical Package for Social Sciences (IBM SPSS) Version 21 with a significant level of $p < 0.05$. The descriptive analysis determined the hypothesis through mean, mode, median and percentage, frequency, and cross-tabulation that described the basic features of the data in this study. The Pearson correlation coefficient, t-test, MANOVA, MANCOVA and percentage determined the differences towards resilience between the pre-test and post-test stages.

3. Results

A total of 162 respondents took part in the study, with the average age of students participating in outdoor education camp programs being 20.91 (SD = 0.47) for both universities. The total number of male students was 108 (66.7%), and female students were 54 (33.3%). While most of these students came from rural areas (119 students; 73.5%) others (43 students; 26.5%) were from urban areas. The average day in the outdoor education camp programs was 11 days of camping. Out of the total number of students, 48 students (29.6%) were from UPM (Universiti Putra Malaysia), and 114 students (70.4%) were from UPSI (Universiti Pendidikan Sultan Idris). The majority of students have participated in outdoor education camp activities at school, out of which 64 students (39.5%) participated in camping programs, while 58 students (35.8%) participated in other co-curricular programs. Most of the students (92 students; 56.8%) have participated in the outdoor education program at least once in their life.

Analysis of the Paired Samples T-test determined differences between the pre-test mean scores and the post-test mean scores of outdoor education camp programs on the level of resilience among Malaysian undergraduate students, and the factors involved in resilience variables. The data was derived from the questionnaire form before and after the program i.e. the same questionnaire used in different sequences. The Paired Samples T-test determined changes in the overall resilience through the pre-test mean scores and the post-test mean scores of the outdoor education camp programs. Table 3 shows the differences between pre-test and post-test of the outdoor education camp programs for overall resilience and the factors involved in resilience variables, namely, personal competence, instincts and tolerance of negative, behavior, positive acceptance of change, control, and spiritual influences.

Table 3. Results of Paired Sample T-test for before and after for Resilience

Variables	N	Mean	SD	t
Overall Resilience				
Pre-test	162	5.03	0.41	8.38**
Post-test		5.37	0.52	
Personal competence				
Pre-test	162	4.61	0.52	7.45**
Post-test		5.02	0.62	
Instincts & tolerance of negative				
Pre-test	162	5.36	0.53	5.47**
Post-test		5.63	0.62	
Positive of acceptance of change				
Pre-test	162	5.12	0.64	5.72**
Post-test		5.46	0.59	
Control				
Pre-test	162	4.96	0.72	4.83**
Post-test		5.37	0.83	
Spiritual Influences				
Pre-test	162	4.80	0.69	5.11**
Post-test		5.19	0.75	

Note. ** $p < 0.01$, * $p < 0.05$

The findings indicated significant differences between the pre-test mean scores and the post-test mean scores of the outdoor education camp programs. The mean scores from the pre-test of the program was 5.03 (SD = 0.41) whereas the mean scores from the post-test of the program was 5.37 (SD = 0.52) with the value difference being [t (161) = 8.38, $p < 0.01$]. In addition, the factors involved in resilience variables showed significant differences between the pre-test and the post-test mean scores of the program on all factors. In terms of the personal competence factor, the mean scores for the pre-test of the program was at 4.61 (SD = 0.52) and the mean scores for the post-test was at 5.02 (SD = 0.62) with the value difference being [t (161) = 7.45, $p < 0.01$]. As for the instincts and tolerance of negative behavior factor, the mean scores for the pre-test was at 5.36 (SD = 0.53) and the mean scores for the post-test was at 5.63 (SD = 0.62) with the t value being [t (161) = 5.47, $p < 0.01$]. The factor of positive acceptance of change derived a pre-test mean score of 5.12 (SD = 0.64) and a post-test mean score at 5.46 (SD = 0.59) with the mean difference being [t (161) = 5.72, $p < 0.01$]. The control factor pre-test mean scores was at 4.96 (SD = 0.72) and the post-test mean scores was at 5.37 (SD = 0.83) with t value being [t (161) = 4.38, $p < 0.01$]. Lastly, the spiritual influences factor mean scores for the pre-test was at 4.80 (SD = 0.69) and the mean scores for the post-test was at 5.19 (SD = 0.75) where t value was [t (161) = 5.11, $p < 0.01$]. Overall, all the factors involved in resilience variables brought about positive changes on the scale measurement used.

Referring to Table 4, the overall results of the Multivariate Wilks' Lambda test showed a significant effect of the outdoor education camp programs on resilience variables after completing the program with controlled pre-test scores. Based on these results, there was a significant difference in overall mean scores after the program [F(5,155) = 5.896; $p < 0.01$, eta squared = 0.159], i.e., after the researcher controlled the pre-test assessment scores. Pre-test scores of outdoor education camp programs contributed 15.9% of the changes in resilience at the end of the programs. Whereas for each factor, the pre-test score effects influenced the post-test results: factor 1 [F(5,155) = 11.243; $p < 0.01$, eta squared = 0.066]; factor 2 [F(5,155) = 22.783; $p < 0.01$, eta squared = 0.125]; factor 3 [F(5,155) = 19.406; $p < 0.01$, eta squared = 0.108]; factor 4 [F(5,155) = 9.391; $p < 0.01$, eta squared = 0.055]; and factor 5 [F(5,155) = 5.160; $p < 0.01$, eta squared = 0.031].

Table 4. Analysis of MANCOVA to examining the Level of Resilience after Outdoor Education Camp Programs among Physical Education students in Malaysia Universities

Effect	Multivariate Analysis	F	p	Partial Eta Square
Intercept	Wilks' Lambda	637.886	0.01**	0.953
Post-test Factor 1	Wilks' Lambda	11.243	0.01**	0.066
Post-test Factor 2	Wilks' Lambda	22.783	0.01**	0.125
Post-test Factor 3	Wilks' Lambda	19.406	0.01**	0.108
Post-test Factor 4	Wilks' Lambda	9.391	0.01**	0.055
Post-test Factor 5	Wilks' Lambda	5.160	0.02*	0.031
Multivariate F		5.896	0.01**	0.159

Note. ** $p < 0.01$, * $p < 0.05$

The purpose of the research was to study the impact of outdoor education camp programs on the resilience of Physical Education students. Overall, there was evidence that outdoor education camp programs conducted as part of the undergraduate Physical Education program at local universities contributed positively to the resilience of university students. The Paired Sample t-test analysis revealed that students recorded a statistically significant improvement on their factor 1 ($p = .01$), factor 2 ($p = .01$), factor 3 ($p = .01$), factor 4 ($p = .01$) and factor 5 ($p = .01$) sub-scales and the overall results had significant differences before and after the program ($p = .01$). The increase in levels of resilience is likely because students were not subject to interference from outside and negative influences. Since the program was conducted away from the normal daily routine, with traditional camping methods, and less technological devices, students had more time to bring the group closer together as a social group and increase group cohesion. This finding is in line with Mutz and Müller (2016), who stated that an individual placed in a quiet and stress-free environment acquires new capabilities that tend to be more cohesive. During the camp program, they are free to talk, discuss, sleep together in a tent, exercise, eat together, trust, share responsibility, seek help and work as a team to accomplish shared objectives and tasks. The MANCOVA analysis determined the accuracy of the findings using pre-test data as a covariate. The purpose is to determine whether the changes that occurred in the outdoor education camp programs were due to the program or influence on the individual before he or she joined the said program. The findings showed that 15.9% of the total influence on the individuals before joining the said program contributed to changes in the individuals and not just the program per se. In the MANCOVA analysis that included all the influential factors, the results showed that the impact of this outdoor education program still contributed a positive change to the resilience variables. Only 38.6% (Table 5) of the factors that influence the resilience change after the program. This indicator shows that outdoor education programs contribute to the shaping of university students' resilience.

Table 5. Analysis of MANCOVA for the influence of Ego-Resilience, Personal Effectiveness and Locus of Control, Social Supports and Socio-Demographics on Students' Resilience after OECF

Effects	Dependent Variables	F	p	Partial Eta Square
Ego-resilience	Post-test Factor 1	10.241	0.01**	0.210
Personal Effectiveness & Locus of Control	Post-test Factor 2	10.222	0.01**	0.300
Social Supports	Post-test Factor 3	20.711	0.01**	0.277
Socio-demographics	Post-test Factor 4	16.911	0.01**	0.133
	Post-test Factor 5	7.821	0.01**	0.142
Multivariate F (Wilks' Lambda)		3.584	0.01**	0.386

Note. ** $p < 0.01$, * $p < 0.05$ [Factor 1: Personal competence; Factor 2: Instincts & tolerance of negative; Factor 3: Positive of acceptance of change; Factor 4: Control; Factor 5: Spiritual Influence

4. Discussion

The findings of this study are consistent with existing research that has shown the positive effect that outdoor programs can have on building resilience (Shellman & Hill, 2017; Mutz & Muller, 2016). Previous studies demonstrated fundamental elements of outdoor education programs in coping with stress and building resilience that included the outdoors, new natural surroundings, the intensity of adventure-based tasks, coordinated facilitation of the outdoor experience, and social dynamics. These traits, when combined, result in a condition of purposeful anxiety or conflict (Mazuki, 2016; Prinyaphol & Chongruksa, 2008; Allan & McKenna, 2019). Most of those activities in outdoor education programs were aimed at expanding each participant's range of skills of effective coping techniques while also enhancing the quality and efficiency of their existing abilities (James, 2008; Mawarni & Siti, 2014; Neil et al., 2015; Claire, 2001) and improve their psychological resiliency (Ewert & Yoshino, 2011; Neill & Dias, 2001, Shellman & Hill, 2017; Ewert et al., 2016; Hayashi & Ewert, 2013).

Participants interacted with the outdoor surroundings by employing coping techniques and building resilience and other positive characteristics. In addition, the philosophy behind many outdoor education programs is that when encountering stress, from being at the edge of one's physical and psychological boundaries, such programs can enhance people's capacity to deal with daily stressors (Fletcher & Sarkar, 2013). This philosophy is in line with the concept of eustress, the stress inoculation model, and stress-related growth (Stephens, 2012; Gray, 2019). According to Booth (2017), the eustress and stress inoculation model suggest that benefits to the individual arise from circumstances of the activities that involve elements of hardship, adversity, and difficulty. In other words, the individual develops abilities and strengths that they wouldn't have learned if they remained mentally, emotionally and physically safe. Resilience is presumed to be one benefit that enhances coping abilities and reduces stress to become a healthier individual.

This study provides evidence of a relationship between resilience and individual variables, i.e., ego-resilience, personal effectiveness and locus of control, and social support. This finding is significant as resilience has been conceptualized as a narrower construct of interest, primarily as a measure of coping or recovery. The present construct directly relates to psychological wellbeing. It suggests that resilience is not just another predictor of behavior but a fundamental influence on many aspects of psychological functioning such as ego-resilience, personal effectiveness and locus of control, and social support. The results of this study offer insight into the personality and individual difference variables that correlate with resilience in university students. The results indicate that individuals who display high levels of resilience are also likely to demonstrate high levels of optimism apparent in the conceptualization of personality.

The concept of ego resilience includes traits that illustrate flexibility and resilience towards various situations and general personality resourcefulness. Studies have shown that ego-resilient individuals are intelligent, resourceful and able to adapt to stressful situations. These characteristics are essential to Physical Education students. Ego resilient individuals tend to search for more positive meaning in problems. Moreover, ego-resilient individuals are ambitious, extroverted and less likely to focus on self-enhancement (Farkas & Orosz, 2014). Sagone and Caroli (2014) stated that individuals with high resilience perceive themselves as being more efficient. Efficiency is a vital component in making a person successful. As a hallmark of education, higher education institutions have to move forward to build students' emotional, psychological and physical resilience. That is why every organization needs to place, train and retain efficient individuals within the system. Individual efficiency should be a significant concern; performing well is a prerequisite to any subsequent positive dynamic. As to resilience in an individual, personal effectiveness means making optimum use of one's abilities, skills, energy, time, and talents. Furthermore, previous studies highlighted the tendency of the individual to take responsibility for his actions and successes; or to see external controls, known as locus of control (Panwar & Gorsy, 2016), determine success. The concept of locus of control refers to the extent to which an individual believes he has control over the events that influence his life. This study focused on the relationship between the locus of control, personal effectiveness, and resilience with potential links to personality variables. Finally, social support is a resilience-enhancing variable that strengthens the coping strategies of dealing with stress and uncertainty. The key findings emphasized that social support emerged from the idea that support gained from other group members

enabled individuals to overcome various challenges they faced during the program. Social support was inevitably vital to overcome adverse conditions and acquire a better sense of resilience in individuals.

Due to the wide expectation that outdoor education benefits participants and improves life skills such as resilience, there is a significant paucity of research evaluating these assumptions (Ewert & Yashino, 2011). The studies that have assessed improvements in resilience have shown generally positive but questionable results (Ewert & Yashino, 2011; Overholt & Ewert, 2015; Ewert et al., 2016; Hayashi & Ewert, 2013). Conversely, other studies have revealed beneficial and substantial improvements in levels of resilience at the end of an outdoor education program. Studies have also indicated that resilience may be established in many ways as demonstrated by a growing body of literature that implies that outdoor education programs are particularly effective in building resilience (Shellman & Hill, 2017).

5. Conclusions

Students should be encouraged and equipped to become more resilient to face challenges and adversities in life. It should be a primary focus of higher education institutions as it impacts the success of students. The research findings indicated that students were developing resiliency in their lives and positively affected their behavior and attitude. Throughout the outdoor sessions, the students were immersed in self-reflection to comprehend the positive impact of resilience in their lives. Skills of reframing and self-talk were introduced and practiced exposing university students to the benefits of integrating resiliency in their daily routine and responses to real-life issues. The results and discussion of this study highlight the need for further research to enhance our understanding of resilience. To this extent, the Delphi technique may elicit and refine the sequence of activities involved in more detail for future studies.

6. References

- Amir, M. T. (2014). *The Role of Resilience in Individual Innovation* [Edith Cowan University]. <http://ro.ecu.edu.au/theses/873>
- American Institute for Research. (2005). Effect of outdoor education programs for children in California. American Institute for Research. Retrieved <http://www.seer.org/pages/research/AIROutdoorSchool2005.pdf> (22 January 2019)
- American Psychological Association (2010). *The road to resilience*. Retrieved <http://www.apa.org/helpcenter/road-resilience.aspx> (13 Jun 2018)
- Booth, J. W., & Neill, J. T. (2017). Coping strategies and the development of psychological resilience. *Journal of Outdoor and Environmental Education*, 20, 47-54.
- Becker, C., Lauterbach, G., Spengler, S., Dettweiler, U., & Mess, F. (2017). Effects of regular classes in outdoor education settings: A systematic review on students' learning, social and health dimensions. *International Journal of Environmental Research and Public Health*, 14(5). <https://doi.org/10.3390/ijerph14050485>
- Boyle, I. T. (2002). *The impact of adventure-based training on team cohesion and psychological skill development in elite sporting team*. (PhD Dissertation), University of Wollongong, Sydney.
- Caizzi, E., Parish, M., Mackley, S., Arun, N., West, D., & Otunuga, O. (2018). *Evidence Review: An evaluation of the impact of adventure learning and leadership programmes on young people's self-esteem, self-confidence and resilience A Pro Bono Economics Report. August*.
- Cunneen, C. & White, R. D. (2011). *Juvenile Justice: Youth and Crime in Australia* (Third Edition). Retrieved <https://www.researchgate.net/publication/228236439> (10 April 2018)
- Connor, K. M., & Davidson, J. R. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18(2), 76–82.
- Dolbier, C. L., Jaggars, S. S., & Steinhart, M. A. (2010). Stress-related growth: Pre-intervention correlates and change following a resilience intervention. *Stress and Health*, 26, 135-147.
- Ewert, A., & Yoshino, A. (2011). An initial exploration of the influence of short-term adventure-based experiences on levels of resilience. Paper presented at the *Coalition for Education in the Outdoors 13 – 15 January, Indiana University's Outdoor Center*.

- Fägerstam, E. (2014). High school teachers' experience of the educational potential of outdoor teaching and learning. *Journal of Adventure Education and Outdoor Learning*, 14(1), 56–81. <https://doi.org/10.1080/14729679.2013.769887>
- Fletcher, D., & Sarkar, M. (2012). A grounded theory of psychological resilience in Olympic champions. *Psychology of Sport and Exercise*, 13(5), 669–678. <https://doi.org/10.1016/j.psychsport.2012.04.007>
- Fletcher, D., & Sarkar, M. (2013). Psychological resilience: A review and critique of definitions, concepts, and theory. *European Psychologist*, 18(1), 12–23. <https://doi.org/10.1027/1016-9040/a000124>
- Forbes, S., & Fikretoglu, D. (2018). Building resilience: The conceptual basis and research evidence for resilience training programs. *Review of General Psychology*, 22(4), 452–468. <https://doi.org/10.1037/gpr0000152>
- Hayhurst, J., Hunter, J. A., Kafka, S., & Boyes, M. (2015). Enhancing resilience in youth through a 10-day developmental voyage. *Journal of Adventure Education and Outdoor Learning*, 15(1), 40–52. <https://doi.org/10.1080/14729679.2013.843143>
- Herrman, H., Stewart, D. E., Diaz-Granados, N., Berger, E. L., Jackson, B., & Yuen, T. (2011). What is resilience? *Canadian Journal of Psychiatry*, 56(5), 258–265. <https://doi.org/10.1177/070674371105600504>
- Johnson, J. W. (2012). *The effect of high school outdoor-based adventure leadership programs in independent schools on personal effectiveness and locus of control* (Master Thesis), Prescott College, Arizona.
- Jostad, J., Paisley, K., Sibthorp, J., & Gookin, J. (2013). The multi-dimensionality of group cohesion: A temporal examination of NOLS courses. *Journal of Outdoor Recreation, Education, and Leadership*, 5, 131-135.
- Khairina, Samsilah, R., Noorlila, A., Zeinab, Z. & Nurazidawati, M.A. (2020). Predictors of Resilience among Indonesian Students in Malaysian Universities. *Asian Journal of University Education*, 16(3), 169–182.
- Kumpfer, K. L. (1999). Factors and Processes Contributing to Resilience. *Longitudinal Research in the Social and Behavioral Sciences: An Interdisciplinary Series Resilience and Development*, 179–224.
- MacKenzie, M. (2000). How are adventure education program outcomes achieved?: A review of literature. *Australian Journal of Outdoor Education*, 5(1), 19-26.
- MacKenzie, M. (2003). Beyond “The Outward Bound Process:” Rethinking student learning. *The Journal of Experiential Education*, 26(1), 8-23.
- Mackenzie, S. H., Son, J. S., & Eitel, K. (2017). Using outdoor adventure to enhance intrinsic motivation and engagement in science and physical activity: An exploratory study. *Journal of Outdoor Recreation and Tourism*, 21, 76–86.
- Masten, A. S. (2009). Ordinary Magic: Lessons from Research on Resilience in Human Development. *Education Canada*, 49(3), 28-32.
- Mawarni, M. & Siti, F. A. H. (2014) Enhancing leadership practices: An outdoor education perspective. *Asian Journal of University Education*, 10(1), 47-66.
- Metz, A. J. R. (2007). Why conduct a program evaluation? Five reasons why evaluation can help an out-of-school time program part 1 in a Series on Practical Evaluation Methods, (October), 1–4. Retrieved https://cyfar.org/sites/default/files/Child_Trends-2007 (21 March 2019).
- Merryman, M., Mezei, A., Bush, J. A., & Weinstein, M. (2012). The Effects of a Summer Camp Experience on Factors of Resilience in At-Risk Youth. *The Open Journal of Occupational Therapy*, 1(1). <https://doi.org/10.15453/2168-6408.1016>
- Miles, J. C., & Priest, S. (1990). *Adventure education*. State College, PA: Venture Publishing.
- Miller, M. (2002). Resilience elements in students with learning disabilities. *Journal of Clinical Psychology*, 58, 291–298.
- Ministry of Education. (1999). *Panduan pengurusan pusat kokurikulum (Guide to manage co-curricular centre)*. Kuala Lumpur: Ministry of Education.
- Ministry of Education. (2001). *Proforma Pendidikan Luar (Outdoor education pro forma)*. Teacher Education Division. Ministry of Education. Kuala Lumpur.

- Mutz, M., & Muller, J. (2016). Mental Health benefits for outdoor adventures: Results from two-pilot studies. *Journal of Adolescence*, 49, 105 – 114.
- Lynch, M. L., Hegarty, C.B., Trauntvein, N., & Plucker, J. A., (2018). Summer Camp as a Force for 21st Century Learning: Exploring Divergent Thinking and Activity Selection in a Residential Camp Setting. *Journal of Youth Development*, 13(1-2). <http://doi.org/10.5195/jyd.2018.544>.
- Neill, J. (2008). *Enhancing Life Effectiveness: The impacts of outdoor education*. Unpublished Doctoral Dissertation, University of Western Sydney, Australia.
- Neill, J. T., & Dias, K. L. (2001). Adventure education and resilience: The double-edged sword. *Journal of Adventure Education & Outdoor Learning*, 1(2), 35– 42.
- Neill, J. T., & Heubeck, B. (1998). Adolescent coping styles and outdoor education: Searching for the mechanisms of change. In C. M. Itin (Ed.), *Exploring the boundaries of adventure therapy: International perspectives*, 227–243.
- Nelson, D. L., & Simmons, B.L. (2003). Eustress: An elusive construct, an engaging pursuit. In P. L. Perrewe & D. C. Ganster, (Eds.), *Emotional and physiological processes and positive intervention strategies*, 265-322.
- Neill, J. T. (2008). *Enhancing life effectiveness: the impact of outdoor education programs* (Issue September).
- Neill, J. T., & Dias, K. L. (2001). Adventure education and resilience: The double-edged sword. *Journal of Adventure Education & Outdoor Learning*, 1(2), 35–42. <https://doi.org/10.1080/14729670185200061>
- Overholt, J. R., & Ewert, A. (2015). Gender Matters: Exploring the Process of Developing Resilience Through Outdoor Adventure. *Journal of Experiential Education*, 38(1), 41–55. <https://doi.org/10.1177/1053825913513720>
- Panwar, N., & Gorsy, C. (2016). *Personal Effectiveness and Locus of control among military personnel*. December 2015, 1–6.
- Priest, S., & Gass, M. (1997). *Effective leadership in adventure programming* Champaign IL: Human Kinetics.
- Richardson, G.E. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology* 58, 307-321.
- Rossmann, J. R. (1994). *Recreation programming. Designing Leisure Experiences* (Second Edition). Sagamore Publishing, Champaign, Illinois.
- Sandy Allen, B. M. &. (2002). *An evaluation of an Experiential Learning and Outdoor Education school program on the Life Effectiveness skills of middle school boys*. Beth McLeod and Sandy Allen Craig.
- Scholer, E. A., & Teoh, T. L. (1980). Teacher training in Physical Education in Malaysia. *Journal of Physical Education and Recreation*, 51(1), 74-77.
- Sheard, M., & Golby, J. (2006). The efficacy of an outdoor adventure education curriculum on selected aspects of positive psychological development. *The Journal of Experiential Education*, 29(2), 187-209.
- Shellman, A. (2009). *Empowerment and resilience: A multi-method approach to understanding processes and outcomes of adventure education program experiences* (Unpublished doctoral dissertation). Bloomington: Indiana University.
- Shellman, A., Hill, E, (2017). Flourishing through Resilience: The Impact of a Collage Outdoor Education Program. *Journal of Park and Recreation Administration*.35 (4), 59 – 68.
- Sibthorp, J. (2009). Making a difference with experiential education research: Quality and focus. *Journal of Experiential Education*, 31(3), 456-459.
- Sibthorp, J., & Jostad, J. (2014). The Social System in Outdoor Adventure Education Programs. *Journal of Experiential Education*, 37(1), 60–74. <https://doi.org/10.1177/1053825913518897>
- Skehill, C., M. (2001). *Resilience, coping with an extended stay outdoor education program, and adolescent mental health*. University of Canberra.
- Taniguchi, S., Widmer, M., Duerden, M., & Draper, C. (2009). The Attributes of Effective Field Staff in Wilderness Programs: Changing Youths’ Perspectives of Being “Cool”. *Therapeutic Recreation Journal*, 43(1), 11-26.

- Tusaie, K. & Dyer, J. (2004). Resilience: A historical review of the construct. *Holistic Nursing Practice*, 18(1), 3-8.
- Ungar, M. (2015). Practitioner review: Diagnosing childhood resilience - A systemic approach to the diagnosis of adaptation in adverse social and physical ecologies. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 56(1), 4–17. <https://doi.org/10.1111/jcpp.12306>
- Walker, H. M., & Shinn, M. A. (2002). *Structuring School-Based Interventions to Achieve Integrated Primary, Secondary, and Tertiary Prevention Goals for Safe and Effective Schools*. In M. Shinn, H. Walker, & G. Stoner (Eds.), *Interventions for Academic and Behavior Problems II* (pp. 1-26). Bethesda, MD: National Association of School Psychologists.
- Watts, Richard J., Sachiko Ide & Konrad Ehlich (Ed.). 1992. *Politeness in language: Studies in its history, theory and practice*. Berlin: Mouton de Gruyter.
- Williams, I. R. (2009) *Depression prevention and promotion of emotional wellbeing in adolescents using a therapeutic outdoor adventure intervention: Development of a best practice model*. (Unpublished doctoral dissertation). University Melbourne, Melbourne, Australia