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Motivational predictors of young adolescents' participation in an outdoor adventure course:

A self-determination theory approach

### Abstract

Outdoor education is emerging as a compulsory component of the school curriculum in Singapore. As more and more young people are involved in outdoor education programmes, the motivational factors that influence students' participation in outdoor activities is an important area of inquiry. The purpose of this study was to use a self-determination theory framework to examine post course satisfaction level among young adolescents. A total of 314 secondary school students aged from 12 to 16 years took part in the survey. Results showed that external regulation negatively predicted self-reported satisfaction whereas intrinsic motivation positively predicted participants' satisfaction levels of the course. It is highlighted that young adolescents should not be coerced into outdoor education programmes. They should be provided with a meaningful rationale for participation and given some autonomy for decision-making in order to have a more positive and enjoyable experience during the programme.

Outdoor education is emerging as a compulsory component of the school curriculum in Singapore. In the revised physical education syllabus produced by the Ministry of Education, Singapore (1999), outdoor education was included as one of the learning activities at the college level. The policy makers in education clearly support the notion that outdoor education contributes to the development of cognitive, affective and psychomotor domains of our pupils. Smith, Reynold, Donaldson and Masters (1972) suggest that outdoor education is unique because it maximises the use of the natural physical environment as a learning laboratory. In Singapore schools, pupils from 11 years of age are encouraged to take part in outdoor adventure programmes. Many schools have compulsory annual camps and outdoor adventure programmes catering for their pupils. A number of organisations have been set up in the last few years offering outdoor education programmes to young people. One of the most established organisations is Outward Bound Singapore (OBS). The most popular programme conducted by OBS among secondary schools pupils was a 5-day course, as this course attracts the most people among other courses offered for the last five years (OBS, 2003). The objectives of the course were: a) to establish teamwork among participants, b) to allow participants an opportunity to handle challenges within boundaries, c) to establish participants' respect for one another, and d) to build up participants' self-esteem and confidence (OBS, 2003).

As more and more young people are involved in structured outdoor education programmes, the reasons for participation are no longer confined to those who love outdoor adventure for its own sake and are intrinsically motivated to participating in outdoor activities (Deci & Ryan, 1985). There may be external motives for adolescents to participate in an outdoor education programme, such as to avoid punishment or to gain rewards. These can be classified as extrinsic motivations because the reasons that the participants have for taking part in outdoor adventure programmes are a means to an end for them (Boniface, 2000). It is

important for outdoor educators or instructors to understand the different motivations of their participants, as this will help them to provide opportunities for developing positive experiences for participants during the course. In addition, these motives may influence the way each participant thinks, feels and behaves during or after the course (Ryan, Plant, & O'Malley, 1995). Examining these motives is an important process for the advancement of our knowledge in outdoor adventure education. In fact, studies in outdoor adventure education have begun to examine the motivation of older adults, as well as students, in outdoor education participation (e.g., Festeu, 2002; Kaly & Heesacker, 2003; Sugerman, 2001). However, few studies have examined the motivation of young adolescents in outdoor education participation, using a theoretical framework, particularly in the South East Asia context.

### *Self-Determination Theory*

Self-determination theory (SDT) is a theory of motivation that accounts for psychological needs and provides a wider view of motivated behaviour (Deci & Ryan, 1985; Ryan & Deci, 2000a; Ryan & Deci, 2000b). The three psychological needs are autonomy, competence and relatedness (social needs). The need for autonomy is defined as the need to feel ownership of one's behaviour (Ryan, 1993). The need for competence refers to the need for producing desired outcomes and to experience mastery and effectiveness (Deci, Vallerand, Pelletier, & Ryan, 1991). The need for relatedness is the need to feel that one can relate to others and with the social world in general (Ryan, 1993). According to SDT, people are motivated to satisfy these needs. These needs are essential for the development of self (Ryan & Deci, 2000a). When people feel autonomous, they experience choice and freedom in their actions, which is characterized by an absence of external pressures (Deci & Ryan, 1987). On the other hand, when people are coerced into doing certain things they feel controlled. In this case, people are deprived of autonomy and they may perceive themselves

as incompetent. If the needs for autonomy, competence and relatedness are satisfied, intrinsic motivation will increase.

Ryan and Connell (1989) suggest that there are four main types of behavioural regulations central to self-determination theory, each one reflecting a qualitatively different 'reason' for acting out the behaviour in question. They are external regulation, introjected regulation, identification and intrinsic motivation. External regulation refers to behaviour that is controlled by external means such as rewards or external authority. For example, a student may participate in an outdoor programme because it is compulsory for him or her to do so. Introjected regulation refers to behaviour that is internally controlling or self-imposed, such as acting out feelings of guilt avoidance, and is characterised by a feeling of 'ought'. For example, "I must take part in the programme otherwise I will feel bad about myself". When identified, the behaviour is more self-determined according to one's choice or values. It is characterised by feelings of 'want to' rather than 'ought to'. For example, a child who says "I want to take part in the course to increase my confidence" exemplifies identified regulation. Finally, intrinsically motivated behaviour is behaviour that is solely performed for its own sake or enjoyment. These four regulations form a continuum that characterises the degree of internalisation of the behaviour (see Figure 1).

#Insert Figure 1 here.

Research has found autonomous regulations are positively linked to higher self-esteem, ego development, self-actualisation (Deci & Ryan, 1985), active participation in health-related treatment such as alcohol treatment programme (Ryan, Plant, & O'Mally, 1995), psychotherapy (Pelletier, Tuson, & Haddad, 1997), persistence of weight-loss dieting (Strong & Huon, 1999), and smoking cessation (Williams, Gagné, Ryan, & Deci, 2002;

Williams, Rodin, Ryan, Grolnick, & Deci, 1998). In addition, studies from other domains such as sports and physical activity (e.g., Chatzisarantis, Biddle, & Meek, 1997; Wang & Biddle, 2001); religion (e.g. O'Connor & Vallerand, 1990) and work settings (e.g., Deci, Connell, & Ryan, 1989) have found that participants' satisfaction, interest, persistence and performance are influenced by the degree to which they experience autonomy.

The aim of this study was to investigate how different behavioural regulations would account for self-reported post-course satisfaction with the outdoor education programme using the SDT framework. It was hypothesised that a) more controlling regulations would negatively predict self-reported satisfaction, and b) more autonomous regulations would positively predict self-reported satisfaction.

## Methods

### *Participants and Procedure*

The participants were 314 secondary school students (100 boys, 214 girls) from three secondary schools in Singapore. The students ranged in age from 12 to 16 years ( $M = 14.13$ ;  $SD = 1.08$ ) and were attending secondary one to three levels. Approval for conducting the research was given by the ethical review committee in National Institute of Education, Singapore. Agreement was obtained from Outward Bound Singapore (OBS) to conduct the research.

Administration of the questionnaires was done during the camp briefing (pre-camp briefing and post-camp briefing) conducted by the OBS instructors, one week before the camp and immediately after the course. During administration of the pre- and post-questionnaires, four research assistants were present to assist the participants. The participants were told that involvement in the study was voluntary and they were allowed to withdraw at any time. In addition, the participants were assured that the information gathered

would be kept confidential and that individuals will not be identifiable in any presentation or publication arising from this study.

## Measures

### *Pre-Questionnaire*

*Treatment Motivation Questionnaire (TMQ)*. The original TMQ questionnaire was designed to measure the different reasons for participation in a treatment programme (Ryan, Plant, & O'Malley, 1995). This questionnaire was modified to assess the different reasons for participants to attend the outdoor adventure-based education programme. The original TMQ questionnaire measures two major motivational regulations; internal, which includes both introjected and identified items; and external, which consists of only external regulation items. The external regulation represents reasons imposed from outside, such as coerciveness (4 items, e.g., 'I don't really feel that I have a choice about going for the OBS course'), while internal factors reflect reasons that are more self-determined (11 items, e.g., 'I really want to make some changes in my life' and 'I will feel guilty if I don't go for the OBS course'). In addition, a scale with three items was added to examine the intrinsic motivation for taking part in the programmes (e.g., 'I am going for the OBS course because I enjoy outdoor adventure'). A 7-point scale was used, ranging from 1 (not at all true) to 7 (very true).

### *Post-Questionnaire*

The post-questionnaire was administered on the last day of the course. A 9-item Programme Satisfaction Survey was used to measure the participants' satisfaction for the outdoor education programme. This was adapted from the Youth Satisfaction Survey (Larzelere, Dinges, Schmidt, Spellman, Criste, & Connell, 2001; Wolf, Kirigin, Fixsen, Blasé, & Braukmann, 1995). Two sample items are, 'Overall, I am satisfied with the programme OBS has provided' and 'I will encourage my friends to take part in OBS



courses'. A 7-point scale was also used ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

## Results

### *Psychometric Properties of the TMQ and Programme Satisfaction Survey*

Principal-components factor analyses were conducted on the responses of all participants to the 15 items contained in the original TMQ. Oblique rotations were used because the subscales are not independent of each other. The results of the factor analysis found that these items loaded on three factors accounting for 56.3% of the variance with eigenvalues more than 1.00 (see Table 1).

#Insert Table 1 here

The first factor consisted of items related to identified regulation. This factor accounted for 28.6% of the variance and comprised 5 items. The internal consistency was satisfactory ( $\alpha = .76$ ). The second factor was made up of 5 items measuring introjected regulation with loadings that ranged from .42 to .83. This factor accounted for 19.2% of the variance and had a Cronbach's alpha of .78. The third factor comprised a subscale accounting for 8.4% of the variance with loadings ranging between .71 to .78. This factor consists of items measuring external regulation ( $\alpha = .73$ ). Two items did not load on any of the three factors and were deleted from further analyses.

### *Descriptive Statistics*

The means, standard deviations, Cronbach's alpha coefficients ( $\alpha$ ) and correlation matrix of the subscales used in the pre- and post-questionnaires for the overall sample are presented in Table 2. In general, the participants endorsed more intrinsic reasons for attending the OBS course rather than extrinsic reasons. The participants were very satisfied

with the OBS programme as a whole. The zero-order correlations showed that post-course satisfaction had strong positive correlations with intrinsic motivation and identified reasons, and moderately related to introjected reasons. External regulation had a strong negative relationship with self-reported satisfaction (all  $ps < .001$ ).

# Insert Table 2 here

### *Regression Analysis*

To determine the predictors of the levels of satisfaction for the participation in the OBS course, a multiple regression was conducted with the levels of satisfaction as dependent variable and the four types of reasons for going for the OBS course as independent variables (intrinsic, identified, introjected, and external). The results of the multiple regression indicated that the reasons for participation in the OBS course accounted for a significant amount of variance in self-reported satisfaction (21%). It was found that intrinsic motivation positively predicted satisfaction ( $p < .01$ ). On the other hand, external regulation negatively predicted post-course satisfaction level ( $p < .01$ ). Identified regulation and introjected regulation were not significant predictors of post-course satisfaction level (both  $ps > .05$ ).

#Insert Table 3 here

### Discussion

The purpose of the present study was to examine the different types of behavioural regulations in influencing self-reported satisfaction level following a 5-day OBS course for young adolescents. The two specific hypotheses were as follows: a) more controlling regulations would negatively predict self-reported satisfaction, and b) more autonomous

regulations would positively predict self-reported satisfaction. As predicted, the results of the study showed that external regulation negatively predicted self-reported satisfaction and intrinsic motivation positively predicted participants' satisfaction levels of the course.

Previous research has shown that supporting childrens' autonomy and not controlling their behaviour promotes exercise adherence (Chatzisarantis et al., 1997), and maintains behavioural change (e.g., Ryan et al., 1995; Williams et al., 2002). The results of the current study showed that the principles of SDT may be extended to outdoor education participation as well as for young people in Singapore. A huge amount of variance in self-reported post-course satisfaction was accounted for by the different types of behavioural regulations (21%).

The findings that intrinsic motivation positively predicted course satisfaction and external regulation negatively predicted course satisfaction have important practical implications for schools and outdoor service providers in promoting outdoor education programmes to youth. First, it is important to explain the rationale and importance of outdoor education programmes to the participants. Deci and his colleagues (Deci, Eghrari, Patrick, & Leone, 1994) showed that a meaningful rationale can promote internalisation from external towards internal regulations. By providing a meaningful rationale, a young person may understand the value of outdoor education participation. Second, supporting self-determination during outdoor adventure programmes facilitates the process of internalisation. This can be done through providing choice rather than imposing control. Outdoor education programmes should not be presented to young adolescents as something that they 'must do' or 'should do'. They should be presented as options or alternatives. For example, participants might be given the power to choose the time, place, types of activity they would like to include in the outdoor education programme. Finally, the SDT helps to illustrate how outdoor adventure programmes must provide opportunities to develop young peoples' perceived competence. For example, instructors can provide positive feedback or help to create success

in activity. According to SDT, events that promote perceived competence will increase intrinsic motivation (Deci & Ryan, 1985). Therefore, instructors can provide opportunities for the participants to experience success, fun and increase competence in the course.

This study has shown important links between behavioural regulations and self-report satisfaction in participation in an outdoor education programme. It is highlighted that young adolescents should not be coerced into outdoor education programmes. Instead, greater benefits can be reaped if they are provided with meaningful rationale for their participation in outdoor adventure based education programmes and given greater autonomy in decision-making within the programme. Providing some autonomy in decision-making within acceptable boundaries of the structured programme may help young adolescents feel a greater sense of ownership and responsibility for their actions. Finally, positive experiences such as fun and successful experiences encountered through the duration of the course help the adolescent to feel a greater sense of satisfaction about the programme.

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Table 1

*Principal components analysis for Treatment Motivation Questionnaire (TMQ)*

Items	Factor 1	Factor 2	Factor 3
I am going for the OBS course because I really want to make some changes in my life.	<b>.62</b>		
I feel like it's the best way to help myself.	<b>.60</b>		
I decided to go for the OBS course because I am interested in getting help.	<b>.84</b>		
I am responsible for making the decision to go for the OBS course.	<b>.61</b>		
I chose to go for the OBS course because I think it is an opportunity for change.	<b>.80</b>		
I am going for the OBS course because I won't feel good about myself if I don't go for the OBS course.		<b>.58</b>	
I am going for the OBS course because I feel guilty if I don't go for the OBS course.		<b>.79</b>	
I am going for the OBS course because It is important to me personally to go for the OBS course.		<b>.42</b>	
If I remain in the OBS course till the end it will probably be because I'll feel very bad about myself if I don't.		<b>.83</b>	
If I remain in the OBS course till the end it will probably be because I'll feel like a failure if I don't.		<b>.81</b>	
I go for the OBS course because I was under pressure to go.			<b>.79</b>
If I remain in the OBS course till the end it will probably be because I'll get in trouble if I don't.			<b>.72</b>
If I remain in the OBS course till the end it will probably be because I don't really feel like I have a choice about going for the OBS course			<b>.78</b>
% of Variance	28.6	19.2	8.4
Eigenvalue	4.0	2.7	1.2

*Note.* Only loadings > 0.4 are shown

Table 2

*The means, standard deviations, internal reliability and correlation matrix of the subscales for the overall sample*

	Mean	SD	$\alpha$	1	2	3	4	5
1. Intrinsic Motivation	5.48	.71	.71	1.00				
2. Identified	4.81	1.15	.76	.66**	1.00			
3. Introjection	3.82	1.38	.78	.40**	.44**	1.00		
4. External Regulation	2.83	1.41	.73	-.41**	-.32**	.04	1.00	
5. Course Satisfaction	5.85	.91	.91	.41**	.35**	.18**	-.33**	1.00

*Note.* \*\*  $p < .001$



Table 3

*Summary of multiple regression analysis for predicting course satisfaction*

Variable	B	SE	$\beta$	t	p
Intrinsic Motivation	.21	.06	.24	3.24	.001**
Identified Regulation	.11	.07	.11	1.57	.12
Introjected Regulation	.03	.05	.04	.59	.551
External Regulation	-.15	.04	-.20	-3.37	.001**

Note: \*\* p < .01; Total R<sup>2</sup> = .21, Adjusted R<sup>2</sup> = .20, F (4, 303) = 19.93, p < .001

Figure Caption:

*Figure 1.* Schematic Illustration of the Different Styles of Behavioural Regulation.

**MOTIVATION**

**REGULATORY  
PROCESSES**

