Elevated self-esteem 12 months following a 10-day developmental voyage

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doi: 10.1111/jasp.12132

Abstract

The following article examined elevated self-esteem as a function of a 10-day developmental voyage. Two studies were conducted. Study 1 demonstrated that participants who completed the voyage experienced elevated self-esteem. Study 2 replicated and extended these results insofar as it revealed that (a) elevated self-esteem was maintained 12 months following the voyage; and (b) increasing levels of perceived self-efficacy and belonging (as assessed on the last day of the voyage), but not social support, each made a unique contribution to these effects. Together, these findings provide converging evidence to suggest that a 10-day developmental voyage upon the Spirit of New Zealand promotes elevated self-esteem that is maintained over time, and that perceived self-efficacy and belonging contribute to this outcome.

Self-esteem is a crucial variable in mental and social functioning (Mann, Hosman, Schaalma, & de Vries, 2004). It serves as a protective factor against an array of negative outcomes (such as anxiety, depression, victimization, teenage pregnancy, eating disorders, suicide, and long-term unemployment), and is powerfully associated with several indices of psychological well-being (Crocker & Wolfe, 2001; Emler, 2001). Interventions, which promote self-esteem, while not preventing all social ills, are thus likely to provide important benefits for those taking part (see Baumeister, Campbell, Krueger, & Vohs, 2003). There are a wide variety of interventions that seek to enhance self-esteem. Reviews of the empirical evidence suggest that many of these interventions fail to achieve the intended outcome (Emler, 2001; Wylie, 1979).

One apparent exception to these findings may be found in the outdoor education literature. Outdoor intervention programs are specifically designed to be both physically and mentally demanding. Conducted in wilderness or backcountry areas, those taking part engage in activities (such as rock climbing, cross-country running, white water rafting, camping, and solo wilderness experiences), which force them to confront and overcome their related doubts and fears (Marsh, Richards, & Barnes, 1986). In spite (or perhaps because) of the demanding nature of these interventions, evidence documenting their benefits have been reported by a number of authors (e.g., Marsh et al., 1986; Neill & Días, 2001). Moreover, although much of the work in this area (see Marsh et al., 1986) is beset with methodological problems, Hattie, Marsh, Neill, and Richards (1997), in a meta-analysis of 97 of the more recent (and methodologically sophisticated), programs documented evidence indicating that those taking part often experienced improved self-esteem. As such, contrary to the concerns expressed by some authors (Emler, 2001; Wylie, 1979), it is clear that certain types of intervention do have the potential to enhance self-esteem.

Unfortunately, of the wide range of interventions that do purport to enhance self-esteem, few have provided anything other than anecdotal evidence for their claims (DuBois, Burk-Braxton, & Tevendale, 2002; Emler, 2001). The current study in attempting to rectify this state of affairs sought to empirically assess one such intervention: a 10-day developmental voyage, upon the Spirit of New Zealand. Each year, tens of thousands of young people in various parts of the world undertake such voyages (Hunter, Boyes, Maunsell, & O’Hare, 2002). In contrast to the large amount of research conducted on other outdoor interventions (e.g., Hattie et al., 1997), studies assessing the outcomes associated with sailing voyages are virtually nonexistent. For this reason, the potential impact such programs have on participants’ self-esteem deserves attention.
The development of positive self-esteem in adolescence is undoubtedly influenced by a myriad of factors (Mann et al., 2004). Research and theory suggest that belonging, the support of important others, and perceived self-efficacy make an especially important contribution in this regard (see Gecas & Schwalbe, 1983; Harter, 1999; Leary, 2010). Following the general line of argument outlined by theorists such as Bandura (2006a), we argue that the onboard experiences (belonging to a group, the goal of which necessitates mutual cooperation, support from the crew and other trainees, and eventually learning to successfully sail the vessel) are likely to provide direct evidence of belonging, support, and efficacy (via learning that one can perform successful actions) will be associated with the elevated self-esteem of those who take part in the 10-day developmental program. In investigating these questions, two studies are reported. The central hypothesis in each study is that participants who undertake a 10-day developmental voyage will experience elevated self-esteem. Study 1 examined self-esteem immediately before and after participants undertook the 10-day developmental voyage. Study 2 examined (a) self-esteem immediately before, immediately after, and then again, 1 year following a 10-day developmental voyage; and (b) the extent to which perceived self-efficacy, belonging and social support contributed to elevated self-esteem.

**Study 1**

**Participants**

This study comprised 62 teenagers (31 male and 31 female). Thirty-one were voyage participants (M age = 16.48). Each participant came from a different high school. Every high school in New Zealand nominates one participant. Although recommended for those “lacking a little in self-confidence” (Sharp, 1994, p. 60), there is no strict criteria as regards inclusion. Some students are nominated because they are doing well. Others are nominated because they are struggling, withdrawn, or having problems with the justice system. Thirty-one were, year 11, New Zealand high school students (M age = 16.45) who did not undertake the voyage.

**The 10-day developmental voyage on the Spirit of New Zealand**

The Spirit of New Zealand is a 45-m, three-masted Barquentine that sails the coastal waters around New Zealand. Although an important part of the voyage entails “Sailing Training” (i.e., learning to sail a masted sailing ship), the core purpose of the voyage was to foster youth development (Leppington, 2003). The 10-day developmental voyage is demanding yet supportive. The weather is often inclement and seasickness is widespread. There are no showers and all participants take a daily 6:00 a.m. swim around the vessel. Shipboard life allows few opportunities for privacy and, once the vessel has set sail, little by way of an exit option. The voyage is organized so that none of the participants know each other beforehand (thus they cannot rely on preexisting friendships). Cell phones, personal computers, and other electrical equipment are not permitted on board. Neither is “labeled” clothing. These latter factors help facilitate new friendships, equality of social status and similar levels of belonging at the start of the voyage.

The onboard program emphasizes group membership, support, and self-efficacy. These qualities are imparted via group-based processes (which invoke belonging, interdependence, and cooperation), positive encouragement and the successful completion of the many challenges encountered during the voyage (e.g., being away from home, making new friends, the daily 6:00 a.m. swim around the vessel, cooking, cleaning the toilets, climbing the rigging, completing one’s duties regardless of seasickness, tiredness, rolling ocean swells, or rough weather, working with others, living in a confined space, and eventually sailing the ship without help from the crew).

The core social group over the course of the voyage is the “watch”. The watch is typically comprised of five male and five female teenagers. Voyage participants join their respective watch on the first day of the program. They then remain in this group throughout the voyage and work closely with one another in a variety of goal-oriented activities. These processes promote acceptance, cohesion, and mutual cooperation, which in turn foster respect and a sense of belonging among group members (see Brown, 2000). Each day a different person is leader of their watch. Their job is to lead the watch in the various activities throughout the day, from cleaning the ship in the morning, to the final debriefing session in the evening. The watch leader is encouraged by the crew to ensure every member of the watch has a job to do when sailing or participating in any given activity.

After each activity, a crew member debriefs watch members by discussing the activity just completed. Each evening, the full day’s events and activities are debriefed. Debriefing involves an introductory discussion (to prepare participants for any given activity), a discussion of what the activity itself entails, followed by debriefing to process the experience of the activity and what participants may gain from it. In addition to a member of the crew facilitating a final debrief at the conclusion of the day’s activities, each watch leader of the day take a turn to talk about what they personally gained from the day, how well their watch worked together,
what they liked or disliked, and pass on suggestions to others about ways of succeeding at the tasks set.

Integral to the voyage are the opportunities that participants have to learn through experience. The ship is divided up into four sail stations (foredeck, midships, mains, and rear). Each watch moves to a new station each day and learns the correct method of raising and lowering the sails in question (which can only be achieved if all watch members cooperate). The rigging of the vessel has been purposely kept as simple as possible to ensure that participants, most of whom have never done any sailing, can learn the correct methods of maneuvering the sails with a high chance of success. Indeed, ensuring that activities, whether setting a sail or other group-based exercises, have every chance of success is an important part of the voyage program, in so far as the successful completion of such activities is an important precursor to self-efficacy and self-esteem (Bandura, 2006a; Gecas & Schwalbe, 1983).

Voyage participants take part in a number of activities over the course of a voyage. The timing of activities is often determined by the weather. A voyage does, however, follow a general pattern. On Day 1, trainees are given a talk on safety, day-to-day shipboard procedure (e.g., safety harness must be worn during rough weather, night sailing, traversing the bowsprit, climbing the rigging), presented with wet weather gear (jackets and leggings) and assigned a bunk in a single-sex, cramped communal dorm. Procedures for dealing with emergencies are emphasized. Trainees also receive a tour of the ship and a rundown of the sail station method used to sail the vessel.

Days 2–4 normally consist of activities set up to promote cooperation within and between the respective watches. This is achieved by a series of activities that will only be successful if the members of the watch cooperate. Thus, for example, in one activity called “Spiders web” a “web” of rope is tied into the rigging of the ship. This web contains ten gaps. Each member of the watch must pass through a different gap in the web without touching the ropes. Some of the gaps are above head height to add challenge to the exercise, and to encourage cooperation for successful completion of the task. During these first few days of the voyage, general safety features of the vessel are discussed along with correct response in an emergency situation. For this part of the voyage there is a “hands on” approach from the crew. That is, the crew is actively involved with other watch activities.

During Days 5–8, there is a continuation of cooperative group activities, social support, and success. Here, the emphasis is on achievable tasks within watches, and as a complete crew. Activities are varied, ranging from bush-walks, sailing small boats, barbeques ashore, and inflatable raft paddling races, as well as sailing the ship. For the first part of this phase the crew adopts a “hands on” approach where direction and assistance are given when needed. This changes to a “hands off” approach around Day 7. During this period, voyage participants are encouraged to use their watch as a resource to solve problems, rather than relying on crew input, while at the same time handling sail and other watch activities.

The 8 days of fostering belonging, social support, and efficacy (by positive reinforcement, facilitating success by having achievable activities, cooperative group activities, and discussing effective leadership) leads to what is termed “trainee day” on Day 9. Trainee day is where the voyage participants take over all aspects of running the ship for the day. The previous night, the voyage participants elect their own Captain, Mate, Navigators, Engineers, Cooks, and Watch Leaders. This is an integral part of the voyage program, and is one which is emphasized as a goal during the earlier part of the voyage. It is an opportunity for the voyage participants to use newly acquired skills and pool their knowledge of the ship rather than asking for assistance from crew members. In the evening after trainee day, awards and certificates are presented to each participant. The vessel is usually alongside the wharf by 7:00 a.m. the following morning where trainees (often after a tearful farewell) depart and travel back to their homes.

**Method and procedure**

Voyage participants completed a measure of self-esteem on the first and last day of the 10-day voyage. Non-voyage participants completed the measure on two separate occasions approximately 10 days apart. Self-esteem was assessed using the Single-Item Self-Esteem (SISE) scale (i.e., “I have high self-esteem”). The SISE was devised by Robins, Hendin, and Trzesniewski (2001). The data from several studies reported by these authors show that the SISE has similar psychometric properties to the widely validated 10-item Rosenberg (1965) global self-esteem scale. Responses were recorded on a 7-point Likert scale (7 [agree strongly], 1 [disagree strongly]). Participants were required to respond on the basis of how they felt at the time in question. The scale had acceptable levels of test–retest reliability for both the voyage (n = 31, r = .75) and non-voyage participants (n = 31, r = .85) over 10 days.

**Results**

A priori analyses indicated no gender differences, so these are not reported below. A 2 (voyage participation: yes vs. no) × 2 (time of self-esteem measurement: Day 1 vs. Day 10) mixed model analysis of variance (ANOVA) was conducted. Voyage participation was between subjects. Time of self-esteem measurement was within subjects. A main effect was found for time of self-esteem measurement, F(1, 60) = 39.19, p < .001, η² = .39. This effect was qualified by the interaction found between voyage participation and time of
self-esteem measurement, \( F(1, 60) = 48.12, p < .001, \eta^2 = .44 \). Planned comparisons (using repeated measures \( t \) tests) revealed that voyage participants experienced a sharp increase in self-esteem (\( M = 5.29, \text{standard deviation} [SD] = 1.07 \) to \( M = 6.54, SD = .67, t(30) = 9.61, p < .0005 \)). No effect emerged for non-voyage participants (\( M = 5.39, SD = 1.25 \) to \( M = 5.32, SD = 1.49, t(30) = .46, p = .65 \)).

**Discussion of Study 1**

It was hypothesized that participants who undertake a 10-day developmental voyage will experience elevated self-esteem. The hypothesis was supported. The self-esteem of voyage participants was found to increase from the first to the last day of the voyage. The self-esteem of non-voyage participants did not change. These findings are clearly encouraging insofar as they suggest that taking part in the developmental program (rather than say some normal development process) led to increased self-esteem. There are two clear shortcomings associated with this study. First, we did not include any follow-up measures of self-esteem. This is problematic because in work of this nature, it is important that we establish the extent to which program benefits (i.e., elevated self-esteem) are maintained over time. A potential possibility being that any beneficial effects gained during the voyage may dissipate shortly after the end of the program. Second, although it was predicted that factors associated with the voyage (e.g., belonging, support, and efficacy) would lead to increased self-esteem, we inferred rather than tested these processes. In an attempt to address these issues, a second study was conducted. In this study, (a) self-esteem was assessed immediately before, immediately after and, then again, 1 year following a 10-day developmental voyage; and (b) we examined the extent to which perceived self-efficacy, belonging and social support (as measured on the last day of the voyage) contributed to elevated self-esteem.

**Study 2**

Three hundred ninety-six New Zealand high school students (176 male and 220 female students) took part in this study. One hundred thirty-two (\( M \text{age} = 16.34 \)) undertook a 10-day developmental voyage. Two hundred sixty-four did not take part in the voyage. Of these, 132 were year 11, high school students (\( M \text{age} = 16.28 \)). The remaining 132 were year 12, high school students (\( M \text{age} = 17.25 \)). The self-esteem of those undertaking the voyage was assessed three times; on the first day of the voyage (T1), the last day of the voyage (T2), and 12 months following the last day of the voyage (T3). The year 11 high school students, who did not undertake the voyage, formed an isolated baseline control condition. The year 12 high school students, who did not undertake the voyage, formed an isolated post-voyage control condition. The self-esteem of the participants in this latter condition was comprised of older high school students (i.e., the mean age of whom is 17.25), and was included as a comparison against the self-esteem levels of the voyage participants, 1 year following the last day of the voyage (i.e., the mean age of whom is 17.34). Thus, if the self-esteem levels of the two groups in question were the same, this would suggest that the elevated levels of self-esteem discerned among the voyage participants were not a function of the voyage, but of some other variable (e.g., normative self-esteem changes over the age period under examination). Self-esteem was assessed using the same SISE measure as used in study 1 (test–retest reliability, \( n = 132, r = .71, \text{from T1 to T3} \)).

In an attempt to examine the extent to which onboard experiences contributed to elevated self-esteem, voyage participants (on the last day of the voyage) also completed scales assessing self-efficacy, belonging, and social support. Self-efficacy was measured using three items taken from Schwarzer and Jerusalem’s (1995) general self-efficacy scale (e.g., “I am confident that I could deal efficiently with unexpected events”, Cronbach’s alpha = .91, \( n = 131 \)). Following Bandura (2006b), responses were scored on a 0 to 100 scale with increasing scores indicating higher levels of confidence. Belonging was measured via the group inclusion scale developed by Sheldon and Bettencourt (2002). The three items comprising this scale were modified slightly for use in the current context (e.g., “I feel a sense of belongingness with my watch”, Cronbach’s alpha = .91, \( n = 131 \)). Responses were scored on a 7-point Likert scale (1 [not at all], 7 [very much] ). Social support was measured using three items taken from the social support scale developed by Neill and Dias (2001). This scale is specifically designed to assess social support in outdoor learning programs. It was modified slightly for use in the current context (e.g., “How supportive, to you personally, have you found the other members of your watch to be throughout the voyage?” Cronbach’s alpha = .67, \( n = 132 \)). Responses were scored on a 5-point Likert scale (1 [not at all], 5 [very much] ). Participants were instructed to respond to all questionnaires on the basis of how they felt at the time in question (even if they felt differently at other times).

A priori analyses indicated no gender differences, so these are not reported below. A repeated measures ANOVA was conducted to assess voyage participants’ self-esteem over the three time periods of the study (i.e., T1, T2, and T3). A main effect was found, \( F(1, 131) = 70.87, p < .001, \eta^2 = .35 \). Planned comparisons (using repeated measures \( t \) tests) were then conducted. These analyses contrasted self-esteem as assessed at T1 to T2, T2 to T3, and T1 to T3. Self-esteem increased from T2 to T3 (\( M = 5.38, SD = .94 \) vs. \( M = 6.03, SD = .97 \)), \( t(131) = 8.52, p < .0005, \eta^2 = .35 \). There was a slight decrease from T2 to T3 (\( M = 6.03, SD = .97 \) vs. \( M = 5.89, SD = .80, t(131) = 2.18, p < .05, \eta^2 = .03 \). Self-esteem nevertheless remained increased from T1 to T3.
Table 1  Correlations between T3 Self-Esteem, T1 Self-Esteem, Efficacy, Belonging, and Social Support

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Note. 1 = T3 self-esteem; 2 = T1 self-esteem; 3 = efficacy; 4 = belonging; 5 = social support.
*p < .05, **p < .01.

\((M = 5.38, SD = .94 \text{ vs. } M = 5.89, SD = .80, t(131) = 8.42, p < .0005, \eta^2 = .35)\). The T1 to T2 and T1 to T3 comparisons remained significant when Dunn’s correction was incorporated (critical alpha value 3.09, \(p < .01\)), the T2 to T3 comparison did not (critical alpha value 2.39).

A one-way ANOVA found no differences between the T1 esteem scores of voyage participants \((M = 5.38, SD = .94)\) and year 11 high school students \((M = 5.23, SD = 1.48, F(1,262) = 1.08, p = .29)\). A one-way ANOVA revealed significant differences between the T3 esteem scores of voyage participants \((M = 5.89, SD = .80)\) and the year 12 high school students \((M = 5.17, SD = 1.22, F(1,262) = 36.49, p < .001, \eta^2 = .12)\). T3 participants had higher levels of self-esteem than the year 12 high school students.

**Correlates of self-esteem 12 months following the voyage**

Correlations between self-esteem assessed at 12 months following the voyage (T3), self-esteem assessed on the first day of the voyage (T1), self-efficacy, belonging and social support (all assessed on the last day of the voyage) are presented in Table 1.

As can be seen from Table 1, T1 self-esteem, efficacy, belonging, and social support are all significantly correlated with T3 self-esteem and one another. To assess the unique association between T3 self-esteem self-efficacy, belonging, and social support we conducted a series of partial correlations. The correlation between T3 self-esteem and self-efficacy remained significant, \(pr = +.37, p < .001\), when controlling for T1 self-esteem, belonging, and social support. The correlation between T3 self-esteem and belonging remained significant, \(pr = +.26, p < .003\), when controlling for T1 self-esteem, self-efficacy, and social support. The correlation between T3 self-esteem and social support was not significant, \(pr = -.09, p = .29\), when controlling for T1 self-esteem, self-efficacy and belonging.

**Discussion**

This investigation examined increased self-esteem as a function of a 10-day developmental voyage. Study 1 revealed that participants who completed the voyage experienced elevated self-esteem. Study 2 replicated these results and further revealed that (a) elevated self-esteem was still apparent over 12 months; and (b) perceived self-efficacy and belonging each made a unique contribution to these findings. Such results suggest that a 10-day developmental voyage upon the Spirit of New Zealand facilitates increased levels of self-esteem that last over time and that increasing levels of belonging and perceived self-efficacy contribute to this outcome. There are nevertheless a number of shortcomings associated with this study. First, while the self-esteem scale used in the present investigation was reliable and valid (Robins et al., 2001), the use of very brief scales, as Gosling, Rentfrow and Swann (2003) point out, often lack the predictive utility of more comprehensive measures (such as the self-description questionnaire III [SDQ III], developed by Marsh and O’Neill, 1984, or parent, teacher and peer ratings). Second, it is also possible that our findings may be specific to the program in question. Unlike other sailing voyage programs world-wide (see Hunter et al., 2002), the onboard regime upon the Spirit of New Zealand emphasizes “youth development” (Leppington, 2003) rather than sail training per se. Moreover, while the relatively positive levels of self-esteem discerned among the present sample are comparable with those found in many other countries (see Deiner & Deiner, 2009, p. 86), New Zealand is, undoubtedly, a highly individualistic culture (Smith & Bond, 1998). As such, our findings may not hold across other programs or cultures that are more collectivist in origin. Future research is of course necessary to address such questions. Nevertheless, the nature of our findings does point to the potency of a 10-day voyage upon the Spirit of New Zealand as means to enhance self-esteem. We would stress that taking part in this program does not provide a shortcut to elevated self-esteem. Those who take part often have to overcome social, mental and physical challenges. Overcoming such challenges in a highly supportive context that promotes feelings of belonging and efficacy is, nevertheless, we believe an excellent means by which to attain positive self-esteem.

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