St Peters Lutheran College

Challenging Minds, Nurturing Hearts, Building Futures

Ironbark Research Report

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Executive Summary

Outdoor Education has been used in schools to facilitate the growth of students who attend. At St Peters Lutheran College, Ironbark has been a compulsory element of educating young people since the 1970s. However, despite anecdotal feedback from current and past students, to date there has been no formal research into the impact that attending Ironbark has on students' lives. This report will present initial findings on Year 9 students' experience of Ironbark. Both quantitative and qualitative measures were used to assess a range of wellbeing and interpersonal factors relevant to the aims of the Ironbark program. Students were assessed before and after their five-week attendance at Ironbark.

Our current research showed that Ironbark has a positive and important impact on students across a range of personal, social, physical and spiritual domains. Specifically, participation in Ironbark was associated with significant improvements in:

- Wellbeing and flourishing;
- Decision making;
- Connectedness to nature;
- Independence;
- Religious faith;
- Social competence;
- Prosocial behaviour and mental health difficulties; and
- Personal growth.

Students also identified a number of areas that had a positive impact on them during Ironbark. These included:

- Opportunities for positive growth by engaging in adventure activities;
- Developing and improving strong interpersonal connections – experiencing care and support from peers and staff, shared time and activities with a diverse range of peers and staff that facilitate a sense of togetherness;
- Personal development and growth – pride, challenging self, perseverance, self-awareness, courage and independence;
- Engaging with a working farm – pride in completing jobs, working with animals, increasing insight into everyday living and learning new skills; and
- Enhanced connectedness to nature.

The results of our research support anecdotal feedback emphasising the significant contribution that Ironbark makes to young people's lives. Through quantitative and qualitative feedback, we have gained insight into the social and emotional growth of students, as well as the challenges they faced while at Ironbark. The results demonstrate that the aims and values of Ironbark are achieved through many of the activities and challenges students face. This research not only gives a better understanding of students' experiences, but also potential improvements that can be made. In addition, it gives us a benchmark to compare the impact over time.

Introduction

Outdoor Education has been an increasingly important component of the education system for a number of decades. Outdoor Education programs span a range of activities from outdoor sports, through to adventure and environmental-based challenges. These activities and challenges usually have an underlying goal of producing positive change in individuals through experiential and hands-on experiences (Gair, 1997).

Available research suggests that Outdoor Education can help to facilitate improvements in psychological, behavioural, emotional and interpersonal domains. Prior research has demonstrated changes in individuals' self-esteem, leadership, skills in problem-solving and teamwork, as well as behavioural and social skills (Cason & Gillis, 1994; Wang, Liu, & Kahlid, 2006). However, the research to date is limited and has primarily collated studies involving vast age ranges, rather than focusing on the adolescent years in particular. Additionally, specific activities utilised are variable between Outdoor Education programs and there is limited research on school-facilitated programs.

Outdoor Education at St Peters Lutheran College – Ironbark

At St Peters, Outdoor Education at Ironbark has been a critical component of the holistic approach to educating young people since 1976. The compulsory program focuses on the development of adolescents by focusing on developing community, commitment and connection.

About Ironbark

Ironbark is a co-educational five-week live-in program, based on a working farm. Ironbark's core values and focus include getting along, confidence, organisation, resilience and persistence. Students live in the gendered dormitories and participate in a range of different activities that help facilitate greater knowledge, growth and awareness through community living, developing farm skills, environmental awareness and outdoor pursuits. During their time at Ironbark, students have no access to technology and communicate with family and friends at home via letters.

Students have a daily routine at Ironbark, which involves waking at 6:00am for a morning run. At 7:15am and 3:30pm they then complete jobs, which include attending dairy, caring for the animals (pigs, sheep and chickens), wood chopping, tending to the vegetable garden, cooking and dorm cleaning. The remainder of each day is dedicated to different activities depending on the point of time in the program. During Ironbark, activities are divided into three main areas – Agricultural and Farm Skills, Outdoor Skills and Community Living/Life Skills.

Agricultural Skills and Farm Skills

Agricultural Skills and Farm Skills include feeding and handling livestock (e.g. milking cows), manual labouring tasks (e.g. building projects, fencing, etc.), horse riding, and 'Cronins' Pioneering. Cronins is a two-night supervised camp where students learn skills such as camp-oven cooking, whip-cracking, bushcraft, blacksmithing, leatherwork and sleeping in swags.

Outdoor Skills

Outdoor Skills involve navigation training through orienteering (Rogaine) and a four-day Hike where students are partially supervised. It also includes a range of adventure activities such as high ropes (Tree Climb, Jacobs Ladder and Flying Fox), rock climbing and abseiling. Significant components of the Outdoor Skills aspect of Ironbark are the 'Survival' and the 24-Hour 'Solo' experiences. Survival involves a two-night small group campout without the regular supervision of adults. Students are expected to build their own shelter as well as cook their own meals during

this time. The 24-Hour Solo is an unaccompanied individual campout which occurs in the last week of the program.

Community Living and Life Skills

Community Living and Life Skills involves food production, including growing their produce and preparing and managing food. Students are also expected to maintain their dormitories, make their beds, wash their clothes and dishes. Students also attend Devotions and Worship which explores the spiritual connection to everyday life.

Purpose of the Current Research

Anecdotal feedback from students (past and present), parents, teachers and the community has emphasised the significant contribution that Ironbark has made to the personal growth of the young people of St Peters. However, to date, there has been no structured quantitative and qualitative review of the contribution the Ironbark program makes to students' lives.

The aim of this research is to more systematically understand the impact that attendance at Ironbark has on students. Through the completion of several questionnaires, it will focus on assessing a range of wellbeing and interpersonal factors that are relevant to the aims and values of Ironbark.

Specifically, from a quantitative perspective we will measure:

- Adolescent wellbeing - Engagement, Perseverance, Optimism, Connectedness, Happiness;
- Connectedness to nature;
- Experience of faith;
- Decision making;
- Persistence;
- Personal growth;
- Social competence;
- Strengths and Difficulties (Emotional Problems, Conduct Problems, Hyperactivity, Peer Problems, Prosocial Scale); and
- Activities of daily living.

The research will also include a brief optional qualitative component, where students are given the opportunity to share details about the following:

1. The most positive aspects of their Ironbark experience;

2. The most challenging aspects of their Ironbark experience; and

3. A reflective story that they are willing to share.

The purpose of collecting such information is to provide the school, and potentially the St Peters community, with a better understanding of some of the outcomes of attending Ironbark. This will also provide a baseline for future groups who attend Ironbark. Qualitative data will also be collected to provide a snapshot of student's personal experiences of Ironbark and to add a student voice to the research.

Method

Who was assessed?

The table below outlines the demographic information of the students who participated. While all students were invited to be part of the research, some were not included due to issues with their data collection or they were not available at the time of administration.

Total number of students	122
Gender	Male – 57, Female – 64, Not identified – 1
Average age	13.93 years (SD = 0.45)
Ironbark group and number of students	AB - 28, CD - 27, EF - 36, GH – 31
Boarders	9
Aboriginal and Torres-Strait Islander	3

What was assessed?

Attribute	Measure	Description
Wellbeing and flourishing	EPOCH Adolescent Measure of Wellbeing (Kern, Benson, Steinberg, & Steinberg, 2016)	• 20 items measuring flourishing; specifically assessing Engagement, Perseverance, Optimism, Connectedness and Happiness • Each subscale is scored from 1 (low experience) to 5 (high experience)
Decision making	Making Decisions in Everyday Life (Mincemoyer & Perkins, 2003)	• 20 items measuring adolescent decision making • Scored from 20 (low decision making ability) to 100 (high decision making ability)
Connectedness to nature	Connectedness to Nature Scale (Mayer & Frantz, 2004)	• 14 items measuring levels of feeling emotionally connected to the natural world • Scored from 14 (low connectedness to nature) to 70 (high connectedness to nature)
Independence	Adapted Activities of Daily Living (Maenner et al., 2013)	• 8 items measuring level of competence with daily self-care activities for adolescents • Scored from 8 (low competence) to 32 (high competence)
Religious faith	Santa Clara Strength of Religious Faith Questionnaire (Plante & Boccaccini, 1997)	• 10 items measuring non-denominational strength of religious faith and engagement • Scored from 10 (low religious faith) to 40 (high religious faith
Social competence	Social Competence Scale for Teenagers (Blumberg, Carle, O'Connor, Moore, & Lippman, 2008)	• 9 items measuring positive social skills necessary to get along well with others and function productively in groups • Scored from 0 (low social competence) to 36 (high social competence)
Prosocial behaviour and mental health difficulties	Strengths and Difficulties Questionnaire (Goodman, 2001)	• 25 items measuring 7 subscales relating to prosocial behaviour and mental health difficulties in young people • Each subscale is scored separately (see scoring information in results)
Personal growth	Personal Growth Initiative Scale-II (Robitschek et al., 2012)	• 16 items measuring 4 subscales relating to active and intentional involvement in changing and developing as a person • All subscales are scored from 0 (low personal growth) to 5 (high personal growth)

When were they assessed?

Students were given the questionnaire approximately two weeks prior to their Ironbark departure and approximately two weeks following their return. Due to timing of the groups, some of these times were required to be shifted to be practical (e.g. when students returned during the school holidays). In order to link students' scores, they generated a unique code that they used for both the pre- and post-administration of the questionnaires.

How were they assessed?

- Descriptive analyses (e.g. mean, standard deviation, percentage and change scores);
- Paired samples t-test to compare differences in scores from the pre-administration to the post-administration;
- Independent samples t-test to compare differences between groups (e.g. males and females); and
- Thematic analysis.

Results

The following section provides an overview of the findings obtained from both quantitative data (questionnaires) and qualitative data (optional feedback provided by students).

The quantitative data includes a comparison of students' pre-Ironbark scores and their post-Ironbark scores, as well as comparing differences between males and females. The mean score pre- and post-Ironbark is reported in addition to the '% change score'. The % change score was calculated as each of the quantitative scales are scored differently, so the change score allows us to compare scales in a simpler manner (e.g. a change of 2 points on a scale with a total of 10 points would be a 20% change). The use of the term 'significant' refers to a statistical difference and indicates that the difference between two scores was very unlikely to be due to chance.

As a note, this report intended to include differences between Ironbark groups (e.g. AB vs CD, etc.). However we found that groups' results were very similar, which suggests a uniformity to the students who attend in each group and the experience they had while there. For this reason we have not detailed differences between Ironbark groups in the report.

The results are divided into the following sections:

- Quantitative: Comparison across the whole cohort pre- and post-Ironbark;
- Quantitative: Gender differences pre- and post-Ironbark (i.e. the impact on males, the impact on females and how different was the impact between males and females); and
- Qualitative: Identified themes for strengths and challenges of Ironbark.

Whole Cohort Pre-Post Comparison

EPOCH (EPOCH) - Engagement, Persistence, Optimism, Connectedness, Happiness

What does it measure?

The EPOCH is a measure of flourishing; specifically assessing Engagement, Perseverance, Optimism, Connectedness and Happiness.

How is it scored?

Each subscale is scored from 1 (low experience) to 5 (high experience).

What did we find?

Whole cohort

There were significant improvements across all 5 subscales, suggesting an increase in students' levels of flourishing. The largest improvement was within Optimism and Engagement. While Connectedness showed the lowest improvement, this was due to high baseline scores at pre-testing. Specifically, the pre-score for Connectedness was higher than all post-scores on the other subscales.

Gender differences

Both males and females showed significant improvement across all subscales, with the exception of Connectedness for females, whose result was not significant. This is likely due to females' high pre-score (which was higher than the males' post-score). As a result of this, there was a significant difference between males and females on Connectedness.
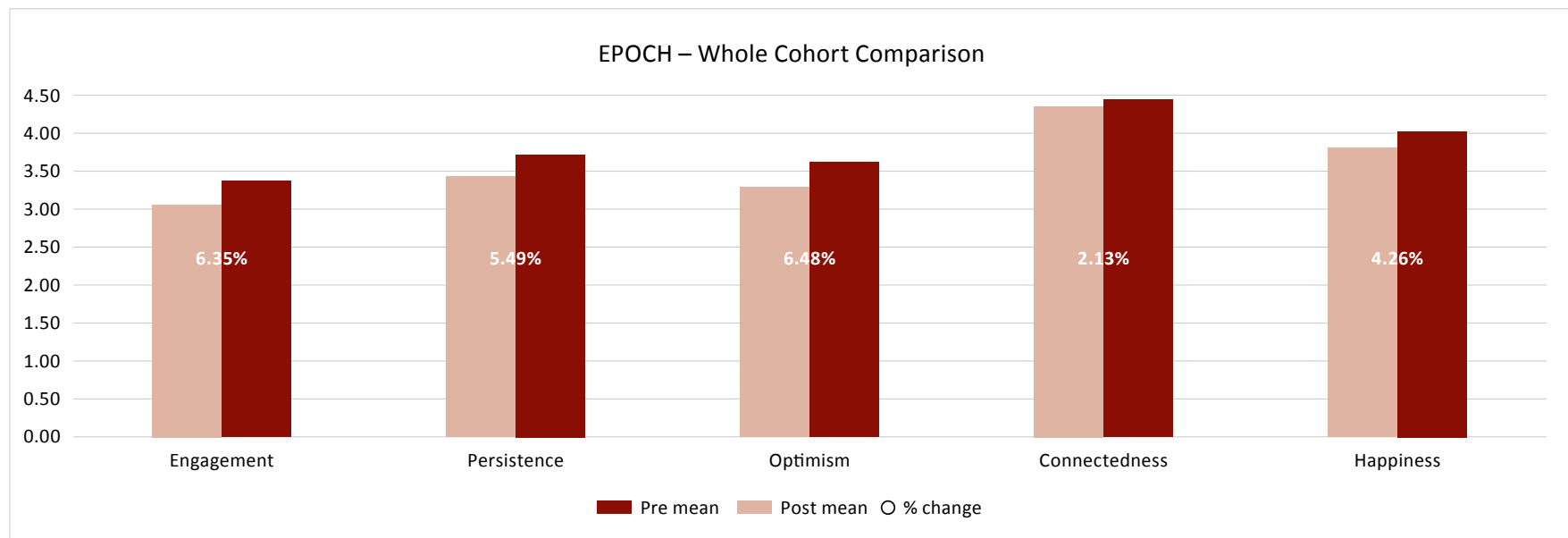
Figure 1 Pre and post mean score and % mean change scores on EPOCH for whole cohort
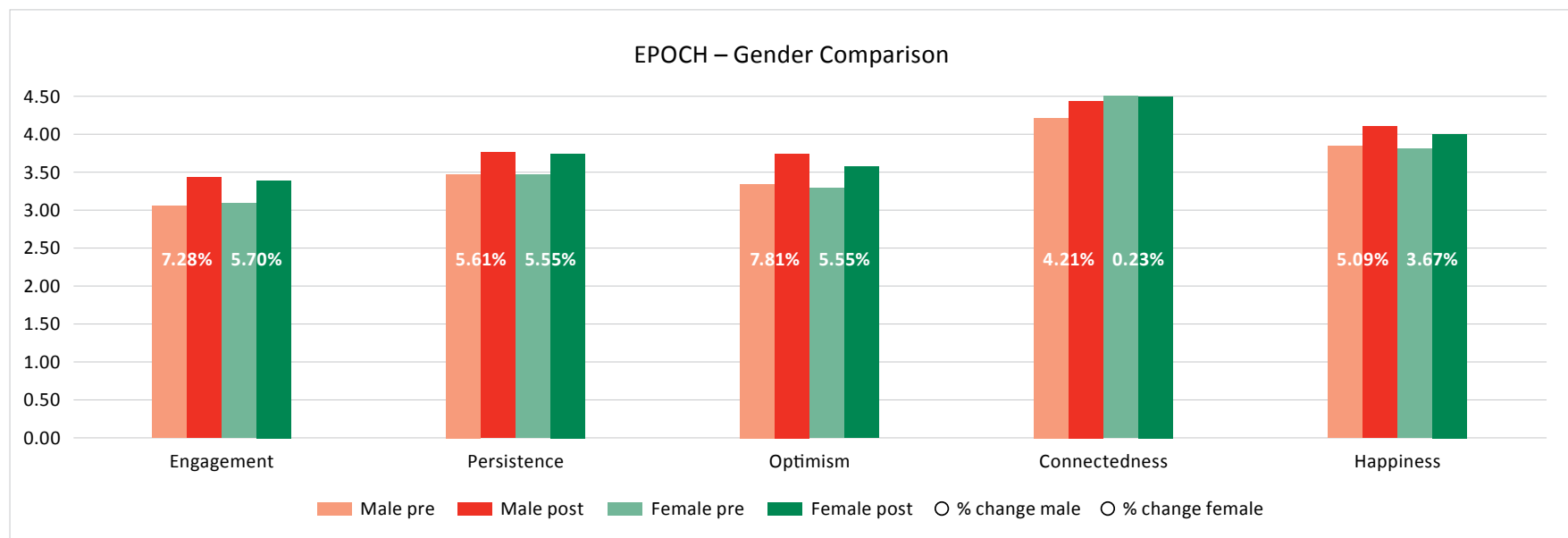

Figure 2 Pre and post mean scores and % mean change scores for males and females

Making Decisions in Everyday Life Scale (MDIEL)

What does it measure?

The MDIEL Scale is a measure of adolescent decision-making.

How is it scored?

Scored from 20 (low decision-making ability) to 100 (high decision-making ability).

What did we find?

Whole cohort

There was significant improvement in students' scores, indicating an improved capacity for everyday decision-making.

Gender differences

The significant improvement was noted for both males and females, however there was no significant difference between males' and females' scores.

Connectedness to Nature Scale (CTNS)

What does it measure?

The CTNS is a measure of an individuals' levels of feeling emotionally connected to the natural world.

How is it scored?

Scored from 14 (low connectedness to nature) to 70 (high connectedness to nature).

What did we find?

Whole cohort

There was a significant increase in students' scores, indicating a greater sense of connectedness to nature.

Gender differences

Scores increased significantly for both males and females, however the difference between males and females scores was not significant.

Adapted Activities of Daily Living (AADL)

What does it measure?

The AADL was adapted from the Waisman Activities of Daily Living (W-ADL) (Maenner et al., 2013), and measures an adolescent's level of competence with daily self-care activities.

How is it scored?

Scored from 8 (low competence) to 32 (high competence).

What did we find?

Whole cohort

Students' scores improved significantly, which showed that they had greater levels of competence in completing daily activities.

Gender differences

The significant improvement was true for both males and females, however there was no significant difference between males and females.

Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)

What does it measure?

The SCSRFQ assesses non-denominational strength of religious faith and engagement.

How is it scored?

Scored from 10 (low religious faith) to 40 (high religious faith).

What did we find?

Whole cohort

There was a significant increase in students' scores, indicating greater strength of religious faith and engagement.

Gender differences

There was a significant increase in female scores but there was no significant change for males. There was no significant difference between male and female scores.

Social Competence Scale for Teenagers (SCST)

What does it measure?

The SCST measures positive social skills necessary to get along well with others and function productively in groups.

How is it scored?

Scored from 0 (low social competence) to 32 (high social competence).

What did we find?

Whole cohort

There was a significant improvement in students' scores, indicating improvement in levels of social competence.

Gender differences

As separate categories, neither males nor females had significant improvements in social competence, nor were their scores significantly different from each other.
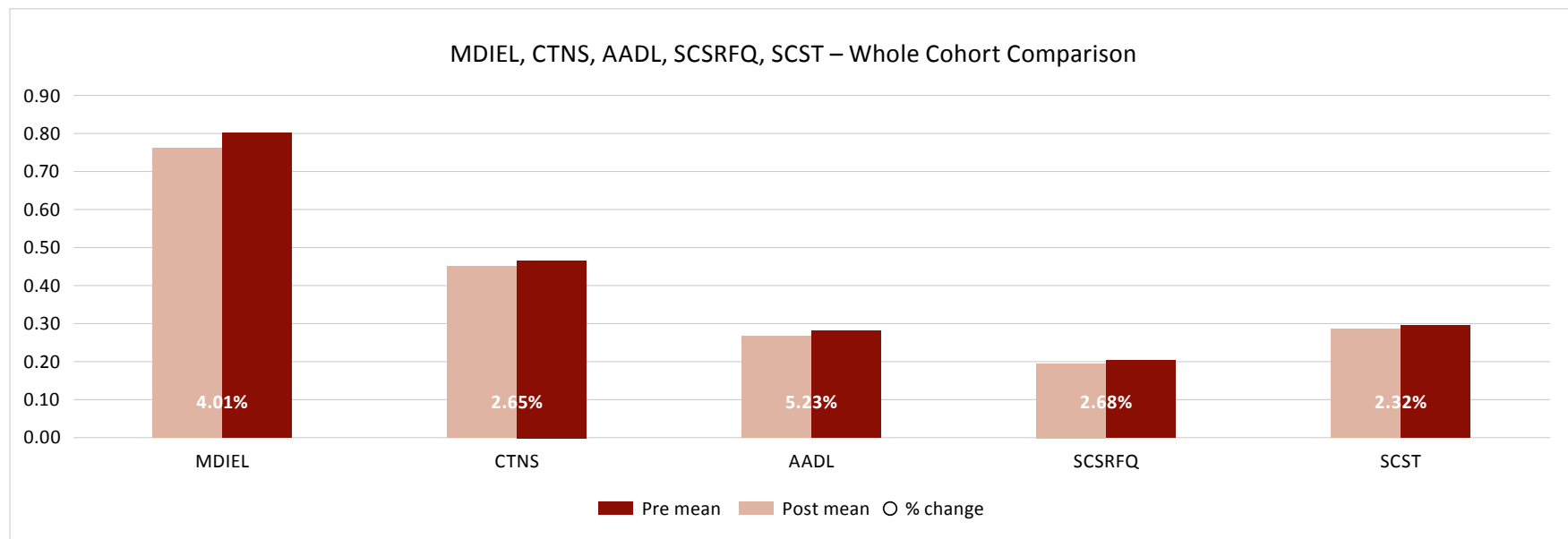
Figure 3 Pre and post mean scores and % mean change scores on MDIEL, CTNS, AADL, SCSRFQ, SCST for whole cohort
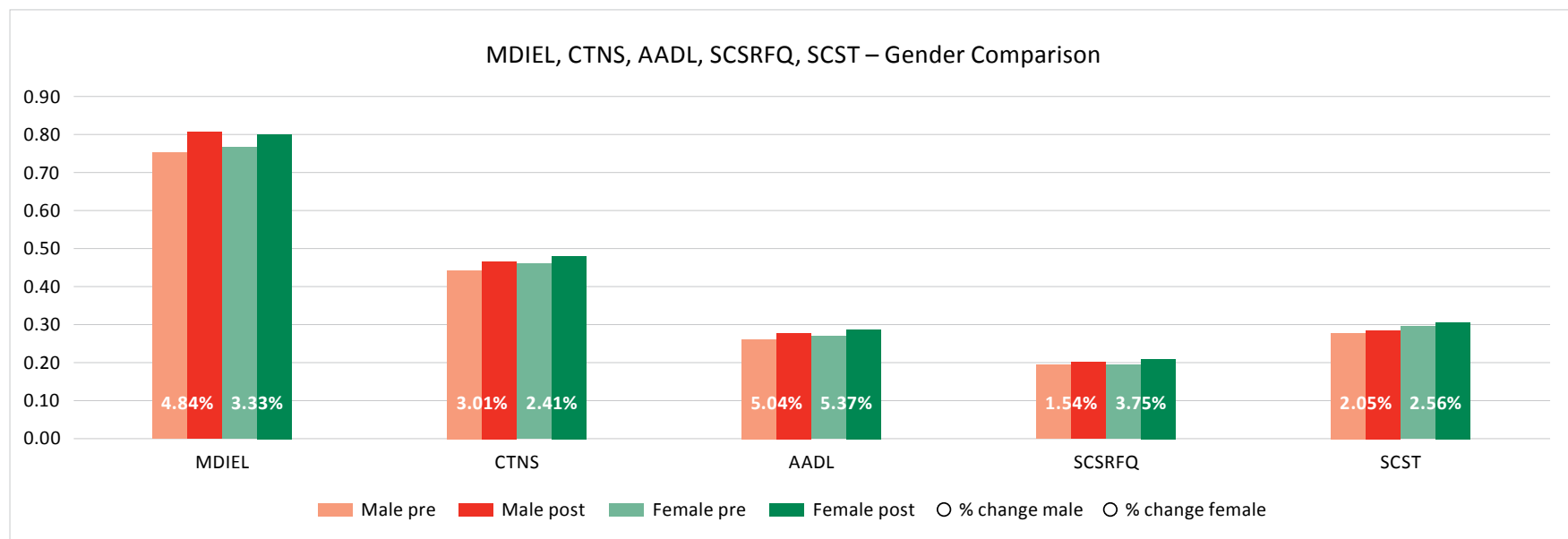

Figure 4 Pre and post mean scores and % mean change scores on MDIEL, CTNS, AADL, SCSRFQ, SCST for males and females

Strengths and Difficulties Questionnaire (SDQ)
(Prosocial, Hyperactivity, Emotional Problems, Conduct Problems, Peer Problems and Externalising and Internalising and Total Difficulties)

What does it measure?

The SDQ is a measure of prosocial behaviour and mental health difficulties in adolescents. The SDQ is comprised of 8 subscales including Prosocial, Hyperactivity, Emotional Problems, Conduct Problems, Peer Problems, Externalising and Internalising and Total Difficulties.

How is it scored?

The Prosocial, Hyperactivity, Emotional Problems, Conduct problems and Peer Problems subscales are scored from 0 (low prosocial or difficulties) to 10 (high prosocial or difficulties).

The Externalising and Internalising subscales are scored from 0 (low difficulties) to 20 (high difficulties). The Total Difficulties subscale is scored from 0 (low difficulties) to 40 (high difficulties).

Note: a negative change score for all scales except Prosocial indicates that there was a reduction in difficulties from pre- to post-Ironbark.

What did we find?

Whole cohort

There was significant improvement across all subscales with the exception of Prosocial and Peer Problems, which, while not significant, did show improvement. The largest improvement was for Hyperactivity and Emotional Problems. There were comparable improvements for the Internalising, Externalising and Total Difficulties subscales. These results indicate that the students experienced declines in difficulties and improvement in strengths.

Gender differences

Females demonstrated significant improvement in Prosocial behaviour and a significant decline in all difficulties subscales. This was not true of males, who did not show any significant changes. There was a significant difference between males' and females' Internalising and Total Difficulties subscales, indicating that females had significantly improved scores on these two subscales compared to males.
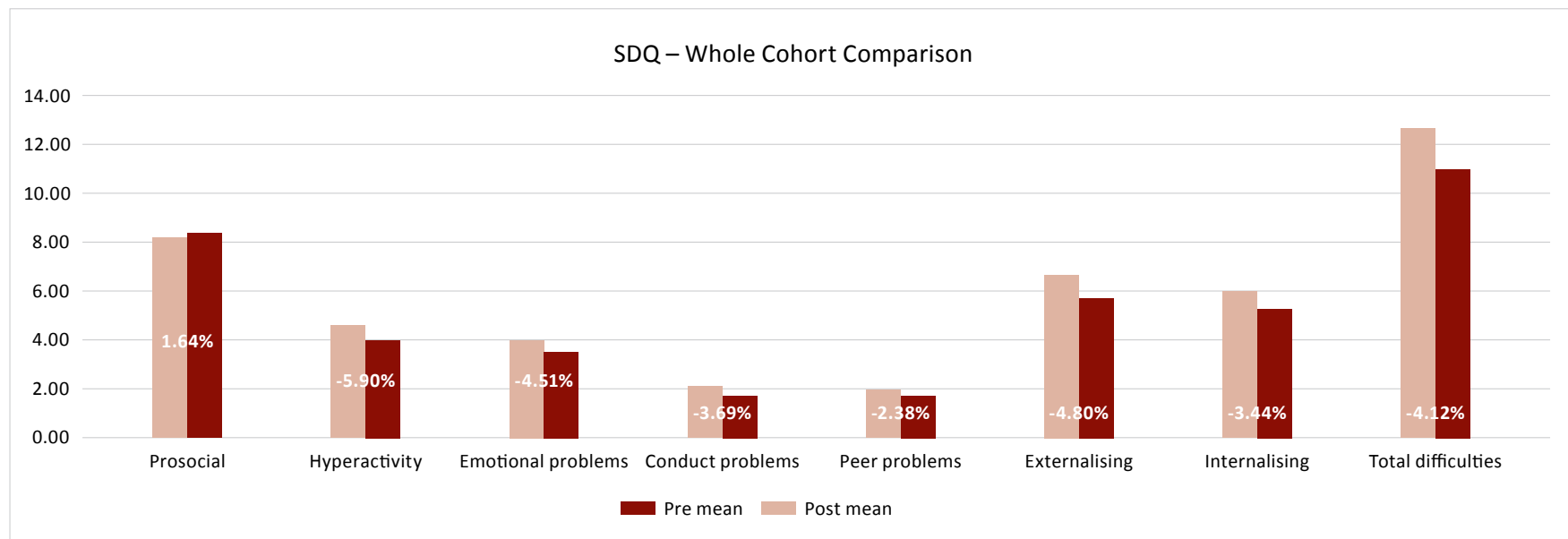
Figure 5 Pre and post mean scores and % mean change scores on SDQ for whole cohort. Note – negative score indicates that the problem has decreased.
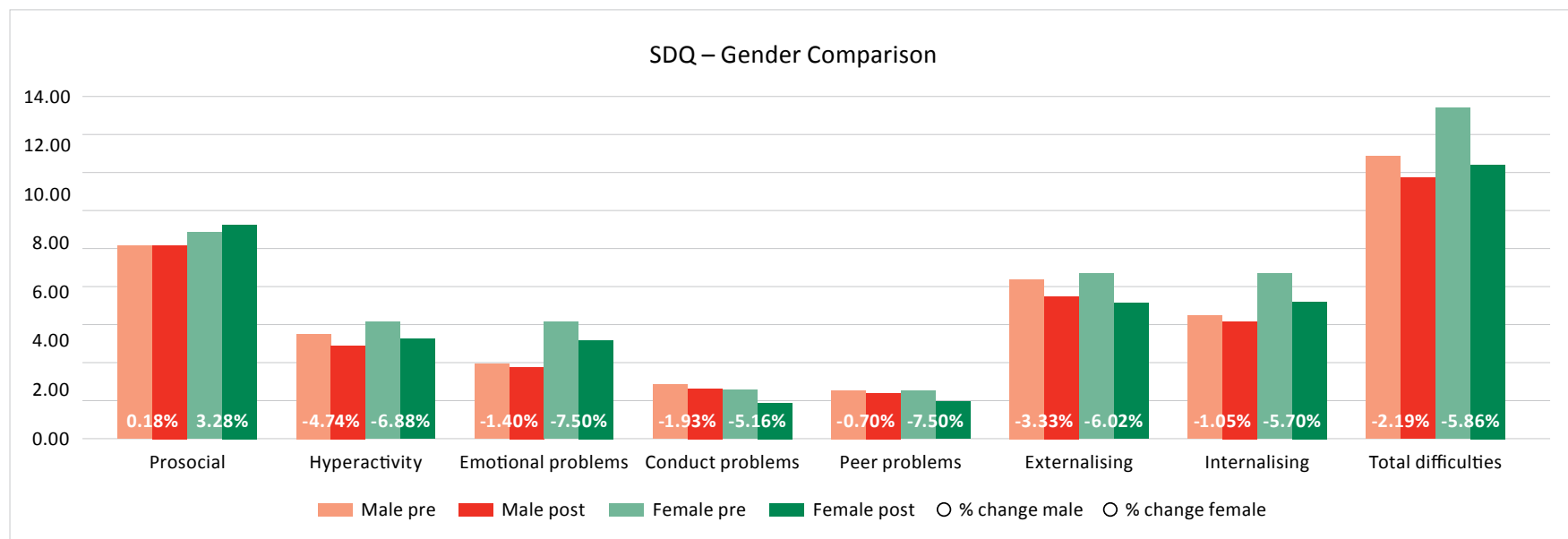

Figure 5 Pre and post mean scores and % mean change scores on SDQ for whole cohort. Note – negative score indicates that the problem has decreased.

Personal Growth Initiative Scale
(II (PGIS-II) – Planfulness, Readiness for Change, Intentional Behaviour, Using Resources)

What does it measure?

The PGIS-II is a measure of an individual's active and intentional involvement in changing and developing as a person. The measure assesses 4 subscales: Readiness for change, Planfulness, Using Resources and Intentional Behaviour.

How is it scored?

All subscales are scored from 0 (low personal growth) to 5 (high personal growth).

What did we find?

Whole cohort

There was significant improvement across all subscales, with the Using Resources subscale showing the largest improvement. This subscale also showed the most substantial improvement across all measures. These results indicate that students had greater capacity for active and intentional personal growth.

Gender differences

The significant difference was true for both males and females, with the exception of males on the Intentional Behaviour subscale, which was not significantly improved though still showed positive change. There was no significant difference between male and female scores.
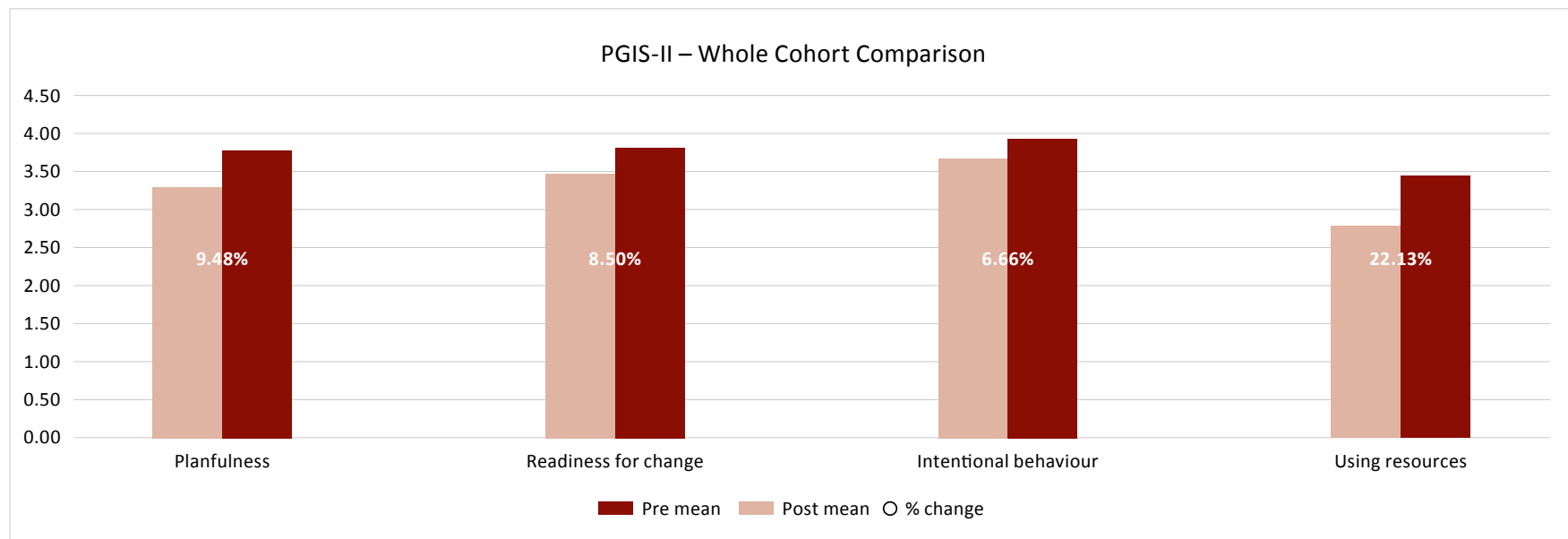
Figure 7 Pre and post mean scores and % mean change scores on PGIS-II for whole cohort
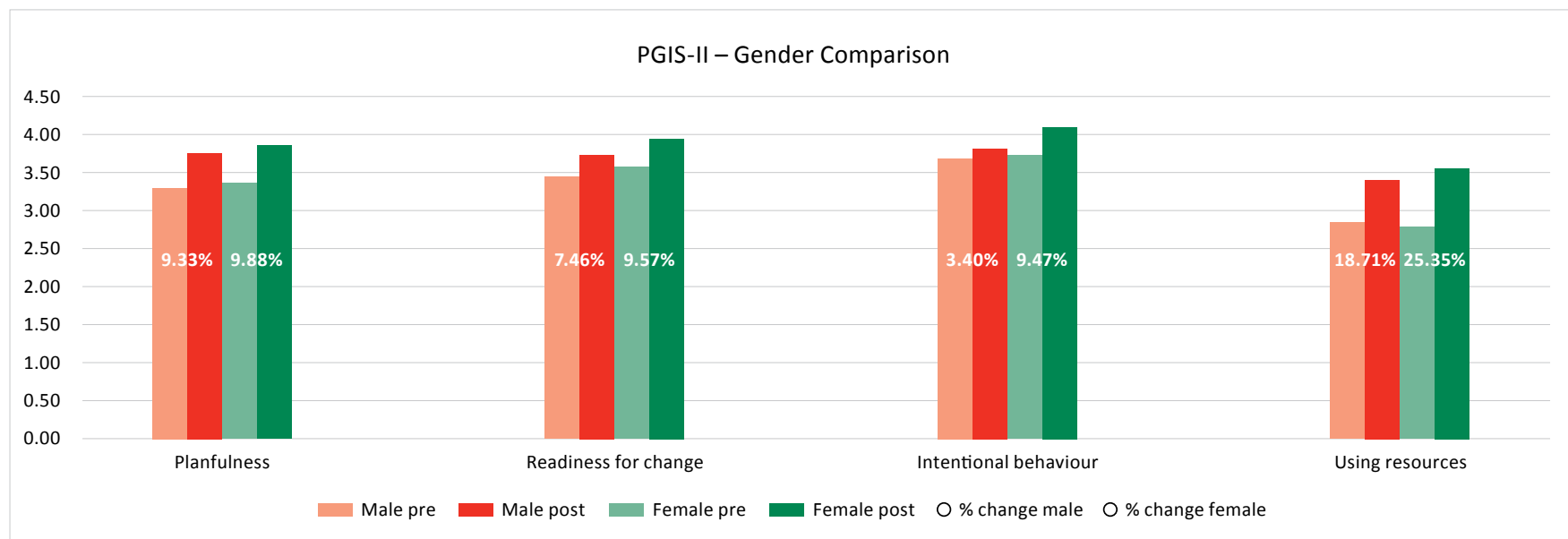
Figure 8 Pre and post mean scores and % mean change scores on PGIS-II for whole cohort

Qualitative Feedback

What does it measure?

Students were given the option to share positive and challenging experiences from their time at Ironbark, as well as stories they felt were highlights of their experience.

How was it measured?

Answers were collated and themes identified that best summarised the comments made by students. For certain themes, a breakdown of the frequency they were mentioned is also included. Quotes are included throughout the themes to provide student voice and as an example of the language used when raising each theme. In some instances, quotes are not able to be included depending on the permission that student provided.

Positives

Specific Activities
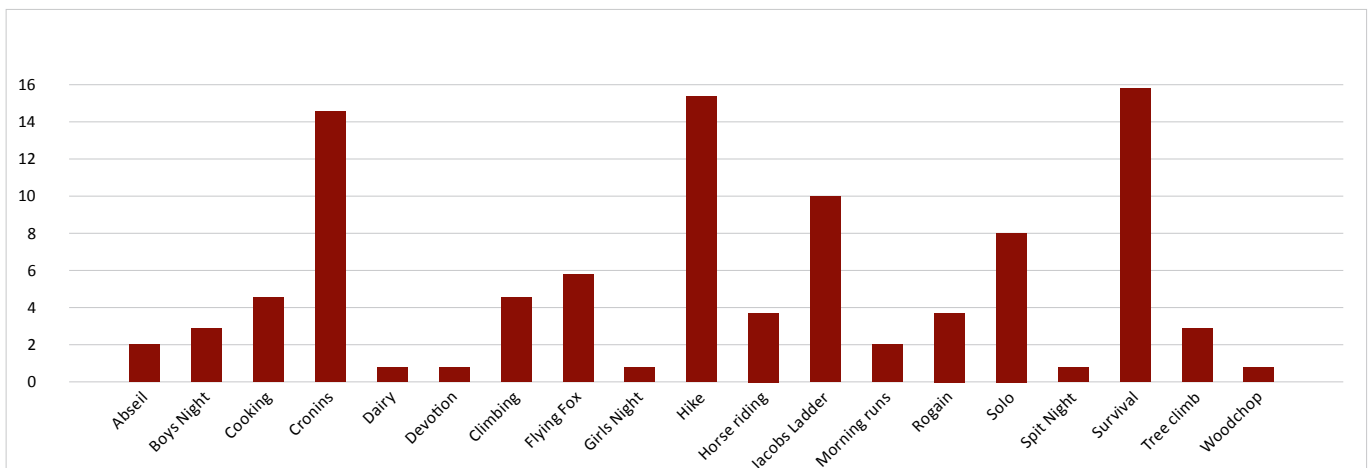
Figure 9 Percentage of times specific activities were mentioned in qualitative feedback

The most frequently commented upon aspects of Ironbark were the specific activities, which included the majority of adventure activities, as well as specific aspects of the Ironbark experience. As shown in Figure 9, Cronins, Hike and Survival were the most frequently mentioned activities that students identified as positive.

Many of the comments highlight the overlap between the activity and other positive experiences, for example, connection with peers:

"Cronins was an experience that I shall never forget. I did some really cool activities there t. I also became even closer with some people over the course of the two days."

"I remember hearing stories about hike and how tough it was. So, expecting it to be a really hard and challenging experience, I had very low expectations. In the end however, everyone was really positive, which made the experience really enjoyable. Hike ended up being one of my favourite activities. This was partly because of the amazing girls I had gotten to know over the past four weeks, but also because of how Ironbark really built up my character by mentally and physically preparing me for hardship, which helped me overcome the challenge."

Or connection with a different lifestyle:

"Cronins, more specifically sleeping in swags and living the 'simple life'."

The positive comments also highlighted the importance of personal growth. For example, achievement despite adversity:

"I believe that hike was very challenging but, looking back, it is a phenomenal accomplishment."

"I loved Jacobs Ladder and abseiling because they pushed me to my limit and gave me the most rewarding feeling ever when I had completed them."

Interpersonal and Social Connections

The interpersonal and social connections that students experience at Ironbark received frequent comments, with many students identifying this aspect of Ironbark as their most defining and positive experience.

Through students' answers, a number of themes were identified:

- Developing and improving social connections – the rewarding experience of learning about others and developing strong connections, a sense of 'sisterhood' and 'brotherhood' akin to a feeling of family;
- Care and support – reflection on the sense of caring for and being cared for by others;
- Shared time – frequently being around others and participating in shared experiences; and
- Rituals – activities done that facilitate togetherness, for example shared meals, playing cards, developing in-jokes (memes), banter and story telling.

"Most certainly a highlight of mine was getting to know all of the people that I persevered through my experience with. I became incredibly close and made extremely tight bonds with some people, and I plan on continuing that."

"Dorm life was really good because we all got really close and had many fun times and laughs. We also had tough times, which made each and every one of us closer because we were able to share parts of our life with eachother."

"I very much enjoyed the dorm life and weekends at Ironbark. I liked the aspect of feeling safe and being a part of a big group of people."

"Living and being in groups with people I wasn't necessarily friends with was good, as it made me make new friends and be understanding of people."

Staff

Students identified the importance of connecting with staff from both an interpersonal perspective and also in their role as facilitators and coordinators of the Ironbark experience:

"One of the biggest highlights for me was the staff. The staff really create a perfect environment for the students and you form really strong bonds with each of the staff members. You create different bonds with each teacher. The different teachers also have different personalities and different ages, which creates a cool environment."

Personal development

Many of the aspects of Ironbark have strong underlying themes of personal development embedded within them. Frequently, students reflected on the positive experience of a specific activity and connected this to a sense of growth within themselves. Identifying specific themes is challenging given the overlap that is experienced, however to highlight a few core concepts identified by the students:

- Pride – sense of achievement/accomplishment;
- Challenging – self and others, cost and reward of challenges;
- Perseverance – persisting despite adversity;
- Self-awareness – better understanding of self;
- Courage – overcoming personal challenges; and
- Independence – increased capacity for self-directedness.

"I found things like Survival and Hike hard but afterwards I felt as though I had accomplished something."

"I learned to be a leader and feel confident. I started being more patient and controlling my anger because I felt empathy for others. Ironbark gave me a million great memories that I can reflect and grow from. I am now closer to a lot of people. I am not scared of making new friends. I believe more in myself and what I am capable of. I know that whatever goal I set if I work hard, I can achieve it."

"I liked the freedom of making my own decisions."

"I particularly enjoyed Rogaine and Survival, because we were left alone in the bush, and were building/navigating in a team dynamic, without any adults interfering. I was able to feel a sense of independence, and therefore I don't need to rely on my parents as much."

Farm Life/Activities

One of the most unique aspects of Ironbark is that it is a running and working farm and as a result, students are expected to contribute to not only 'farm' activities, but to take on greater independence in caring for their and others' space. The themes identified in students' responses were:

- Jobs – feeling a sense of pride, autonomy and contribution in completing tasks;
- Caring for animals – providing care to others in nature, a sense of responsibility;
- Increasing insight into everyday living – awareness of what it takes to provide food and run a farm; and
- Learning new skills – specific skills on the farm (e.g. fence building, planting, woodchop) and daily skills (cooking, cleaning).

"To play my part in a bigger community (e.g. by doing farm jobs, chores, cooking, cleaning, and connecting with the staff)."

"I really enjoyed the farm jobs as it gave me a sense of importance and let me feel and see how farmers work and live."

"Animals - getting to work with them, raise them, etc. was so much fun and really helped me gain a sense of responsibility. The animals at Ironbark were as much friends as the other kids there."

"I quite enjoyed milking the cattle and herding the sheep, I was able to appreciate the intelligence of a six-hour-old lamb, as well as the amount of time it takes to produce food."

Connectedness to Nature

Students reported positive experiences of reflecting on nature and their connections with it. They identified aspects of their Ironbark experience where they experienced a sense of gratitude and appreciation for their natural environment:

"I loved looking at nature and the stars on Cronins Night 2 when we went up to the cave."

"I found a love for animals and the environment, especially with cows and sheep."

Challenges

Students identified a range of aspects that they found challenging at Ironbark. Interestingly, many of these parallel with positive aspects they identified, and highlights the unique experience that each individual can have at Ironbark.

Specific Activities

Feedback was given about specific aspects of a number of activities. Generally, the comments related to components of the activity or the experience as a whole that students felt could be changed or improved. This feedback (reported separately) provides an opportunity for reflection on some of the activities and whether comments were representative of a broader experience.

Gender Separation

Many students commented on the separation of groups into males and females and reflected on the challenges they experienced as a result of this. In many cases, the comments highlighted a strong desire from students to extend their shared experience to include members of the opposite sex:

"Separating the boys and girls from each other so much. Sometimes you're having issues that only one person may know about and they may be a guy and you can't talk to them whenever you want."

"If there was something I would do to improve the Ironbark experience, it is to do more activities/spend more time with the boys. Of course, many of the activities can't be done with girls and boys (like low ropes/the wall) for good reason, however throughout the Ironbark experience the girls and boys were kept quite separate."

Duration

Overwhelmingly, the comments relating to duration identified that students want the experience to stay the same length or, in many cases, be extended. There were some comments referring to it being too long already and these typically referenced a sense of missing home:

"I think that making Ironbark longer would improve my experience a lot. Everything I learned while there could improve by staying for longer. I could make more memories and friendships."

"I hope that the length of Ironbark is not shortened. By the end of five weeks I was keen to see my family but I didn't really want to leave the lifestyle and the dorms. I think if Ironbark was made any shorter it would take away from the experience."

"The least helpful part was just the length of it. It's a long time to be away from friends and family. I missed them a lot and felt generally disconnected, which wasn't always a bad thing but a lot of the time, because I was there for so long, I just wished to go home and didn't enjoy the experience as much. Then, when it was over I missed it and regretted not enjoying it as much."

Spirituality

Some comments indicated that students would like some of the religious aspects of Ironbark to be considered/applied differently. The comments broadly referred to the timing of regular devotion i.e. that it was too long/frequent and the emphasis of religion within Ironbark activities:

"I really enjoyed the devotions but I think it would have been just as beneficial if we had done some card games or something as a group rather than devotions. This would have got us together more and got us closer as a group, including Ms Mason."

"Whenever we talked about how participating in some of the activities was making us uncomfortable, the staff argued and

assumed that we went to St Peters because it's a Christian school and we have to participate in all the activities just because it is a Christian school."

Peer Difficulties

Many of the challenges acknowledged by students relate to the themes identified in the positives with regards to peer interactions. The themes identified related to:

- Perceived inequality/unfairness – people not participating, doing their share;
- Interpersonal conflict – difficult personal interactions, behaviour, clash of interpersonal style;
- Impact of extended social contact – spending a long amount of time together;
- Trust – psychological safety in relationships;
- Sharing in others' challenges – empathy, practical aspects of supporting others; and
- Understanding of peer differences – others' interpersonal style can be different to our own, our belief of what others should do.

"When you get annoyed at someone and you can't get away from them because you are living with them for five weeks."

"The gossip in my group hurt me sometimes, especially when it was about my friends. One friend told another friends' deepest secret to everyone, and that really hurt me."

"People getting homesick or having issues and me not being able to help."

"I found it unhelpful when people didn't really welcome me as a 'friend' and made it hard for me to communicate with them."

"Very few boys from Boys Night learned and took in stuff, like leading from behind and staying as a group."

"Having to live with people that you may not like."

Personal Difficulties

Students identified some personal difficulties that they experienced throughout Ironbark, which included experiences specific to them and more broadly shared challenges, such as homesickness. Often the comments related to personal challenges were also related to their sense of connectedness to others and in many cases, this was expressed as a positive reflection despite the personal challenge:

"Five weeks was quite a long time and I found it really hard to not always think about my parents and home in Brisbane."

"The other thing was just the homesickness. But my friends were always there to comfort me."

Influence in Decision Making

Comments indicated that students would have appreciated more influence in making decisions across aspects of their Ironbark experience. This ranged from specifics (e.g. choosing how much food to bring on Hike) through to general comments about being given more of a choice in groups and activities:

"To improve my experience it would have been better if we were able to choose the groups that we were in so that it would be more enjoyable for everyone because the experience could have been better with different people."

"After the second week, I wish we were able to choose our chores as I would have liked to do pigs and dairy more and I know people who wished to do more cooking and gardening."

"I think that for big activities (e.g. Hike and Survival), there should be a 'one friend rule'; that either everyone has no friends in the group, or everyone has at least one friend in the group."

Behavioural Consequences

Students commented on the enforcement of certain rules and their perception of rules that they felt were unfair, for example, rules that were specific for girls ('shorts over leggings rule'). Students also commented on situations where they felt that rules were unfairly enforced:

"I found it least helpful when teachers would give out punishments or judge unfairly, most of the time just because I was trying to make friends."

Relationships with Staff

Specific relationships with staff were commented on, including a perception of how empathic staff were in particular situations. Students' comments highlighted the impact that incidents can have on the relationships they develop with staff.

Farm Activities

Personal preference for activities were highlighted in the comments about farm life and activities and what students did not like. Interestingly, 'lantana bashing' was frequently commented on, however the key issue was about 'the point' of doing it, suggesting the importance of connecting activity to purpose and meaning:

"Shovelling pig poo. I mean, don't get me wrong, I loved working with the people, just why? Why shovel pig poo? It has to be done and I understand but, it's like quantum physics:

unless you're a quantum physicist, quantum physics won't help you. Unless you're a farmer, shovelling pig poo is not going to help your cause, and I can promise you as much as I loved Ironbark, I loved Ironbark not the farm. I'm not going to become a farmer. Period."

"I found some of the activities pointless to a degree. I believe that everything had a point to it and there was always a reason to do something but at the time, I couldn't see it. For example, clearing lantana. I didn't see the point in clearing a weed that will just grow back anyways. After Ironbark, thinking about it, I guess a reason for clearing lantana would be, yes, to help the community and to clear the land but also to teach us that we are a part of a greater community and all need to work together to get along."

NAPLAN

A unique experience for those in AB, completing NAPLAN at Ironbark was identified as a challenge across a number of comments, particularly relating to how it impacted on the rhythm of their Ironbark experience:

"NAPLAN was annoying because people that were on Cronins had to come back every day on Survival and I felt I didn't get to live the full experience, which was a bit disappointing."

"I believe NAPLAN affected my opinion of rest as, after Survival, we should have had a week of rest but instead we had Hike, which created pressure and tirednes."

General Reflections

The following student quotes capture the intersection between both positives and challenges and the experience of growth that many students reported on, as well as the lasting impact that their Ironbark experience had:

"At the time there was stuff that I really didn't enjoy, like the timed run and the cleaning of the pig pens. But looking back on the experience, I would do it all again. So no, there is nothing I believe that could change the Ironbark program for the better."

"I found there was nothing I would want to do to improve my experience. There were obviously things I didn't love doing and things I wouldn't want to do again, but they made the experience and created new memories as well as showed me the value of effort and grew my confidence."

"On the abseil, considering that heights are a challenge for me, going third was my way of getting it over and done with. However, in the end, it was my favourite experience of them all and one that I would love to re-live."

"I think that everything that happened at my Ironbark experience happened for a reason, even if it was negative and I didn't enjoy it at the time. I'm trying to think of it as a learning curve and if it didn't happen then maybe something really positive might not have. So no, I wouldn't want to change anything that happened at Ironbark because maybe it wouldn't have improved my experience."

Discussion

The results of our research showed that students who attended Ironbark experienced significant improvements in a range of aspects that relate to their social and emotional wellbeing. Both the quantitative and qualitative measures provided similar findings in terms of the positive experiences and growth that students experienced. There were some interesting patterns between the experience of both males and females, suggesting that their experience of Ironbark differed somewhat, which is an area for further exploration.

In terms of the general results, we have identified three key themes that we feel best captured both the quantitative findings and the qualitative reports of students:

Relationships

Overwhelmingly, students reflected on the importance of developing, improving and managing relationships with both peers and staff. Based on the qualitative feedback, the impact of these relationships is profound. Students highlighted the impact of care and support shown by others, the benefit of shared time, as well as activities and rituals that facilitate togetherness. Overall, they reported that the sense of getting to know others and the bonding experience of Ironbark was deeply valued and many went as far to refer to it with language relating to that of a 'family'. The quantitative results also support this with improved levels of connectedness (EPOCH), social competence (SCST) and prosocial skills (SDQ – Prosocial). The role of connectedness and positive relationships in wellbeing is well documented and highlights the critical contribution Ironbark makes to fostering these positive experiences (Catalano, Haggerty, Oesterle, Fleminig, & Hawkins, 2004).

Personal Growth

Whilst there is considerable overlap with the positive experience of strong relationships, it is also important to note that personal growth was an aspect of great importance to students and their Ironbark experience.

Improvement in overall wellbeing (EPOCH, SDQ), greater skills in problem solving and decision making (MDIEL), levels of independence (AADL), and overall competence in making active and intentional changes for personal growth (PGIS-II) were observed. The feedback provided by students highlights the changes they experienced in themselves; pride in achieving a challenging goal, perseverance in the face of adversity, courage to overcome personal challenges and a deeper sense of independence.

The 'Ironbark Experience'

Finally, the underlying foundation that facilitates these positive experiences are the many unique features of Ironbark. What was identified most strongly was that the overall structure, programs and activities were what provided the unique circumstances for students to experience many of the positive outcomes reported here.

The specific activities, particularly the 'adventure' activities (e.g. Hike, Solo, Survival, Cronins, Jacobs Ladder, Flying Fox, etc.), were frequently connected to important positive experiences. In this way, these activities were the context through which students were able to experience positive aspects such as personal growth, improved relationships with peers and connectedness to nature.

Interestingly, students identified the experience of being on a working farm and completing the jobs associated with this, as well as caring for their space in an extended stay, as something of real importance to them. Our interpretation of this is two-fold. The first is that students experienced a sense of accomplishment in completing tasks, with many students identifying pride and independence in being given a task and completing it. The second aspect, and arguably most important, is their improved understanding of the role of these activities in the context of the smooth-running of their environment. This is a unique feature of the Ironbark experience as there are clear responsibilities for students and these responsibilities all have a clear purpose.

Future Considerations

As with all experiences, there were aspects of Ironbark that students found challenging. In these responses, we are given insight into not only the aspects that may benefit from further consideration but also what students value.

As a general point, students' responses highlighted the importance of having mechanisms in place to seek regular feedback and to respond appropriately to this. Across some of the themes identified (e.g. specific activities, relationships with staff, behavioural consequences, farm activities, influence in decision making), there are opportunities to identify situations where a dynamic feedback process may provide a learning opportunity for both the students and staff.

A significant aspect that was identified by students was the separation of males and females. This provides a good example of a decision that may benefit from further consideration but also what students value. Their comments showed an interest in growing their personal relationships to be more encompassing and that they valued the sense of togetherness that connecting with a range of others brings. This may also be true of the experience some students have with aspects of spirituality at Ironbark, where students identified a desire to connect with spirituality in more diverse ways and to consider the more 'informal' aspects of spirituality (e.g. gratitude).

Conclusion

It is clear from the research that Ironbark provides a positive and enriching experience for students who attend. Certainly for some, their experience of Ironbark was challenging in various ways however, for many, it will serve as a unique period of time where they experienced accelerated social and emotional growth that forms lasting memories. Snapshots of these experiences are provided by the students when asked to reflect on some positive stories.

Ironbark's core values include getting along, confidence, organisation, resilience and persistence. The activities at Ironbark aim to help facilitate greater knowledge, growth and awareness through community living, developing farm skills, environmental awareness and outdoor pursuits. The results of our research demonstrated that many of the values and aims of Ironbark were endorsed by students. Both the quantitative and qualitative research showed that students' confidence and knowledge, as well as their ability to get along with others, all improved significantly over their time at Ironbark. Additionally, quantitative data endorsed that students' awareness and ability to persist also improved during this time. Qualitative feedback provided evidence that their journey at Ironbark helped improve both their resilience and growth. The research therefore supports previous anecdotal feedback of the significant contribution Ironbark makes to students' lives and has given us insight into potential improvements that can be made to enhance this experience.

Ironbark Stories

"I loved the walk we did one night on Cronins. We went to this little cave and it was so dark I couldn't even see my hands in front of my eyes. It made me feel so lucky to have the blessing of sight. Then we climbed out of the cave and sat on top, watching the stars. It made me want to stay there forever."

"I think my favourite event was receiving the world's longest letter from my mum (it was long enough to go from my bed to the front of the boys dorm door)."

"Before Ironbark, I didn't really know the AB group that well – I was only friends with a few of them. But after coming out of Ironbark I am a lot closer with nearly everyone in my group. We went in as strangers and have come out so close and I think that's really important."

"Me and a friend were doing abseiling and rock climbing. We wanted to do Tree Climb but we couldn't because it was full. There was a one-hour walk to the rock for Abseil and Rock Climb. We talked and laughed on that walk. We ended up being so glad that we didn't do Tree Climb because we had so much fun. We had done something different that a lot of people don't do at Ironbark. On our second abseil, my friend and I did a double abseil! We both went down at the same time! And then we took some really funny pretend photos of us falling off cliffs with Ms B. We bonded and now talk all the time in class."

"When starting off at Ironbark, I didn't know many people in my group apart from my friends at school. But as time went on, I got to know a lot more people, and made so many new friends because of jobs, activities etc. At first, I was socially ucomfortable with others I did not know, but after those few weeks, I felt a lot more comfortable with having conversations with people."

"The whole of Ironbark was a challenge, but the morning runs were the hardest for me. I'm not afraid of heights, so Jacob's Ladder and Tree Climb didn't scare me, and the hike wasn't too bad in itself. But the runs were a huge challenge. Somehow, I could never quite convince myself that it was worth running the whole thing, and I'd always stop to walk eventually. I kept doing this again and again. I desperately wanted to get my time under 15 minutes but knew that I'd really have to push. So, on the last timed run ever, I ran all out, as far as I could. Right near the end I started to notice that my breathing was really ragged. Everything hurt. I yelled. I didn't yell any words or anything, but I just had to scream to get some of my emotions out. But I kept running, and yelling occasionally, although that didn't help with my stitch! Right at the finish line I screamed one last time, and then I crossed the line at a time of 14 minutes 39 seconds. I collapsed on the ground, as the world was spinning before my eyes. And all I could think of was, 'I did it.' Yay!"

"Many of the positive experiences were around people. The way we worked together and funny things that happened on jobs really made my day or made me laugh, even though it was ridiculously stupid. Most of the positive memories I have come away with would be totally different had 2017 CD been different."

"At Cronins, I had a heart-to-heart with one of the other students who was one of my friends but we weren't best friends or extremely close, but friends through friends. We talked about stuff in our life to do with our family and getting it all out was really nice. Our stories related to each other and it was really nice and comforting."

"On Hike, there were these two massive, really steep hills right at the end of Day 2 and a few girls in my group, including

myself, were really struggling to get up there with our heavy packs on. Some guys who were already at the top saw us struggling and rushed down the hill to help us carry our packs and help us get to camp. It was really sweet, and it was great to see people were willing to help us achieve our goal."

"My positive story is from Jacobs Ladder. I am terrified of heights, so being on a giant swinging ladder with only a couple of people ensuring you don't fall, really didn't appeal to me. I was terrified from the get go, but when my friends who were on the bottom started cheering me and my two other friends on, it made me feel so good. I loved hearing

them cheer our names and saying words of encouragement. It was when we came down and one of the girls came and hugged me saying how proud of me she was – that's what really made my Ironbark experience."

"One of my favourite memories of Ironbark was the nights on Hike - arriving at camp and taking the initiative to set up the camp, prepare dinner and prepare for the next day. Hike opened the doors to a new world of independence where we were in charge of taking care of ourselves and our teammates. That really helped me realise exactly what I can do."

Acknowledgements

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Appendix of Results

Paired samples t-test – all groups

EPOCH (EPOCH)

Engagement – Significant difference $t(121)$ = -5.351, $p<.001$. Effect size d= .50

Persistence – Significant difference $t(121)$ = -5.771, $p<.001$ Effect size d= .52

Optimism – Significant difference $t(121)$ = -5.324, $p<.001$ Effect size d= .48

Connectedness – Significant difference $t(121)$ = -2.316, $p=.022$ Effect size d= .21

Happiness – Significant difference $t(121)$ = -4.598, $p<.001$ Effect size d= .41

Making Decisions in Everyday Life (MDIEL)

Significant difference $t(121)$ = -5.494, $p<.001$ Effect size d= .48

Connectedness to Nature Scale (CTNS)

Significant difference $t(121)$ = -3.004, $p=.003$ Effect size d= .28

Strengths and Difficulties Questionnaire (SDQ)

Prosocial – Non-significant difference $t(121)$ = -1.450, $p=.150$

Hyperactivity – Significant difference $t(121)$ = 3.903, $p<.001$ Effect size d= .34

Emotional Problems – Significant difference $t(121)$ = 2.593, $p=.011$ Effect size d= .23

Conduct Problems – Significant difference $t(121)$ = 2.630, $p=.010$ Effect size d= .23

Peer Problems – Non-significant difference $t(121)$ = 1.826, $p=.070$

Externalising – Significant difference $t(121)$ = 4.175, $p<.001$ Effect size d= .36

Internalising – Significant difference $t(121)$ = 2.943, $p=.004$ Effect size d= .27

Total Difficulties – Significant difference $t(121)$ = 4.478, $p<.001$ Effect size d= .40

Adapted Activities of Daily Living

Significant difference $t(121)$ = -6.884, $p<.001$ Effect size d= .57

Personal Growth Initiative Scale – II (PGIS-II)

Planfulness – Significant difference $t(121)$ = -7.021, $p<.001$ Effect size d= .60

Readiness for Change – Significant difference $t(121)$ = -5.243, $p<.001$ Effect size d= .47

Intentional Behaviour – Significant difference $t(121)$ = -4.145, $p<.001$ Effect size d= .35

Using Resources – Significant difference $t(121)$ = -6.456, $p<.001$ Effect size d= .53

Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)

Significant difference $t(121)$ = -2.317, $p=.022$ Effect size d= .22

Social Competence Scale for Teenagers (SCST)

Significant difference $t(121)$ = -2.689, $p=.008$ Effect size d= .23

		Mean	N	Std. Deviation	Std. Error Mean
Paired Samples Statistics					
Pair 1	epoc_engagement_s_t1	3.0656	122	.81045	.07337
	epoc_engagement_s_t2	3.3832	122	.83764	.07584
Pair 2	epoc_connect_s_t1	4.3463	122	.65669	.05945
	epoc_connect_s_t2	4.4529	122	.65503	.05930
Pair 3	epoc_persist_s_t1	3.4508	122	.79490	.07197
	epoc_persist_s_t2	3.7254	122	.76291	.06907
Pair 4	epoc_optimism_s_t1	3.2992	122	.88060	.07973
	epoc_optimism_s_t2	3.6230	122	.84931	.07689
Pair 5	epoc_happiness_s_t1	3.8053	122	.86334	.07816
	epoc_happiness_s_t2	4.0184	122	.83206	.07533
Pair 6	mdiel_s_t1	75.9180	122	10.29610	.93217
	mdiel_s_t2	79.9262	122	9.65279	.87392
Pair 7	ctns_s_t1	45.0082	122	8.52851	.77213
	ctns_s_t2	46.8607	122	8.58436	.77719
Pair 8	sdq_pro_s_t1	8.1639	122	1.69277	.15326
	sdq_pro_s_t2	8.3279	122	1.76954	.16021
Pair 9	sdq_hyper_s_t1	4.5656	122	2.31769	.20983
	sdq_hyper_s_t2	3.9754	122	2.12604	.19248
Pair 10	sdq_emotion_s_t1	3.9918	122	2.72271	.24650
	sdq_emotion_s_t2	3.5410	122	2.49014	.22545
Pair 11	sdq_conduct_s_t1	2.0902	122	1.93704	.17537
	sdq_conduct_s_t2	1.7213	122	1.87750	.16998
Pair 12	sdq_peer_s_t1	1.9590	122	1.74108	.15763
	sdq_peer_s_t2	1.7213	122	1.81027	.16389
Pair 13	sdq_total_s_t1	12.6066	122	5.95098	.53878
	sdq_total_s_t2	10.9590	122	5.88512	.53281
Pair 14	sdq_ex_s_t1	6.6557	122	3.55307	.32168
	sdq_ex_s_t2	5.6967	122	3.31510	.30014
Pair 15	sdq_in_s_t1	5.9508	122	3.71250	.33611
	sdq_in_s_t2	5.2623	122	3.62909	.32856
Pair 16	adl_s_t1	26.6803	122	3.34582	.30292
	adl_s_t2	28.3525	122	2.72400	.24662
Pair 17	pgi_plan_s_t1	3.3049	122	.98054	.08877
	pgi_plan_s_t2	3.7787	122	.82914	.07507
Pair 18	pgi_readiness_s_t1	3.4857	122	.90013	.08149
	pgi_readiness_s_t2	3.8258	122	.85997	.07786
Pair 19	pgi_intention_s_t1	3.6824	122	.98493	.08917
	pgi_intention_s_t2	3.9488	122	.86300	.07813
Pair 20	pgi_resources_s_t1	2.7896	122	1.26564	.11459
	pgi_resources_s_t2	3.4536	122	.98666	.08933
Pair 21	srfq_s_t1	19.5082	122	8.91581	.80720
	srfq_s_t2	20.5820	122	9.57687	.86705
Pair 22	sc_s_t1	28.7541	122	4.76265	.43119
	sc_s_t2	29.5902	122	4.10352	.37152

Paired samples t-test – Males

EPOCH (EPOCH)

Engagement – Significant difference t(56) = -4.043, p<.001 Effect size d= .52

Persistence – Significant difference t(56) = -3.699, p<.001 Effect size d= .49

Optimism – Significant difference t(56) = -4.636, p<.001 Effect size d= .59

Connectedness – Significant difference t(56) = -3.351, p=.001 Effect size d= .44

Happiness – Significant difference t(56) = -4.015, p<.001 Effect size d= .51

Making Decisions in Everyday Life (MDIEL)

Significant difference t(56) = -4.474, p<.001 Effect size d= .57

Connectedness to Nature Scale (CTNS)

Significant difference t(56) = -2.11, p=.039 Effect size d= .28

Strengths and Difficulties Questionnaire (SDQ)

Prosocial – Non-significant difference t(56) = -.094, p=.925

Hyperactivity – Non-significant difference t(56) = 1.994, p=.051

Emotional Problems – Non-significant difference t(56) = .663, p=.510

Conduct Problems – Non-significant difference t(56) = .854, p=.397

Peer Problems – Non-significant difference t(56) = .348, p=.729

Externalising – Non-significant difference t(56) = 1.882, p=.065

Internalising – Non-significant difference t(56) = .697, p=.489

Total Difficulties – Non-significant difference t(56) = 1.698, p=.095

Adapted Activities of Daily Living

Significant difference t(56) = -4.495, p<.001 Effect size d= .55

Personal Growth Initiative Scale – II (PGIS-II)

Planfulness – Significant difference t(56) = -4.427, p<.001 Effect size d= .55

Readiness for Change – Significant difference t(56) = -2.970, p=.004 Effect size d= .41

Intentional Behaviour – Non-significant difference t(56) = -1.448, p=.153

Using Resources – Significant difference t(56) = -3.465, p=.001 Effect size d= .42

Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)

Non-significant difference t(56) = -.946, p=.348

Social Competence Scale for Teenagers (SCST)

Non-significant difference t(56) = -1.886, p=.064

		Mean	N	Std. Deviation	Std. Error Mean
Paired Samples Statistics					
Pair 1	epoc_engagement_s_t1	3.0482	57	.85100	.11272
	epoc_engagement_s_t2	3.4123	57	.80801	.10702
Pair 2	epoc_connect_s_t1	4.2149	57	.70464	.09333
	epoc_connect_s_t2	4.4254	57	.68296	.09046
Pair 3	epoc_persist_s_t1	3.4649	57	.78836	.10442
	epoc_persist_s_t2	3.7456	57	.78133	.10349
Pair 4	epoc_optimism_s_t1	3.3377	57	.95255	.12617
	epoc_optimism_s_t2	3.7281	57	.85862	.11373
Pair 5	epoc_happiness_s_t1	3.8289	57	.93441	.12377
	epoc_happiness_s_t2	4.0833	57	.82960	.10988
Pair 6	mdiel_s_t1	75.4211	57	10.65187	1.41088
	mdiel_s_t2	80.2632	57	9.87878	1.30848
Pair 7	ctns_s_t1	43.9298	57	9.42804	1.24877
	ctns_s_t2	46.0351	57	9.15534	1.21265
Pair 8	sdq_pro_s_t1	7.8772	57	1.80347	.23888
	sdq_pro_s_t2	7.8947	57	1.82917	.24228
Pair 9	sdq_hyper_s_t1	4.2632	57	2.34921	.31116
	sdq_hyper_s_t2	3.7895	57	2.05058	.27161
Pair 10	sdq_emotion_s_t1	3.0526	57	2.55246	.33808
	sdq_emotion_s_t2	2.9123	57	2.40743	.31887
Pair 11	sdq_conduct_s_t1	2.2281	57	2.03555	.26962
	sdq_conduct_s_t2	2.0351	57	2.20361	.29188
Pair 12	sdq_peer_s_t1	1.9649	57	2.00860	.26605
	sdq_peer_s_t2	1.8947	57	1.97017	.26096
Pair 13	sdq_total_s_t1	11.5088	57	6.43962	.85295
	sdq_total_s_t2	10.6316	57	6.88589	.91206
Pair 14	sdq_ex_s_t1	6.4912	57	3.63575	.48157
	sdq_ex_s_t2	5.8246	57	3.56632	.47237
Pair 15	sdq_in_s_t1	5.0175	57	3.97982	.52714
	sdq_in_s_t2	4.8070	57	3.94352	.52233
Pair 16	adl_s_t1	26.2632	57	3.29787	.43681
	adl_s_t2	27.8772	57	2.71287	.35933
Pair 17	pgi_plan_s_t1	3.2772	57	.99337	.13158
	pgi_plan_s_t2	3.7439	57	.86500	.11457
Pair 18	pgi_readiness_s_t1	3.4211	57	.88155	.11676
	pgi_readiness_s_t2	3.7193	57	.95088	.12595
Pair 19	pgi_intention_s_t1	3.6667	57	.96285	.12753
	pgi_intention_s_t2	3.8026	57	.95284	.12621
Pair 20	pgi_resources_s_t1	2.8304	57	1.26636	.16773
	pgi_resources_s_t2	3.3918	57	1.01989	.13509
Pair 21	srfq_s_t1	19.6316	57	9.22077	1.22132
	srfq_s_t2	20.2456	57	9.77110	1.29421
Pair 22	sc_s_t1	27.9123	57	5.24500	.69472
	sc_s_t2	28.6491	57	4.50195	.59630

Paired Samples t-test – Females

EPOCH (EPOCH)

Engagement – Significant difference $t(63)$ = -3.578, p=.001 Effect size d= .47

Persistence – Significant difference $t(63)$ = -4.583, p<.001 Effect size d= .55

Optimism – Significant difference $t(63)$ = -3.169, p=.002 Effect size d= .39

Connectedness – Non-significant difference $t(63)$ = -.178, p=.859

Happiness – Significant difference $t(63)$ = -2.708, p=.009 Effect size d= .34

Making Decisions in Everyday Life (MDIEL)

Significant difference $t(63)$ = -3.328, p=.001 Effect size d= .40

Connectedness to Nature Scale (CTNS)

Significant difference $t(63)$ = -2.179, p=.033 Effect size d= .28

Strengths and Difficulties Questionnaire (SDQ)

Prosocial – Significant difference $t(63)$ = -2.488, p=.015 Effect size d= .32

Hyperactivity – Significant difference $t(63)$ = 3.498, p=.001 Effect size d= .43

Emotional Problems – Significant difference $t(63)$ = 2.797, p=.007 Effect size d= .34

Conduct Problems – Significant difference $t(63)$ = 2.940, p=.005 Effect size d= .34

Peer Problems – Significant difference $t(63)$ = 2.291, p=.025 Effect size d= .31

Externalising – Significant difference $t(63)$ = 3.980, p<.001 Effect size d= .48

Internalising – Significant difference $t(63)$ = 3.280, p=.002 Effect size d= .41

Total Difficulties – Significant difference $t(63)$ = 4.528, p<.001 Effect size d= .54

Adapted Activities of Daily Living

Significant difference $t(63)$ = -5.094, p<.001 Effect size d= .59

Personal Growth Initiative Scale – II (PGIS-II)

Planfulness – Significant difference $t(63)$ = -5.635, p<.001 Effect size d= .65

Readiness for Change – Significant difference $t(63)$ = -4.466, p<.001 Effect size d= .52

Intentional Behaviour – Significant difference $t(63)$ = -4.321, p<.001 Effect size d= .50

Using Resources – Significant difference $t(63)$ = -5.731, p<.001 Effect size d= .65

Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)

Significant difference $t(63)$ = -2.244, p=.028 Effect size d= .30

Social Competence Scale for Teenagers (SCST)

Non-significant difference $t(63)$ = -1.911, p=.061

		Mean	N	Std. Deviation	Std. Error Mean
Paired Samples Statistics					
Pair 1	epoc_engagement_s_t1	3.0938	64	.77856	.09732
	epoc_engagement_s_t2	3.3789	64	.85796	.10725
Pair 2	epoc_connect_s_t1	4.4766	64	.58540	.07318
	epoc_connect_s_t2	4.4883	64	.63219	.07902
Pair 3	epoc_persist_s_t1	3.4492	64	.80817	.10102
	epoc_persist_s_t2	3.7266	64	.74231	.09279
Pair 4	epoc_optimism_s_t1	3.2852	64	.80901	.10113
	epoc_optimism_s_t2	3.5625	64	.80302	.10038
Pair 5	epoc_happiness_s_t1	3.8086	64	.78521	.09815
	epoc_happiness_s_t2	3.9922	64	.80545	.10068
Pair 6	mdiel_s_t1	76.5625	64	9.97278	1.24660
	mdiel_s_t2	79.8906	64	9.35731	1.16966
Pair 7	ctns_s_t1	46.0313	64	7.63652	.95457
	ctns_s_t2	47.7188	64	8.04248	1.00531
Pair 8	sdq_pro_s_t1	8.4063	64	1.57075	.19634
	sdq_pro_s_t2	8.7344	64	1.63535	.20442
Pair 9	sdq_hyper_s_t1	4.7656	64	2.23068	.27884
	sdq_hyper_s_t2	4.0781	64	2.15513	.26939
Pair 10	sdq_emotion_s_t1	4.7813	64	2.62145	.32768
	sdq_emotion_s_t2	4.0313	64	2.41667	.30208
Pair 11	sdq_conduct_s_t1	1.9844	64	1.86439	.23305
	sdq_conduct_s_t2	1.4688	64	1.50099	.18762
Pair 12	sdq_peer_s_t1	1.9531	64	1.49528	.18691
	sdq_peer_s_t2	1.5625	64	1.67023	.20878
Pair 13	sdq_total_s_t1	13.4844	64	5.35114	.66889
	sdq_total_s_t2	11.1406	64	4.84315	.60539
Pair 14	sdq_ex_s_t1	6.7500	64	3.50510	.43814
	sdq_ex_s_t2	5.5469	64	3.11132	.38891
Pair 15	sdq_in_s_t1	6.7344	64	3.29137	.41142
	sdq_in_s_t2	5.5938	64	3.28884	.41110
Pair 16	adl_s_t1	27.0469	64	3.39668	.42459
	adl_s_t2	28.7656	64	2.70650	.33831
Pair 17	pgi_plan_s_t1	3.3500	64	.96937	.12117
	pgi_plan_s_t2	3.8438	64	.75800	.09475
Pair 18	pgi_readiness_s_t1	3.5586	64	.91693	.11462
	pgi_readiness_s_t2	3.9414	64	.75164	.09396
Pair 19	pgi_intention_s_t1	3.7148	64	1.00777	.12597
	pgi_intention_s_t2	4.0938	64	.75396	.09424
Pair 20	pgi_resources_s_t1	2.7865	64	1.25619	.15702
	pgi_resources_s_t2	3.5469	64	.91503	.11438
Pair 21	srfq_s_t1	19.5469	64	8.69762	1.08720
	srfq_s_t2	21.0469	64	9.44395	1.18049
Pair 22	sc_s_t1	29.5625	64	4.19325	.52416
	sc_s_t2	30.4844	64	3.53662	.44208

Independent Samples t-test – Males and Females

EPOCH (EPOCH)

Engagement – Non-significant difference t(119) = .658, p=.512

Persistence – Non-significant difference t(119) = .035, p=.972

Optimism – Non-significant difference t(119) = .925, p=.357

Connectedness – Significant difference t(119) = -2.173, p=.032 Effect size d= .40

Happiness – Non-significant difference t(119) = .757, p=.450

Making Decisions in Everyday Life (MDIEL)

Non-significant difference t(119) = 1.029, p=.306

Connectedness to Nature Scale (CTNS)

Non-significant difference t(119) = .335, p=.739

Strengths and Difficulties Questionnaire (SDQ)

Prosocial – Non-significant difference t(119) = -1.382, p=.169

Hyperactivity – Non-significant difference t(119) = .699, p=.486

Emotional Problems – Non-significant difference (equal variances not assumed) t(115.492) = 1.785, p=.077

Conduct Problems – Non-significant difference t(119) = 1.141, p=.256

Peer Problems – Non-significant difference t(119) = 1.221, p=.224

Externalising – Non-significant difference t(119) = 1.159, p=.249

Internalising – Significant difference (equal variances not assumed) t(118.224) = 2.019, p=.046 Effect size d= .37

Total Difficulties – Significant difference t(119) = 1.998, p<.048 Effect size d= .36

Adapted Activities of Daily Living

Non-significant difference t(119) = -.213, p=.832

Personal Growth Initiative Scale – II (PGIS-II)

Planfulness – Non-significant difference t(119) = -.199, p=.843

Readiness for Change – Non-significant difference t(119) = -.644, p=.521

Intentional Behaviour – Non-significant difference t(119) = -1.892, p=.061

Using Resources – Non-significant difference t(119) = -.958, p=.340

Santa Clara Strength of Religious Faith Questionnaire (SCSRFQ)

Non-significant difference t(119) = -.946, p=.346

Social Competence Scale for Teenagers (SCST)

Non-significant difference t(119) = -.294, p=.770

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
epoc_engagement_change	1	57	.3640	.67986	.09005
	2	64	.2852	.63756	.07969
epoc_connect_change	1	57	.2105	.47432	.06282
	2	64	.0117	.52597	.06575
epoc_persist_change	1	57	.2807	.57296	.07589
	2	64	.2773	.48411	.06051
epoc_optimism_change	1	57	.3904	.63565	.08419
	2	64	.2773	.70022	.08753
epoc_happiness_change	1	57	.2544	.47830	.06335
	2	64	.1836	.54234	.06779
mdiel_change	1	57	4.8421	8.17179	1.08238
	2	64	3.3281	8.00011	1.00001
ctns_change	1	57	2.1053	7.53014	.99739
	2	64	1.6875	6.19492	.77436
sdq_pro_change	1	57	.0175	1.40777	.18646
	2	64	.3281	1.05492	.13186
sdq_hyper_change	1	57	-.4737	1.79389	.23761
	2	64	-.6875	1.57233	.19654
sdq_emotion_change	1	57	-.1404	1.59730	.21157
	2	64	-.7500	2.14550	.26819
sdq_conduct_change	1	57	-.1930	1.70544	.22589
	2	64	-.5156	1.40286	.17536
sdq_peer_change	1	57	-.0702	1.52198	.20159
	2	64	-.3906	1.36413	.17052
sdq_total_change	1	57	-.8772	3.90087	.51668
	2	64	-2.3438	4.14123	.51765
sdq_ex_change	1	57	-.6667	2.67484	.35429
	2	64	-1.2031	2.41805	.30226
sdq_in_change	1	57	-.2105	2.28142	.30218
	2	64	-1.1406	2.78241	.34780
adl_change	1	57	1.6140	2.71079	.35905
	2	64	1.7188	2.69902	.33738
pgi_plan_change	1	57	.4667	.79582	.10541
	2	64	.4938	.70099	.08762
pgi_readiness_change	1	57	.2982	.75805	.10041
	2	64	.3828	.68569	.08571
pgi_intention_change	1	57	.1360	.70879	.09388
	2	64	.3789	.70146	.08768
pgi_resources_change	1	57	.5614	1.22338	.16204
	2	64	.7604	1.06154	.13269
srfq_change	1	57	.6140	4.89808	.64877
	2	64	1.5000	5.34819	.66852
sc_change	1	57	.7368	2.94913	.39062
	2	64	.9219	3.85987	.48248