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# What outcomes are we trying to achieve in our outdoor education programs?

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## Abstract

In this paper we examine the effect an outdoor and experiential education program on the life effectiveness skills of its participants. A private boys school in Melbourne focused on the challenging time of year nine to implement a program they hoped would enable the boys to develop life effectiveness skills in the areas of time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative and self confidence. The program involved a progression through a variety of curriculum areas including a number of outdoor education components and trips. We specifically considered two major areas of the program. The first, an examination of the boys life effectiveness skills after the program; and secondly whether participation in the outdoor education component had a more significant impact on life effectiveness skills compared to the other programs. Results showed the life effectiveness skills of the boys increased after each aspect of the program, with a significant difference found between the life effectiveness skills of the boys who participated in two outdoor education programs compared to only one.

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## Introduction

This study evaluated the effectiveness of an experiential learning and outdoor education school program on the life effectiveness skills of middle school boys. The program is referred to as the Pre-Senior Life Effectiveness (PSLE) Program. We have no direct involvement in the PSLE program, but feel this type of research is important for the outdoor education field. The research aimed to investigate the impact the PSLE program, and its outdoor education component, had on the life effectiveness skills of the year nine boys. Life effectiveness skills are those which are applicable to many areas of life and have the potential to assist individuals in dealing with the challenges and expectations of home, school, work and community life (Neill, 2000).

### **Social, emotional and psychological development associated with adolescence**

At year nine level, students are generally between the ages of thirteen and fifteen years, which is considered part of their adolescent years. The radical physical developments during adolescence are also known to have a significant impact on an adolescent socially, emotionally and psychologically (Coleman & Hendry, 1999; Edelman & Mandle, 1998; Henderson, Champlin & Evashwick, 1998). Adolescence is marked by uncertainties over social role and identity, sexuality, work and personal relationships (Fosh, Phoenix & Pattman, 2002). The physical, social, emotional, psychological and role changes lead to the fluctuation of an adolescent's body image and thus has implications on sense of self. An adolescent often tries to develop their identity by being independent and individual, yet still requires a sense of uniformity

in how they appear to others around them. It is not surprising, considering all the changes linked with adolescence that it is associated with feelings of self-consciousness, negative self-concept and has been referred to as a "crisis in contemporary forms of masculinity" (Fosh et al., 2002, p. 1). Studies by Marsh, Parker and Barnes (1985) and Richards (1999) have associated this stage with the lowest point of self-concept and an overwhelmingly obvious lowering in physical self-satisfaction.

### **Adolescence and school performance**

Research has shown that boys' overall performance at school has deteriorated to the point where it is considered that boys are now being disadvantaged (Buckingham, 1999; Henderson & Barnett, 2001; Teese, Davies, Charlton & Polesel, 1995). The deterioration in boys' overall school performance has caused great concern in schools and in the wider community leading to a Parliamentary Inquiry in 1994 and October 2002 into the education of boys. Increased pressure has been placed on schools since the 1990s (Neill, 1997) to educate the 'whole' student, academically, physically, emotionally and psychologically. Educating the student as a 'whole' in this way aims to provide them with skills they can use throughout life; these are commonly referred to as life skills or in the case of this study, life effectiveness skills.

Also causing concern are the low retention rates, with a 1999 study (Cortis & Newmarch, 2000) reporting that 33.6 per cent of boys in Australia did not complete year twelve at school. The comparative figure for girls was significantly lower at 21.5 per cent. Of those boys who do continue their education their average year

twelve scores are lower than those of girls and fewer enrol in higher education (Cortis & Newmarch, 2000). Cortis and Newmarch (2000) also found that one of the main factors triggering early school leaving is low school achievement experienced in the early and middle years. Boys have also been found to have an increased risk of social exclusion as a result of their poor and deteriorating educational performance (Fosh et al., 2002).

Taking this research into consideration, some schools are looking for effective and innovative ways to help boys cope with these issues. These schools are trying to help boys on an academic level and beyond, through various curriculum developments including the use of experiential and outdoor education.

### **Outdoor education and adolescent development**

In this study we use the term outdoor education to describe the use of the outdoors to promote and enable educational and behavioural developments and changes. It is considered as guided learning through meaningful experience (Davidson, 2001), "which impels participants into challenging and demanding situations requiring effort, determination, co-operation and self-reliance" (Hattie, Marsh, Neill & Richards, 1997, p. 45). Outdoor education is a holistic form of education that can assist in educating the person as a whole; academically, physically, emotionally, socially and psychologically (Davidson, 2001; Gray & Perusco, 1993; Hattie et al., 1997; Marsh & Richards, 1988). It provides opportunities to apply knowledge in real-life situations and enhances the understanding of the relationship between humans and the natural outdoor environment (Lugg, 1999).

Outdoor education programs within the school curriculum can be of valuable assistance as they operate outside the limitations that govern traditional and formal teaching and learning in schools (Henderson & Barnett, 2001) by aiming to promote the development of the whole person as a social and individual being, in a balanced and integrated fashion (Gray & Perusco, 1993). This holistic approach challenges current forms of schooling which are considered to be competitively preparing their students for final exams, and placing vocational outcomes and tertiary entrance scores as paramount, rather than giving their students a total life experience to assist in the development of the person as a whole (Gray & Perusco, 1993; Lugg, 1999).

Research has produced substantial evidence demonstrating the benefits of outdoor education programs for adolescents, including:

- Increased self-concept and self-concept domains such as independence, confidence, self-efficacy, and self understanding (Davidson, 2001; Hattie et al., 1997; Neill, 1994);
- Enhanced psychological well-being (Neill, 1994);
- Increased ability to overcome challenges (Davidson, 2001);
- Positive impacts on leadership competencies (Hattie et al., 1997);
- Enhanced decision-making skills, general problem solving competencies, academic achievement and academic self-concept (Hattie et al., 1997; Marsh & Richards, 1988);
- Increased personality dimensions such as assertiveness, emotional stability, achievement motivation, internal locus of control, and maturity and reductions in aggression and neurosis (Davidson, 2001; Hattie et al., 1997);
- Improved mental strength (Davidson, 2001) and interpersonal dimensions such as social competence, co-operation and interpersonal communication skills (Hattie et al., 1997).

Davidson (2001) also found outdoor education to be potentially valuable as a holistic and life-long activity that enhances the capacity to enjoy and engage in life. Hattie et al. (1997) concluded that adventure programs have consistently demonstrated a major and lasting impact on the lives of participants. Other research in this area has shown that the outcomes of outdoor education programs are questionable and need to be interpreted with care. For example, Brookes (2003) argued that it is a myth that outdoor education builds character. Ross and Nisbett (1991) argued that any changes in behaviour and personality traits tend to be related to the new situations/environment the individuals are presented with and that these traits are not strongly predictive of future behaviour in different situations. These studies strengthen research in the area of outdoor education by challenging fictitious assumptions. While Brookes (2003) argued that character building as a result of outdoor education programs is questionable, he also stated that the skills, knowledge and self-belief acquired on these programs can be transferred from these situations to others (Brookes, 2003). Taking this all into consideration many schools have been developing comprehensive outdoor education programs to help try and address the issue of boys' education and adolescent development.

### *The Pre-Senior Life Effectiveness Program*

Recognising the importance of this stage in a boy's life, a private boys school in Melbourne sought to introduce a stand-alone program that would assist and support boys to achieve positive self-concepts, increased physical self-satisfaction, improved communication skills and other important life skills for year nine boys. The Pre-Senior Life Effectiveness (PSLE) program was formulated to specifically meet the individual developmental needs of adolescents and enable the boys to respond positively to challenges which may further their academic, social, physical, emotional and spiritual development.

The PSLE program consisted of two components, the 'core' and the 'option.' These two components made up the year nine curriculum. The core component of the year nine curriculum is a challenging academic program consisting of approximately thirty hours during the school week in traditional key learning areas. The 'option' component consisted of three weeks each term, which included a nine to ten day out-of-school experience and the preparation and debriefing days associated with it. There were 21 different options that the participants could choose from within the broader groups of outdoor education (expeditions) or experiential learning (special co-curricular and academic interests). All components were made up of a range of challenging activities and academic pursuits.

Students were required to choose at least one but no more than two outdoor education options. The outdoor education components were developed in consultation with the school by an outdoor education provider called the Outdoor Education Group. To assist in the development of the participants as a whole, the boys focused on a different theme each term, progressing from self, group and community to new horizons.

There is justifiable pressure on schools to conduct research and evaluation of their programs because it is only by evaluating effectiveness that schools will be sure that their interventions are on target (Neill, 1997; Scott, Murry, Mertens & Dustin, 1996). This study's evaluation of the PSLE program will enable the school to assess the effectiveness of the program and determine whether it is achieving its outcomes.

### **Methodology**

The Life Effectiveness Questionnaire (LEQ) and a Social Validation Questionnaire (SVQ) were used to evaluate the outcomes of the PSLE program. The LEQ is a short, comprehensive, psychometrically sound and educationally meaningful instrument for measuring change or lack of it (Neill, 2000). With the use of the LEQ any change in the direction of this program's

stated outcomes can be seen, providing face validity for the effectiveness of the program. The SVQ was used to validate the results provided by the LEQ and give a broader insight into the participant responses. Other studies support the use of both quantitative and qualitative surveys as they compliment one another and strengthen the research process (Amesberger, 1996; Hanna, 1992; Henderson, 1993).

### **Participants**

Of the 169 male year nine students at the school, a sample of 104 participants was used because a complete set of data was available for all of these participants. The age range of the participants was between 13 to 16 years ( $x = 14$  years). The participants were from one of the three all-boy school campuses situated throughout the south-eastern suburbs of Melbourne.

### **Instrumentation**

#### *Life Effectiveness Questionnaire*

The Life Effectiveness Questionnaire - Version H (LEQ-H) was developed by Neill, Marsh and Richards (1997) for the purpose of measuring the changes associated with adventure or other experiential education intervention programs. The LEQ-H has been used as an evaluation tool in other studies (Neill & Flory, 2000a; Neill & Flory, 2000b) including the single largest project of its kind in adventure education (Neill, 1999). The eight factor questionnaire with 24 items (shown in Appendix A) is a self-report instrument that takes approximately ten minutes to complete. The eight factors measure the fundamental aspects of the PSLE program including:

- Time management - one's ability to plan and make optimum use of time;
- Social competence - the ability of an individual to function effectively when interacting socially;
- Achievement motivation - putting effort into action to achieve excellence;
- Intellectual flexibility - one's aptitude to adapt thinking and accommodate new information from changing conditions and different perspectives;
- Task leadership - the ability to take on and perform in a leadership role effectively and productively;
- Emotional control - the ability to deal with and control emotions when faced with difficult or potentially stressful situations;

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- Active initiative - an individual's ability to initiate actions and thoughts in new situations and lastly,
- Self-confidence - confidence in ability and the success of actions (Neill et al., 1997).

### Social Validation Questionnaire

The SVQ consisted of eight anonymous, open-ended questions relating to the 'option' component of each term. It was used to compliment the results of the LEQ-H by providing a deeper understanding of the students' responses. The SVQ related the changes, or lack of them, specifically to the program rather than to internal or external factors such as other personal or curriculum changes the participants may have experienced during the process of the study.

### Procedures

Participants took part in the PSLE program for the duration of their year nine school year including three 'option' components. Prior to the first 'option' participants completed the LEQ-H, providing base line data. Immediately following the first, second and third "option" components the participants were again asked to complete the LEQ-H along with the SVQ. Similar procedures to the baseline testing were followed.

## Results

### Quantitative (LEQ-H)

#### Changes in overall life effectiveness

A one-way repeated measures analysis of variance (ANOVA - for comparing means of more than two groups or levels) was conducted to determine whether differences exist in the overall life effectiveness across the test time (pre test and post tests). The results of this test showed a statistically significant difference ( $p < .05$ ) in life effectiveness as a result of the program. The descriptive statistics for the participants overall life effectiveness are shown in Table 1 and Figure 1.

**Table 1. Descriptive statistics for overall life effectiveness from pre test to post tests.**

	Mean ( $\bar{x}$ )	Standard Deviation (SD)
Pre Test	18.03	2.82
Post Test 1	18.48	2.62
Post Test 2	18.75	2.96
Post Test 3	19.08	2.84

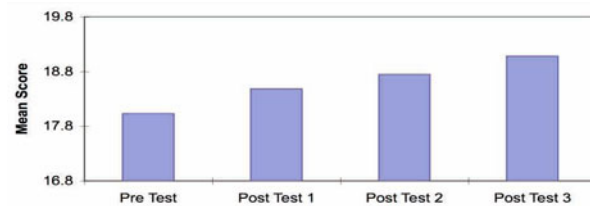


Figure 1. Descriptive statistics for overall life effectiveness from pre test to post tests.

The participant's overall life effectiveness skills showed a statistically significant increase ( $p < .05$ ) from the pre test to the post tests. Contrast testing showed significant differences ( $p < .05$ ) from (1) the pre tests to all three post tests, (2) the first post test to the third post test and (3) the second post test to the third post test. However there was no statistical significant difference ( $p > .05$ ) between post test one and post test two.

#### Group differences

An ANOVA was performed to examine differences in overall life effectiveness between the outdoor education group and the non-outdoor education group. The results showed a statistically significant difference ( $p < .05$ ) between the groups. Figure 2 shows the descriptive statistics of the groups at the various testing times. From this graph it can be seen that the outdoor education group obtained mean scores approximately five per cent higher in overall life effectiveness compared to the non-outdoor education group at each testing time. However, the non-outdoor education group obtained a greater increase (approximately six per cent) in overall life effectiveness from pre test to post test compared to the outdoor education group (approximately four per cent).

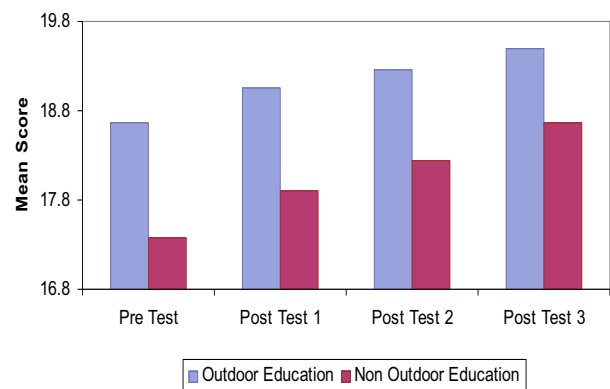


Figure 2. Descriptive statistics for outdoor education and non-outdoor education groups for overall life effectiveness.

Four t-tests were conducted, one for each of the test times. Table 2 shows that a significant difference ( $p < .05$ ) in overall life effectiveness lies between the two groups during the first two tests, however this difference is not significant ( $p > .05$ ) in the final two tests.

Table 2. Difference between the outdoor education and non-outdoor education groups at each test.

	p-value	Significance
Pre Test	.019	<.05
Post Test 1	.024	<.05
Post Test 2	.080	NS
Post Test 3	.142	NS

NS = Not Significant

*Additional group differences*

Further analysis of the data (post test 1 and 2 only) compared the outcomes of two outdoor education trips, two special curricular and academic interest trips, and to a combination of the two (one outdoor education trip and one special curricular and academic interest trip). Figure 3 shows the descriptive statistics from the between groups' ANOVA for their overall life effectiveness. The figure clearly shows the group involved in two outdoor education trips has a higher mean score in life effectiveness skills than the two other groups. With the group participating in two special curricular and academic Interest trips having the lowest mean score for overall life effectiveness.

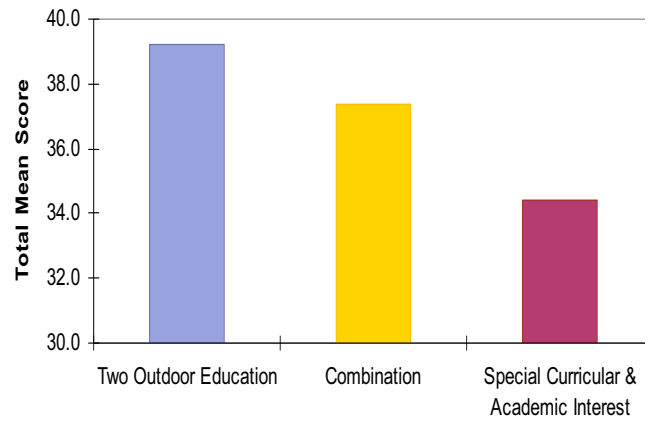


Figure 3. Descriptive statistics for the two outdoor education, two special curricular and academic interest and combination trip groups for overall life effectiveness.

The results of the ANOVA showed there was a statistically significant difference ( $p < .05$ ) between the three groups. The groups' comparison (Post Hoc), shown in Table 3, indicates a difference lies between the two outdoor education group and the two special curricular and academic interest group but not between the other groups.

*Qualitative (SVQ)*

The results from the SVQ reflect the students' personal feelings, which both support and refute the results found in the Life Effectiveness Questionnaire. Examination of the comments made on the SVQ supported the findings of the LEQ-H, indicating that the participants in general gained beneficial life effectiveness skills from the program. During the

Table 3. Summary of multiple comparison statistics for two outdoor education trips, two non outdoor education trips and a combination group for overall life effectiveness.

Options	Comparison	p-value	Significance
Two outdoor education trips	Two Special Curricular and Academic Interest Options	.027	<.05
Two outdoor education trips	Combination (1 Outdoor Education and 1 Special Curricular and Academic Interest Option)	.384	NS
Combination	Two Special Curricular and Academic Interest	.116	NS

NS = Not Significant

evaluation of the comments in the SVQ some interesting themes emerged. One related to the transferability of skills learnt while on an 'option' to life outside of these experiences. For example,

Because of the busy schedule on our option, it was vital that I had to plan and organise my time efficiently. This taught me to maintain a stable timetable and has built on my independence skills. I have learnt to now apply these skills in my everyday life.

Such social validation responses seem to suggest that not only did they develop life effectiveness skills while on the 'options' but also that they are transferable and useful in everyday life. An interesting point worth noting is that the majority of these comments were from participants who attended an outdoor education option.

The vast majority of the comments were positive, however not all the participants felt the program was beneficial for their life effectiveness skills. Some participants were a little dissatisfied as indicated in the following comment: "Wilson's Prom didn't affect my ability to plan and make use of time. I already know how to plan; just don't do it because I can't be bothered." Such comments support the notion that there needs to be willingness to change and an acceptance of change for any positive results to occur (Davidson, 2001; Gray & Perusco, 1993; Marsh & Richards, 1988; Neill & Heubeck, 1997).

## **Discussion**

The outdoor education group's statistics showed a significantly higher score in overall life effectiveness compared to the non-outdoor education group on the LEQ. The results in figure 2 and table 2, suggest that two outdoor education 'options' are not only more beneficial than two non outdoor education 'options,' but they are also are more beneficial than just one 'option.'

The results shown in Figure 2 indicate that the outdoor education group had a higher mean in overall life effectiveness scores at each test interval. However, Figure 2 also shows the non-outdoor education groups' mean scores had larger increases at each of the post tests. It should be noted that the outdoor education groups' pre-test scores were initially higher. It is likely that the larger increase in overall life effectiveness from the non-outdoor education group lead to the decrease in statistical significance between the groups, which can be seen in Table 2 (for example at post test two and three).

Another interesting observation from the results in Figure 2 and Table 2 is that in the pre-test there was a significant difference between the two groups. This immediately poses the question about the type of participants who select outdoor education options. Are they more inclined to possess proficient life effectiveness skills due to innate personality traits or previous exposure to similar experiences? This is worthy of further investigation, but was beyond the scope of this study. The outdoor education group obtained high pre-test results (refer to Figure 2), perhaps there was less area to increase (with this tool) over the test program. This may explain why the outdoor education groups' post-test scores did not increase as much as the non-outdoor education group, who had lower initial scores (refer to figure 2). This supports the patterns that emerged previously, which suggested that if participants already believe they have obtained high skills in an area, there is less room to improve.

The comparison between two outdoor education trips and two special curricular and academic interest trips showed the outdoor education 'option' program components statistically had a greater positive impact on overall life effectiveness skills (refer to Figure 3). Table 3 shows a statistically significant difference was found between two outdoor education trips and two special curricular and academic interest trips. It appears from these results that the outdoor education 'option' components are more beneficial than the special curricular and academic interest 'option' components at enhancing life effectiveness skills (refer to Figure 3).

The two outdoor education trips group obtained approximately two scores higher than the combination group and the combination group obtained approximately three scores higher than the two special curricular and academic interest trips group (refer to Figure 3). There was, however, no statistically significant difference between either of these groups and the combination group (one outdoor education trip and one special curricular and academic interest trip), which can be seen in Table 3. The results from Figure 3 and Table 3 indicate it is beneficial to do at least one outdoor education 'option,' but the greatest benefit appears to come from participating in more than one.

Interestingly, some of the participants' comments on the SVQ reflected that they considered the special curricular and academic interest options as enjoyable holidays on which they were to relax and enjoy themselves rather than to learn and develop. The eight components of life effectiveness for each test were also researched and compared, with a variety of results obtained, however a discussion of these results is beyond the scope of this paper, however these will be reported in the future.

## **Limitations and implications for future research**

### **Program**

Due to the large variety of option choices available (twenty-one), it was not possible for this study to assess each of the individual options; therefore they were grouped into two groups (outdoor education and non-outdoor education groups). Like any grouping of results, this may have affected the results of the current study. If we are to obtain a more accurate reflection of what specific program components are really effective, we need to look further at the individual components of outdoor education programs and experiential learning programs on participants LEQ-H results. In this particular school program the 'waters were a little muddied' with components of some of the experiential learning options overlapping with components significant in most outdoor education programs.

There was also a crossover of skills presented between the groups, with some of the non-outdoor education options including some components that would normally be considered as typical curriculum for an outdoor education program. For example, some rock climbing and bush walking were undertaken on the western districts tour and snorkelling was included in the marine biology option. Further evaluation of the content of each option would enable identification of areas of overlap and an examination of any effect this overlap may have had on the final results.

Program participants were required to attend all three options. The compulsory nature of the program may have influenced the results, as participants need a willingness and readiness to accept change for such results to occur (Davidson, 2001; Gray & Perusco, 1993; Marsh & Richards, 1988; Neill & Heubeck, 1997). If they are forced to be involved, a negative attitude may be adopted resulting in no change or a decrease in LEQ-H results.

### **Control group**

Due to school charter, curriculum structure, ethical reasons and parental expectations it was not possible, for this study, to have a control group who participated in none of the 'option' components or purely just the outdoor education or non-outdoor education 'options.' A control group would have been beneficial to provide comparative data, allowing a more accurate indication of program effectiveness on the development of life effectiveness skills. For example, some components of life effectiveness were already high at the pre-test. The pre-test results also showed a difference in overall LEQ scores between the outdoor education and non-outdoor education groups before program implementation. A control group would have enabled the researcher to ascertain whether the high pre-test scores were a

result of elevated anticipation and expectation about the program, or if it was a result of normal maturation, academic and life experiences.

### **Gender**

This research considered only male participants from one school, which immediately raises the question about the impact this program would have on middle-school girls. Further research may wish to consider this program for a more diverse group and number of boys (and /or girls) to identify if similar results occur in other schools, countries and socio-economic backgrounds. This will consequently assist in the development of a program to specifically target students during this stage of development.

## **Conclusion**

The PSLE program was found to be effective at assisting the participants in increasing their overall life effectiveness skills. There was also a significant difference found between the outdoor education and non-outdoor education group when comparing life effectiveness skills, suggesting that outdoor education can play a vital part in better facilitating a boy's growth at this time in life.

Attention needs to be given to the content of each option and an examination of the program's envisaged outcomes would enable better planning and curriculum design. This will ensure a quality experience for the participants and optimum opportunity to achieve the desired outcomes as valued by the school.

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## Appendix A: The Life Effectiveness Questionnaire - Version H (Neill et al., 1997)

### L.E.Q. - H<sup>®</sup>

NAME: _____	AGE: _____(years)	DATE: ____/ ____/ ____
MALE / FEMALE (circle one) COURSE CODE: _____		GROUP: _____

STATEMENT	FALSE not like me	TRUE like me
01. I plan and use my time efficiently.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
02. I am successful in social situations.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
03. When working on a project, I do my best to get the details right.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
04. I change my thinking or opinions easily if there is a better idea.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
05. I can get people to work for me.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
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06. I can stay calm in stressful situations.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
07. I like to be busy and actively involved in things.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
08. I know I have the ability to do anything I want to do.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
09. I do not waste time.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
10. I am competent in social situations.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
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11. I try to get the best results when I do things.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
12. I am open to new ideas.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
13. I am a good leader when a task needs to be done.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
14. I stay calm and overcome anxiety in new or changing situations.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
15. I like to be active and energetic.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
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16. When I apply myself to something I am confident I will succeed.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
17. I manage the way I use my time well.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
18. I communicate well with people.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
19. I try to do the best that I possibly can.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
20. I am adaptable and flexible in my thinking and ideas.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
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21. As a leader I motivate other people well when tasks need to be done.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
22. I stay calm when things go wrong.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
23. I like to be an active, 'get into it' person.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
24. I believe I can do it.	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8

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