



**The Restorative Capability of a Short Course  
Outdoor Education Programmes**

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## **Abstract**

**Background/Aim:** There is a strong basis of literature to support the positive effect that nature contact, outdoor based therapies, green exercise and the mere presence of green space can have on a young person's mental health. However, very little was found with regards to sole participation in a short course outdoor education programme without any form of additional intervention or therapeutic support. Within this research the aim was to examine the effects of a short course education programme within green space and nature, on a small cohort of young people with poor mental health utilising Attention Restoration Theory.

**Methods:** 8 candidates aged 12 to 14 (mix female and male) were recruited from a local secondary school to take part in a 6 week self-selected outdoor education programme (OEP) at an established centre with a 10 acre lake, set amongst 50 acres of open grass land with a small woodland area. The candidates were already accessing Child and Adolescent Mental Health Services (CAMHS) via the local Health and Care (NHS) Trust and thus no baseline implementer survey was undertaken. The research followed a quasi-experimental pre/post-test design using 3 questionnaires Rosenberg Self Esteem Scale (RSE), Profile of Mood States (POMS) and Spence Children's Anxiety Scale (SCAS).

**Results:** The results were examined using SPSS (*t – test: Paired Two Sample for Means*) and via questionnaire subscales. No statistical significance across *Group, Individual or Questionnaire* was found and the subscale scores presented a varied and relatively inconsistent set of data overall. Despite this, within the POMS data there was a consistent improvement in the positive subscale score showing increased *Vigour (more Alert and Vigorous)* and particularly reduced *Exhaustion* (within Fatigue subscale) across all candidates following the outdoor education programme. There were also non-statistically significant positive changes seen for 'some' candidates, which showed improvements in all measured areas. However, most notably the majority of candidates showed an *Elevated* anxiety score post programme.

**Conclusions:** These findings support the argument that nature can in some cases for some people positively influence mental health; particularly increasing *Vigour* and reducing *Exhaustion*, which does lend itself to the proposed restorative capabilities. However, in this case it is still remains uncertain whether the nature contact itself, the activities undertaken or in fact the development of peer social relationships in a restorative environment is responsible for the positive changes seen. Additional research is needed with more rigorous study designs and objective measures of both nature and mental health outcomes to confirm statistically significant relationships.

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## **Introduction**

After having completed a previous research study into the impact of a 6 week Outdoor Education program on the Resilience of a small cohort of AP (Alternative Provision) Free School candidates the results found were fairly inconclusive with regards to the sample size and therefore data set in which resilience levels actually decreased, which was corroborated by other authors. Past studies have shown there is as direct link between poor resilience and psychological symptoms such as depression and anxiety (Hjemdal, Aune, Reinfjell, Stiles, & Friberg, 2007; Hjemdal, Vogel, Solem, Hagen, & Stiles, 2011; Runkewitz, Kirchmann, & Strauss, 2006) which has encouraged me in my wish to explore the area of mental health further in relation to the restorative qualities of green space, nature via outdoor education.

One of the three key themes from my previous research which consistently decreased across the small number of candidates was that of *Emotional Control*, the extent to which the individual perceives he/she maintains emotional control when he/she is faced with potentially stressful situations. Norton & Peyton (2017) stated that adolescents who lack skills for managing their emotional experiences may be more likely to engage in risky or maladaptive behaviours to avoid, suppress or override challenging emotions.

This consistent suppression of emotions, lack of control and awareness could well result in poor mental health, and as authors go on to further suggest a core feature of many adolescent difficulties in *emotion regulation* are associated with anxiety, depression, self-harm, conduct problems, eating disorders, and substance abuse. Further supported by Cisler, Olatunji, Felder, & Forsyth (2010) who state that adolescents with low distress tolerance are significantly more likely to engage in harmful risk-taking behaviours (as associated with poor mental health) compared with peers who display more developed coping strategies and healthy developmental growth.

Andersen & Teicher (2008) go on to suggest these maladaptive behaviours displayed by adolescents often provide transient relief (affecting something or producing results beyond itself as positive reinforcement) or serve to permit escape from emotional pain (negative reinforcement). This emotional

dysregulation brought about by negative experiences serves to inhibit the individual's ability to regulate their emotional state, it could therefore be hypothesised that positive feelings, emotions and accomplishments that can be experienced through outdoor education amongst other facets will open individuals' minds to a wide range of cognitive and behavioural change options, especially compared to the narrowing effect of negative emotions associated with poor mental health, as supported by Lubans, Plotnikoff, Lubans (2012) who state that positive emotions "broaden" one's potential perspective and behavioural repertoire leading to positive emotions, positive individual traits and prosocial attitudes (Seligman & Csikszentmihalyi, 2000) as seen through attention restoration theory below.

Mutz & Muller (2016) further point out the psychological characteristics that enable people to maintain a solid level of well-being even in face of adverse conditions, which could suggest that where outdoor education facilitates an environment of 'challenge' and ability to overcome problematic situations this may further support participant's mental health by increasing individuals ability to develop personal coping mechanisms in order to overcome adversity.

This has further driven my interest to explore the psychologically restorative capabilities of access to green space and nature via outdoor education as part of a managed 6 week programme.

Following a systematic review Holland, Powell, Thomsen, Monz (2018) identified **mental restoration** through improved psychological and emotional well-being as one of the key outcomes with further reported specific positive outcomes encompassing; happiness, decreased stress, emotional well-being and decreased depression. Suggesting that outdoor education 'could' well have positive effect on those with poor mental health. Clough, Mackenzie, Mallabon, Brymer (2016) too reported outcomes such as positive life transformations, emotional regulation, escape from boredom, pushing personal boundaries and overcoming fear, which in addition suggests that adventurous physical activity may in part help to improve physical and psychological health and well-being.

Where challenging and immersive environments that can be created through controlled outdoor education programmes allowing for debriefing and

processing after the activity (Autry, 2001) with appropriately qualified, caring, empathetic and patients leaders (Bennett, 2014) who are able provide social support where necessary and facilitate new relationships (Baklien, 2016), through shared experiences (Dorsch, 2016; Gelkopf, 2013; Tucker, 2013), Such a programme may well serve to enhance an individual's poor mental health, where despite the type of activity, the gradual increases in the level of challenge and difficulty support mental and physical health.

However, It must be noted that although there is supportive literature suggesting that access to green space, nature via outdoor education and activity could support mental health, understanding is needed as to whether it is in actual fact, just the 'physical activity' being undertaken in these natural environments, accompanied with a sense of escapism that supports mental health or a combination multiple factors as suggested by Frühauf, Niedermeier, Elliott, Ledochowski, Marksteiner, Kopp (2016) who noted that through participating in physical activity outdoors versus indoors there was an association with greater feelings of revitalisation and positive engagement, decreases in tension, confusion, anger and depression, and increased energy.

Thus highlighting the need to explore the relationships between nature contact, physical activity and outdoor education programmes in more detail. It is therefore also likely that the duration, frequency, intensity, social aspects and the variety of presenting mental health difficulties pre-programme will become key influencing factors, so this must be taken in to account with regards to potential limitations of the study to come.



## **Literature Review**

Scholars from a wide field of literature and expertise including; psychology, psychiatry, behavioural sciences, nursing, medicine, public health, counselling, environmental and urban planning, education, sport and exercise, adventure education and outdoor learning, have long theorised about the pivotal role that nature and green space plays in support of mental health.

To initially contextualise this study and give a starting point for the review of literature in terms of the relationship between green space/nature and mental health, it can be postulated that even at a basic level the mere 'presence' of green space and therefore the potential for access can have a positive effect on mental health. Engemann, Pedersen, Arge, Tsirogiannis, Mortensen, Svenning (2019) conducted a nation-wide study in Denmark (>900,000) and showed that high levels of green space present during childhood (birth to the age of 10) were associated with a lower risk of a developing a wide spectrum of psychiatric disorders later in life. They showed that risk for subsequent mental illness for those who lived with the lowest levels of green space during childhood was up to 55% higher across various disorders compared with those who lived with the highest level of green space. Frumkin, Bratman, Breslow, Cochran, Kahn Jr, Lawler, Levin, Tandon, Varanasi, Wolf, Wood (2017) from past research go on to further support this when comparing people living in more- and less-green neighbourhoods with regards to subjective levels of stress or ability to cope with stressful life events. These results consistently report that nature presence and therefore contact, can reduce mental health symptoms. However, as Roe, Aspinall, and Thompson. (2016) states the relative importance of this direct pathway, and mediation through social contact, physical activity, and/ or other factors, is less clear. Ultimately suggesting that the level at which green space/nature is engaged and the activity undertaken therein is potentially subjective based upon individual and personal factors with regards to the positive outcomes and benefits seen for improving an individual's mental health.

This does however, support the association between cumulated green space and risk during childhood, which constitutes evidence that prolonged presence of green space alone is important for mental health and although not wholly

relevant for the study in terms of the practical research project itself, it does serve to give insight in to the importance of green space and nature at a baseline impression.

## **Components**

I will now go on to further explore specific fields relating to the use of nature in restorative practice from a diverse range of literature focussing on three key areas that appear to be the most widely researched; Green Exercise, Nature Contact and Outdoor Education programmes/Wilderness Therapy.

- 1) Green Exercise** - the association that physical exercise in a natural environment no matter what the activity or intensity can have a positive effect on human psychological health (Mackay & Neill 2010, Barton, Bragg, Pretty, Roberts, and Wood, 2016) and particularly; Happiness (Yeh, Stone, Churchill, Brymer, & Davids, 2017), Vigour (Song, Ikei, Igarashi, Takagaki, & Miyazaki, 2015) and Self-Esteem (Pretty, Peacock, Sellens, & Griffin, 2005).

Past studies suggest that when physical exercise is performed in natural environments ('green exercise'), more physical and psychological health benefits are experienced than when exercising indoors, Haluza, Schönbauer, & Cervinka, 2014; Pretty, Peacock, Sellens, & Griffin, 2005, which can include; reduced blood pressure, increased self-esteem, positive effects on mood and Thompson, Coon, Boddy, Stein, Whear, Barton, and Depledge (2011) further reported participants having greater feelings of revitalisation and positive engagement, decreases in tension, confusion, anger, and depression.

For my study this is relevant with regards to the proposed delivery programme where all participants will be undertaking some level of physical activity across a range of different disciplines which regardless of the intended principle and resulting outcome *could* be construed as green exercise as participants will be physically active in a natural environment.

- 2) Nature Contact** - the association that just being in nature and exposed to the outdoors, not necessarily in rich natural environments, such as forests (Kamitsis & Simmonds 2017) can still provide associated health

benefits and serve to promote mental well-being further providing a buffer against developing poor mental health (Shanahan, 2016; Chawla, 2015)

Schuling, van Herpen, de Nooij, de Groot, & Speckens, (2018) suggest that activities done in natural settings such as viewing the scenery, wildlife viewing, reflective experiences, and mindful walking have been shown to result in positive health-related outcomes such as decreases in depression, increased sense of wellness, and enhanced mood.

One such approach in support of nature contact is the idea around 'doses' of outdoor time as a method of preventing diseases and promoting health. This has been well documented by Japanese, Scandinavian and American authors over the last 20 years and more recently has gained popularity within the UK's National Health Service (Particularly Scotland). This method follows numerous programmes and interventions (Beyer, Szabo, Nattinger. 2016), which can include; environmental education, nature walks, greening, forest schools, woodland health walks, Shinrin Yoku (Forest Bathing), and even the delivery of general practitioner (GP) prescriptions for time outdoors. Both Sonntag-Öström (2011) and Kjellgren and Buhrkall (2010) give some insight into the results seen where they conducted studies and sent participants suffering from stress related exhaustion disorder and stress and/or burnout disorder to different forest sites. The authors found that participants felt an improvement in their well-being, quality of life, had a better mood status after the forest exposure and had become significantly more harmonious over time after visiting the forest. Furthermore, the self-estimated stress level had significantly decreased after forest exposure and results indicated that forest exposure can have positive effects on people's mental state.

This is particularly relevant to my study as participants will be immersed in natural settings throughout the delivery programme across a wide range of environments including natural lakes, large open green spaces and woodland areas specific to the outdoor education activity being undertaken.

### 3) Outdoor Education Programmes (OEP) and Wilderness Therapy

**(WT)** - is the association that taking part in structured educational activities (OEP) and therapeutic programmes in wilderness settings (WT) can be beneficial to a young person's mental health (Mutz & Müller, 2016; Schell, Cotton, & Luxmoore, 2012). This can have a positive effect on individuals psychological well-being offering a de-stressing setting (D'Amato & Krasny, 2011) and can be an effective approach in facilitating their psychosocial recovery

Mutz & Müller, 2016 go on to further state, that being outdoors gives a physical distance which seemed to create a psychological distance to time pressures, deadlines, and other social demands. This supports the premise explored as part of my previous research on outdoor education and resilience and subsequent results showing a lack of emotional regulation identified with regards to the sense of escapism needed from day to day life stressors, which can be experienced in outdoor education programmes, nature and wilderness settings.

Although both OEP and WT can provide *some* similarity in outcome(s) the distinct differences with regards to therapeutic interventions imposed must be distinguished. Most notably this growing body of literature that has chosen to engage with nature across a variety of outdoor therapies (e.g. Eco Therapy, Wilderness Therapy, Adventure Therapy, Outdoor Behavioural Healthcare, Challenge Courses, Animal-Assisted Therapy, Horticultural Therapy, and Equine Therapy) has shown that nature exposure can provide a wide range of mental health benefits. Buckley, Brough and Westaway (2018) suggests these can be specifically related to attention and cognition, memory, stress and anxiety, sleep, emotional stability, and self-perceived welfare or quality of life. These individualised treatment plans and therapeutic interventions offer common goals for emotional regulation, distress tolerance, somatic awareness and cognitive problem solving skills (Norton & Peyton 2017) and the prescriptive use of adventure experiences provided by mental health and clinical professionals, are conducted in natural settings that kinaesthetically engage participants on a cognitive, affective and behavioural level.

This is relevant to my study with regards to the programme delivery, and participants undertaking a specifically designed outdoor education programme. Although, it must be noted that the intention of this particular programme as part of the research is not designed to offer any therapeutic benefits and indeed is not promoted as a therapeutic intervention and is therefore not delivered by licensed clinicians or health experts. This research is merely highlighting whether access to nature/green space via outdoor education does offer any support with regards to improving candidates overall mental health.

These three separate components clearly highlight the positive role nature can play within these specific areas for improving mental health. However, it is possible to make the logical assessment that improvements to mental health cannot solely be attributed to one field and as Holland, Powell, Thomsen, Monz's (2018) suggest the contribution of the wilderness and nature settings is unclear when examining outcomes related to personal development, pro-social behaviours, physical fitness, and well-being.

It is therefore more likely that providing the uniqueness and tranquillity seen in nature remains, and programmes continue to give distinct opportunities for reflection and challenge. Which in turn allows for that separation from day to day stressors, where young people can experience improvements in self-esteem, mastery and competence of personal goals. The programme giving focus to this study will more often than not serve to offer a combination of physical activity, contact with nature and involvement with outdoor education as a multifaceted approach to improve overall mental health.

## **Theories**

In this next section I will go on to examine the theories, theoretical frameworks and context that can be used as a basis for the research investigation to better support the process, use and understanding of nature.

Numerous theories recognising the benefits of natural environments, which are characteristic in most outdoor education, adventurous and physical activity experiences have emerged and the self-directed adventures undertaken in natural environments, have been linked with a range of psychological benefits.

Such explanations for these findings as suggested by Mackenzie, Hodge, and Boyes (2013), D'Amato & Krasny (2011) and Ewert & McAvoy (2000) is that the aesthetic, spiritual and novel qualities of natural, unfamiliar or de-stressing environments promote personal development, well-being and self-awareness. This could suggest that the natural *environment* itself, which is inherent in the three components explored above, may provide the opportunity to fulfil psychological needs where these activities and environment provide opportunities for participants to practise as Beightol, Jeverson, Carter, Gray, and Gass (2012) describes; **autonomy**, through inquiry and reflection on one's own actions; **competence**, through skill acquisition and problem solving; and **relatedness**, through relationships with peers and practitioners.

As mentioned earlier the separation from day to day stressors and thus this perception of **escape** and **solitude** (Lindern, 2015) provided by natural environments could be seen as a means for participants to gain new perspectives on their everyday life. These unfamiliar environments may spur development when participants act to overcome cognitive dissonance (the state of having inconsistent thoughts, beliefs, or attitudes) especially as McKenzie (2000) suggests relating to behavioural decisions and attitude change through mastery. In addition, it has been suggested that the perception of danger, risk, and fear Ewert & Garvey, 2007; Ewert & Yoshino (2011) are identified as key program elements that produce optimal levels of stress, anxiety, and disequilibrium, the resolution of which promotes growth, learning and psychological resilience.

However, as child and adolescent mental health includes such a wide and complex array of personal factors including; their emotional, psychological and social well-being - which effects how they reach developmental milestones by learning healthy social skills, developing healthy peer relationships, developing a sense of identity and positive self-esteem as well as coping mechanisms Mackenzie, Son and Hollenhorst. (2014) suggested that these high risks and pushing learners out of their "comfort zone" may not be as integral to outcomes as originally imagined. The authors go on to suggest that activities should be **freely chosen** (i.e. *autonomy*) and intrinsically meaningful, and that successful development depends as much upon **supportive climates** (i.e. *relatedness*)

and positive social, emotional, and nature-based environments as it does **personal challenge** (i.e. *competence*).

Thus showing the importance of programme design with regards to the level of **autonomy**, **competence** and **relatedness**. By exposing groups to unique and challenging situations that are self-selected, outdoor practitioners would be able to encourage participants to build and strengthen new skills to help successfully complete tasks, and in addition foster a supportive environment for group participation, which as Schoel & Maizell, (2002) suggests allows group members to relate to one another recognising similar feelings, fears, desires, thoughts, and behaviours in their peers. This will in turn enhance social connectedness when faced with potential adversity whilst individuals are working collaboratively and cooperatively on group tasks.

### **Framework**

Two key theoretical frameworks have been widely examined with regards to the use of nature and mental health recovery across many literature sources and for varying differing means; **Stress Recovery Theory** (SRT) (Ulrich, 1986) emphasises the role of nature in relieving physiological stress and **Attention Restoration Theory** (ART) (Kaplan & Kaplan, 1989) which was originally developed in environmental psychology to explain why people consistently reported a sense of renewal after wilderness and other natural environment encounters, this theory posits that exposure to natural environments that put relatively few demands on cognitive and emotional systems can help restore these depleted resources. As such I will be focussing on this in more detail.

It is generally thought that the contrast provided by natural environments (as part of outdoor education programmes) is seen as a means for participants to experience solitude, escapism, a possible separation from real-life and the day-to-day built environment, far away from distractions of modern life as supported by Kaplan's (1989) Attention Restoration Theory; *where restorative environments are identified by including the experience of being away, in which a person feels a sense of escape from the stressful demands of daily life, and extent, in which a perception of vastness, and connectedness in an environment helps promote related experiences of "being away."*

Chawla, Keena, Pevec, Stanley, (2014) further supports this stating that in an individual's 'normal' day to day life many activities require effortful attention such as school, family and social situations and under these conditions people experience mental fatigue. Kaplan goes on to suggest that people's capacity for attention recovers in restorative environments, and as such these natural environments offer the necessary qualities of "being away," "fascination," "extent," and "compatibility." This attention restoration theory specifies the four key components (as follows) that an environment must have to promote attention restoration, and proposes that natural environments tend to have these qualities, even to the extent that greenspaces even retain these qualities when they become deeply familiar or routine. I will go on and attempt to justify these in terms of use for this current study;

- 1) **Being Away** - Refers to the sense of being separate and apart from one's usual thoughts and concerns. To be psychologically detached from present worries and demands, and distracted from the environment that is draining your attention and energy (Daniel, et al. 2014).

This can be acknowledged and supported through this current study in which the candidates are being taken away from the school and home environment to a natural setting they have not visited before, emphasising what Bennett (2014), Gill et al. (2016), and Lindern (2015) describe as the perception of escape and solitude, in what Mutz & Müller (2016) Vella, Milligan, & Bennett (2013) and Weber & Anderson, (2010) highlight as a stress-free environment.

- 2) **Fascination (Hard and Soft)** – Attention being held without any effort expended, restorative environments hold attention without having to focus or direct it a certain way. Both types of fascination can contribute to greater restoration, although soft fascination features reflection and allows sense-making, while hard fascination is more likely to entertain and reduce boredom.



- **Hard Fascination** - Attention is held by a highly stimulating activity; such activities generally do not provide the opportunity to reflect or introspect, since you are completely absorbed
- **Soft Fascination** - Attention is held by a less active or stimulating activity; such activities generally provide the opportunity to reflect and introspect (Daniel, et al. 2014).

This can be acknowledged and supported through this current study in terms of **competence** (i.e. mastery) seen through personal development and self-selection and through **autonomy**. Whittington & Budbill (2013) go on to describe this reflection and introspection through wildland recreational activities and the utilisation of the natural environment as a means of self-discovery, creativity, identity development, as well as enhancing self-respect, self-awareness, self-improvement, self-efficacy, self-reliance and resilience. This in my study would give individuals a sense of ownership over the direction of programme delivery and subsequent proposed level of engagement and immersion.

- 3) **Extent** – Encourages individuals to feel totally immersed and engaged. It means that the environment does not have any unusual or unexpected features, and individuals feel comfortable and at ease in the environment.

An environment must be at least somewhat familiar and coherent in order for it to be restorative. In this context, familiarity does not necessarily mean individuals have been to the exact environment before, only that it is similar enough to places they have been before and are not feeling uncomfortable, confused, or out-of-place.

This can be acknowledged and supported through this current study as the environment being used is not deeply unfamiliar to any of the individuals and there is an existing similarity in place attachment from other locations visited, and as Ardoin (2006) describes an appreciation and connection which is often social and physical in nature they have experienced before.

- 4) **Compatibility** - About feeling enjoyment and congruence in the environment. To be restorative, an environment must be one in which the individual chooses to be out of intrinsic motivation and personal preference. If they are there for extrinsic or external reasons, they are not likely to experience restoration.

Compatibility is higher when individuals are engaging in an activity that is familiar; when they are engaging in a novel activity and learning a new skill or set of skills, they are unlikely to feel relaxed and restored.

This can be acknowledged and supported through this current study as all the candidates have chosen to be a part of the programme following unknown intrinsic motivations and this is further mitigated through the self-selected method for programme direction (e.g. activity), and as Beightol, Jeverson, Carter, Gray, and Gass (2012) describes the autonomy through which inquiry and reflection take places following the individuals own actions.

Although Kaplan (1989) does suggest that natural environments retain their restorative qualities even when they become routine, it seems plausible that these restorative capabilities might steadily lessen or disappear with familiarisation and as Taylor & Kuo (2011) suggest, specifically when an individual becomes increasingly accustomed to a setting. It therefore seems probable that the setting will hold less 'fascination' and provide less of a sense of 'being away' for the individual the more they are exposed to it, especially when the natural environment being used for this research might not be considered by some to be a 'rich' natural environment albeit relatively purpose built in design and within close proximity to urban settings.

However, I would posit that as the participants become more confident within the environment itself and perhaps more engaged with the 'extent' at which they are immersed in the natural environment, become more comfortable and experience the familiarity of activity through its 'compatibility', this could equally serve to enhance the restorative possibilities. This may well reflect a preference of the participant and as such likely occurrences can be drawn out further in the discussion section post results analysis.

## **Context**

These restorative components have dual benefits of both reducing the negative emotions associated with mental health and enhancing positive emotions. As a result this supports what Taylor, Kuo (2009) suggest when individuals in the general population consistently report a sense of rejuvenation after exposures to relatively natural environments. Further supporting the profile of this study in relation to potentially improving participant's mental health.

This restoration theory has an increasing presence within the field of environmental psychology that intertwines with environmental disciplines to explore the dynamic connections between individuals and their surroundings. Thus supporting the interaction between individual, environment and their restoration of attention, energy, and self by experiencing nature. Within the context of this study, which focusses on young people's contact with nature (via outdoor education programmes) there is a large body previous research that shows young people with opportunities for activity in green spaces show; more focused attention and better coping with stressful life events (Taylor, 2011, Wells & Evans, 2003), lower rates of depression (Maas, 2009) and a greater sense of energy, happiness and less stress, anger and candidates with records of poor behaviour benefitting the most (Roe and Aspinall, 2011). This is particularly prevalent to my study having found that all of the participants taking part, although the association of which is unknown either receive regular detentions or have been suspended or excluded at some point in the education career due to work refusal and subsequent poor behaviour as a result of lacking emotional control.

Furthermore, the interest in this field of attention restoration has increased dramatically over recent years as modern society seems to spend more time indoors consumed by digitalisation and excessive screen time and less time out in natural environments. Following an outdoor adventure programme Mutz, Muller and Goring (2019) concluded that outdoor adventures may compensate for some negative mental health conditions systematically associated with exaggerated screen time. This subsequently provides a strong argument for the wider utilisation of adventure programs and outdoor sports in the field of health

promotion and reduction in mental health as supported by (Clough, Houge Mackenzie, Mallabon, & Brymer, 2016), who state that this is particularly prevalent in times of increasing digitalisation of adolescent lifestyles. This again is of particular relevance to in my study having found that all of the participants taking part regularly experience sleeplessness by excessive digital screen time (e.g. mobile phone, games consoles and televisions), which require much effortful attention.

Such experiences of breaking away with 'normal' life and again the perception of escapism and solitude may not only compensate for negative mental health impacts, but also provide the potential to reflect and maybe to change sedentary lifestyles at home further supporting my research profile with regards to a weekly programme of outdoor adventurous activities within a natural environment. Mutz, Muller and Goring (2019) support this suggesting that interrupting daily routines as per the unfamiliar environments found in nature, outdoor adventure programmes enable young people to experience a different lifestyle - active, healthy and wholesome - whose benefits can be sensed directly and immediately.

### **Literature Conclusion**

Whilst focussing specifically on candidates in full time education as per my research the use of nature has received unprecedented support over the years with regards to the specific benefits. Chawla, Keena, Pevec, Stanley (2014) report that when candidates have natural landscapes for play, learning and green views, they show positive moods and reduced stress, anger, inattention and problem behaviour. Roe and Aspinall (2011) go on to further report candidates with records of poor behaviour benefitting most in a forest school day versus a day inside classrooms for young adolescents. Whilst Taylor (2002) and Wells & Evans (2003) suggest that young people with green views or opportunities for activity in green spaces show; more focused attention and better coping with stressful life events. All of which support my proposed programme study in terms of restoring attention and therefore improving mental health.

However, despite there being much supportive literature explored as part of this review towards the mere presence of nature and therefore contact via green exercise and outdoor education there is no categorical evidence to suggest any *one* particular form of nature experience can solely be attributed to restoring and improving ones mental health. Staats (2012) and Ouellette et al. (2005) even argued that man-made structures such as museums could also be considered restorative environments and have also been claimed to reduce demands on attention and thereby promote restoration. As the variables associated with the individual participants pre, during and post programme are so wide and varied the association of other areas of mental fatigue (sleeplessness, emotional stress or boredom) relating to poor mental health would be relatively unknown and therefore unmeasured during the programme delivery.

Based on the above I would therefore posit that a short outdoor education programme cannot be solely attributed to improving participant's mental health. It is more likely a culmination of the physical activity (green exercise), nature contact and the outdoor education programme lends itself to improvements in mental health as long as the environment provides an opportunity for escapism (being away), autonomy (self-directed), competence (mastery) and relatedness (relationships).

## **Methods**

### **Participants, Setting, Programme Description and Procedure**

This study proposed to measure the levels of mental health before and after the outdoor education programme (OEP) for a small cohort of 8 (year 8/9, aged 12 to 14 - mix male and female) candidates who have been identified by the schools pastoral team to specifically to take part in the optional study. As such the following hypotheses were offered;

- 1) Enhance overall mental health (restoration)
- 2) Increase anxiety initially pre-programme
- 3) Increase/improve mood and self-esteem

The delivered outdoor education programme has not taken in to account specific symptoms or other potential effecting factors, and for consistency the small cohort will access the same self-selected activities throughout the programme delivered by the same practitioner each week.

These candidates were already accessing Child and Adolescent Mental Health Services (CAMHS) via the local Health and Care NHS trust so have met the threshold necessary to receive mental health intervention support and therefore no prior baseline survey was deemed necessary. However, it must be noted that the specified support accessed and treatment plans or intervention therapies being received for each individual are unknown and will therefore play no part in this research project or outcomes.

Candidates took part in a short course 6 week OEP throughout June and July to fit in the lead up to the end of the summer term. It was assumed these month would provide the best weather conditions to ensure it did not become a determining factor for attendance throughout the programme. The sessions were delivered during a normal school day and ran in the morning on consecutive weeks, on the same day and during the same times to ensure consistency was achieved for the candidates.

The candidates were be collected via mini bus at school, which was intended to remove the possibility of transport becoming a detrimental barrier to attendance

throughout and reduce potential anxieties associated with unknown delivery personnel prior to commencement of the programme.

The candidates were be led by the same highly qualified and experienced outdoor practitioner each week with the intention to foster and enhance student/practitioner relationships and the candidates were able to take part in a variety of self-directed and challenging water and land based outdoor activities, which could include Canoeing, Kayaking, Stand Up Paddle boarding, Raft Building, Archery, Zip Wire, Bush craft etc.

The programmed design is supported by Kaplan's (1983) Attention Restoration Theory, promoting the experience of *being away* and as such followed the below guidelines which Deane & Harre, (2013), Sibthorpe, Paisley, & Gookin, (2007), Autry, (2001), Bennett, (2014), Baklien, (2016), Dorsch, (2016) deemed as necessary for a successful restorative outdoor and adventure programme;

- Take place in an unfamiliar natural physical environment
- Consist of challenging activities with authentic and clear consequences that usually involve cooperation with others
- Take place in a small-group social setting
- Guided by experienced, skilled instructors who ensure physical safety and emotional support during the program.
- Debriefing and processing after the activity,
- Appropriately qualified, caring, empathetic and patients leaders
- Providing social support where necessary
- Facilitating new relationships, through shared experiences

The intention was that the relatively self-directed programme will offer candidates the opportunity to practise autonomy, competence and relatedness through the perception of escapism and solitude that are all inherent with the experience of being outdoors in a natural environment through the medium of outdoor education. In addition, group participation in these activities it was hoped that group members would recognise similar feelings, fears, desires, thoughts, and behaviours in their peers within the group while working cooperatively on group tasks.

## Measures

In the absence of any research funding 3 types of questionnaire were used as follows; which are free to access via online sources. All of which are well accredited for reliability and validity amongst various authors and fields. (See Appendix 1)

- Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965)
- Profile of Mood States (POMS) (McNair, Lorr & Droppleman, 1971)
- The Spence Children's Anxiety Scale (SCAS) (Spence, 1998)

Following the review of literature it was found that the RSE and POMS questionnaires were most frequently used and therefore adopted for this study, and the SCAS questionnaire was used most in psychological school interventions and individual profiling research. Although the latter is not wholly appropriate it was deemed sufficient as the State Trait Anxiety Inventory (STAI), which was most commonly used was a paid for subscription and therefore inaccessible.

- 1) The **Rosenberg Self-Esteem Scale (RSE)** – Comprises of 10 items which measure varying aspects of self-esteem. Each item is rated on a on a four point Likert scale ranging from (Strongly Agree) to (Strongly Disagree). For items 1, 3, 4, 7 and 10: Strongly Agree = 3, Agree = 2, Disagree = 1, and Strongly Disagree = 0. For items 2, 5, 6, 8 and 9 (which are reversed in valence, and noted with the asterisks): Strongly Agree = 0, Agree = 1, Disagree = 2, and Strongly Disagree = 3. A total score is then derived (after taking into consideration reversed scored items), with the larger scores indicating higher self-esteem. Cited – (Schell, Cotton & Luxmoore, 2012; Olowokere & Okanlawon, 2014; Thomsen, Powell & Monz, 2018).
- 2) The **Profile of Mood States (POMS)** – Comprises of 65 words/statements that describe the feelings people have, which are answered on a five point Likert scale ranging from (Not at All) to (Extremely). 63 of the 65 words/statements are scored; Not at All = 0, A Little = 1, Moderately = 2, Quite a Lot = 3 and Extremely = 4. 2 of the 65



words/statements (Relaxed and Efficient) are reversed in valence; Not at All = 4, A Little = 3, Moderately = 2, Quite a Lot = 1 and Extremely = 0. A total score for Total Mood Disturbance (TMD) is then derived by summing the totals for the negative subscales *Anger*, *Confusion*, *Depression*, *Fatigue* and *Tension* and then subtracting the totals for the positive subscale *Vigour*, with lower scores indicative of people with more stable mood profiles. Cited – (Bejarano, Cushing, Crick, 2019; Frodl, Strehl, Carballedo, Tozzi, Doyle, Amico, Gormley, Lavelle, O’Keane 2019; Lyu, Zeng, Deng, Lu, Jiang & Li, 2018; Takayama, Morikawa and Bielinis, 2019; Kuo, Barnes & Jordan 2019).

- 3) The **Spence Children’s Anxiety Scale (SCAS)** – Comprises of a 44 item (six positive filler items) self-report scale answered on 4 point Likert scale ranging from (Never) to (Always). The items are scored; Never = 0, Sometimes = 1, Often = 2 and Always = 3. The scale consists of six subscales aimed at assessing specific anxiety disorders; Social Phobia (SP), Panic disorder (PD), agoraphobia (AP), Generalised Anxiety disorder (GAD), obsessive compulsive disorder (OCD), Separation anxiety disorder (SAD), and specific phobias Physical Injury Fears (PFI). A total score is then derived by summing the subscale scores, with lower scores indicating lower overall anxiety and a T-score indication stating whether these scores are within a normal or elevated range. Cited – (Olowokere & Okanlawon, 2014; Golsefidi & Hashemi, 2015; Ahlen, Vigerland & Ghaderi, 2017, Orgiles, Martinez, Riquelme, Espad & Essau, 2016).

## **Procedure**

The intention was candidates would be given questionnaires prior to and post the short course OEP across the different measuring tools in the following order; 1<sup>st</sup> - RSE, 2<sup>nd</sup> - POMS and The 3<sup>rd</sup> - SCAS as seen above. Each questionnaire would be administered by the researcher and would take no more than 15minutes (45mins total for all 3 questionnaires) and would be administered by the researcher at school prior to the commencement of the

OEP with each individual candidate to avoid any external influence or bias to ensure the candidates are giving honest and private answers about how they feel at that present moment. The post questionnaires would be administered in the same way in a classroom environment at the OEP venue directly after the 6<sup>th</sup> week of the programme has finished.

### **Data Analysis**

The results will be examined using IBM SPSS Statistics25 software (IBM Corporation, Armonk, NY, USA) and the significance level was set at = 0.05 to find any statistical significance and via questionnaire subscales looking for positive and negative trends to form further discussions. Limitations were identified early on in the research proposal in terms of the small number of candidates examined and the short length of the programme, and also the fact the research did not take into account any external factors (i.e. family, peer and older adult relationships, home life etc.) that may affect pre-mental health levels.

## **Results and Findings**

Of the original proposed 8 candidates, only 7 candidates (four female and three male) were taken forward to take part in the six week programme. Due to various unforeseen circumstances the initial pre-test questionnaires were administered to only 5 candidates (four female and one male) at the same time. These circumstances meant the pre-test data collection was undertaken in a controlled group classroom setting at the partner school with the researcher and a school representative present. The school representative had a pre-existing relationships with all the enrolled candidates and had previously worked with them as part of other school initiatives. The remaining 2 candidates (both male) completed the pre-test questionnaires on a different occasion administered by the same school representative after being given appropriate instructions and guidance in order to administer the questionnaires appropriately.

Although the pre-test data collection took place in a group classroom setting all of the candidates were seated separately to ensure where possible answers were not conferred and the answers given were a true personal reflection and representation of thoughts and feelings experienced at that specific moment in time, not pertaining to any other time frame previous to the data collection. In addition, during all of the pre-test data collection sessions the candidates were introduced to the programme and the self-led nature of the participation, and were given examples of the types of activities they might be engaging with across the six weeks. Subsequently the candidates gave their individual opinions and preferences with regards to the types of activities they would most like to take part in on a weekly basis, although it was highlighted that they would take part in weekly reviewing sessions where they would as a group decide upon the direction for the following sessions.

Of the 7 candidates enrolled on the programme only 5 completed the post-test questionnaires (four female and one male) for various reasons including moving to another educational establishment, reluctance to continue and refusal to participate based on external factors beyond control. Despite all 7 candidates having taken part in some aspect of the programme for at least one week or more, I will only be examining the 5 sets of pre and post-test data on the

understanding that this will place further limitations on what is already a very small scale study. However, It is worth noting at this stage that of the 5 candidates who did completed the pre and post-test questionnaires only 4 of the candidates(three female and one male) attended the 'full' six week outdoor education programme and took part in all six sessions. The remaining candidate missed two of the sessions due to unforeseen circumstances which were out of the researcher's control.

This study thus comes with a caveat to not over represent the limited findings as it only covers a very small sample number of participants and therefore data cannot be assumed or applied systematically to a larger group or population, without the need for further research and data collection. The initial raw data for pre and post-test questionnaires can be found in (See appendix 2).

The decision has been made to display the results in the following format - *Whole Group, Individual and Questionnaire* to ascertain if there is any statistical relevance or significance to the findings or if in fact they will return the expected null hypothesis.

The following results were subject to a *t – test: Paired Two Sample for Means* as recommended for use when samples are naturally paired. The usual reason for performing this test is when you are testing the same group twice.

This is appropriate for my study with regards to the pre/post-test design when giving questionnaires before and after the OEP where I will be comparing the sample data before and after statistically significance. It must also be noted that in this instance there was no 'Control' group running alongside the 'Treatment' group so this will place further limitations on the findings with regards to not being able to compare the scales of difference for participatory and non-participatory groups.

This particular *t* - test used a paired two-sample test to determine if the before and after observations are likely to have been derived from distributions with equal population means, this will be used alongside the Standard Deviation ( $\sigma$ ) to ascertain the distribution of the result around the Mean (average), as well as the % variable difference given between scores. The lower standard of

deviation indicates the data points are clustered closely around the mean and subsequently more reliable and the higher standard of deviation indicates that the data points are spread out over a large range of values and thus less reliable. However, the expected is that the distribution will be widely dispersed and therefore less reliable as approximately 95% of all values will ordinarily fall within 2 standard deviations of the mean, thus further showing potential inconsistencies within the research data set.

Following this the results will then be subject to further analysis using standard subscales appropriate to the questionnaires, which will allow me to determine if there are any key themes or majority key themes that can be further investigated and explored within the discussion section.

It must be noted that these questionnaires (Rosenberg Self Esteem - **RSE**, Profile of Mood States - **POMS** and Spence Children's Anxiety Scale - **SCAS**) are examining Self Esteem, Mood and Anxiety – as a result we are looking for any 'reduction' in overall score to indicate a positive change. These reductions will be shown via the negative difference.

However, the self-esteem questionnaire will give an increased score to indicate the candidates have higher levels of self-esteem post-test, if a positive change has occurred so differences are calculated pre-test minus post-test, whereas the mood and anxiety questionnaires will give a reduced score to indicate that the candidates have lower levels of total mood disturbance and anxiety post-test, subsequently calculations are reversed post-test minus pre-test to give a negative reading.

### **Results by Whole Group**

When examined and taken as a whole group sample (not population) combining the 3 questionnaires across all 5 candidates the results on the surface show a very small percentage improvement of approx. -3.60% across the board from 39.94% pre-test to 36.34% post-test, and as a mean average shows an improved difference of -4.13 across the group from 45.80 pre-test to 41.67 post-test. The variance ( $\sigma^2$ ) although very high and inconsistent in dispersion across a large spectrum does also show a reduction 1772.17 pre-test to 1277.24 post-

test, but more importantly the standard deviation ( $\sigma$ ) gives a more accurate measure to highlight the very little change that has occurred pre/post-test, this amounted to a -6.36 difference from the 42.10 pre-test to 35.74 post-test.

Pre-test measured the observed values within approximately 4 standard deviations from the mean, and post-test measured the observed values within approximately 5 standard deviations from the mean. Thus showing that the variability for the post-test is larger than pre-test.

The  $t$  – test goes on to further support the lack of statistical significance in this grouping showing the  $t$  Stat = 0.56 is much lower than the  $t$  Critical = 2.14 suggesting there is no significant difference between the two samples, as such we can accept the null hypothesis of there being no difference between data sets, and because there is no significant difference the  $p$  value = 0.59 which is larger than the Alpha level of 0.05 that was set.

| Whole Group - t-Test: Paired Two Sample for Means with Mean, Variance and Standard Deviation |                                 |          |           |         |   |         |                |
|--|---------------------------------|----------|-----------|---------|---|---------|----------------|
| Candidate  | Questionnaire                   | Pre Test | Post Test | Diff    |   |         |                |
| C1   | RSE (Max Score 30)              | 1        | 2         | -1      | t-Test: Paired Two Sample for Means   |         |                |
| C1   | POMS (Max 200)                  | 66       | 109       | 43      |   |         |                |
| C1   | SCAS (Max Score 114)            | 28       | 45        | 17      |   |         |                |
| C2   | RSE (Max Score 30)              | 6        | 18        | -12     | Mean  | 45.80   | 41.67          |
| C2   | POMS (Max 200)                  | 148      | 70        | -78     | Variance  | 1772.17 | 1277.24 (High) |
| C2   | SCAS (Max Score 114)            | 73       | 30        | -43     | Observations  | 15.00   | 15.00          |
| C3   | RSE (Max Score 30)              | 11       | 13        | -2      | Pearson Correlation   | 0.74    |                |
| C3   | POMS (Max 200)                  | 78       | 89        | 11      | Hypothesized Mean Difference  | 0.00    |                |
| C3   | SCAS (Max Score 114)            | 35       | 41        | 6       | df  | 14.00   |                |
| C4   | RSE (Max Score 30)              | 5        | 5         | 0       | t Stat  | 0.56    |                |
| C4   | POMS (Max 200)                  | 108      | 94        | -14     | P(T<=t) one-tail  | 0.29    |                |
| C4   | SCAS (Max Score 114)            | 54       | 58        | 4       | t Critical one-tail   | 1.76    |                |
| C5   | RSE (Max Score 30)              | 23       | 20        | -3      | P(T<=t) two-tail  | 0.59    |                |
| C5   | POMS (Max 200)                  | 26       | -7        | -33     | t Critical two-tail   | 2.14    |                |
| C5   | SCAS (Max Score 114)            | 25       | 38        | 13      |   |         |                |
|  |                                 |          |           |         | t Statistic (0.56) is smaller than the t Critical (2.14) statistic so there is no significant difference between the two samples, and because no significant difference the p value (0.59) is larger than the Alpha level of .05% that was set. |         |                |
|  | Sum                             | 687      | 625       | -62     |   |         |                |
|  | %                               | 39.94    | 36.34     | -3.60   |   |         |                |
|  | Count                           | 15       | 15        |         |   |         |                |
|  | Mean                            | 45.80    | 41.67     | -4.13   |   |         |                |
|  | Variance ( $\sigma^2$ )         | 1772.17  | 1277.24   | -494.93 |   |         |                |
|  | Standard Deviation ( $\sigma$ ) | 42.10    | 35.74     | -6.36   |   |         |                |

Is it worth noting that an ANOVA: Single Factor test was applied as well but did not yield any other findings. In this case the  $F$  value (0.0840) is lower than the  $F$  critical value (4.1959) suggesting again there is no significant statistical difference between the pre and post test score. The  $p$  value at 0.77 is higher the 0.05 Alpha set and we would again accept the null hypothesis (no difference) because there is no statistically significant difference between the data sets/groups.

## Results by Individual

### Candidate 1 (C1);

Although we saw a very minor positive improvement in the RSE questionnaire score of -1 from scores of 1 pre-test to 2 post-test, the overall calculations indicated a decline in total scores from the questionnaires following the OE programme, indicating C1 experienced slightly increased levels of self-esteem alongside increased mood disturbance and increased anxiety at a percentage difference of +17.73 from 27.62 pre-test to 45.35 post-test and a mean of +20.33 from 31.67 pre-test to 52.00 post-test. The t-test shows that the scores are not statically significant with a  $t$  Stat of -1.66 much lower than the  $t$  critical score of 4.30, with a  $p$  value of 0.24 much higher than the 0.05 Alpha set which would mean again we would accept the null hypothesis as there is no statistically significant difference between the data set. (See below)

| C1   | Pre Test | Post Test | Diff    | t-Test: Paired Two Sample for Means |          |           |
|--|----------|-----------|---------|-------------------------------------|----------|-----------|
| RSE (Max Score 30)                         | 1        | 2         | -1      |                                     |          |           |
| POMS (Max 200)                             | 66       | 109       | 47      |                                     | Pre Test | Post Test |
| SCAS (Max Score 114)                       | 28       | 45        | 17      | Mean                                | 31.67    | 52.00     |
|  |          |           |         | Variance                            | 1066.33  | 2899.00   |
| Sum  | 95       | 156       | 61      | Observations                        | 3.00     | 3.00      |
| %  | 27.62    | 45.35     | 17.73   | Pearson Correlation                 | 1.00     |           |
| Count                                      | 3        | 3         | 3       | Hypothesized Mean Difference        | 0.00     |           |
| Mean                                       | 31.67    | 52.00     | 20.33   | df                                  | 2.00     |           |
| Variance ( $\sigma^2$ ) or ( $S^2$ )       | 1066.33  | 2899.00   | 1832.67 | t Stat                              | -1.66    |           |
| Standard Deviation ( $\sigma$ ) or ( $s$ ) | 32.65    | 53.84     | 21.19   | P(T<=t) one-tail                    | 0.12     |           |
|  |          |           |         | t Critical one-tail                 | 2.92     |           |
|  |          |           |         | P(T<=t) two-tail                    | 0.24     |           |
|  |          |           |         | t Critical two-tail                 | 4.30     |           |

### Candidate 2 (C2);

Here we actually saw positive improvements across all of the questionnaires and total scores at a percentage difference of -31.69 overall, from 65.99 pre-test to 34.40 post-test. RSE recorded an improvement of -12 from 6 pre-test to 18 post-test, POMS recorded an improvement of -78 from 148 pre-test to 70 post-test and SCAS recorded an improvement of -43 from 73 pre-test to 30 post-test. This indicates that based on the questionnaires following the OE programme, C2 experienced higher levels of self-esteem, and lower levels of mood disturbance and anxiety. However, the t-test show the scores were not statistically significant with  $t$  – Stat of 1.39 much lower than that of the  $t$  Critical score of 4.30, with a  $p$  value of 0.30 much higher than the 0.05 Alpha set which

would mean again we would accept the null hypothesis as there is no statistically significant difference between the data set. (See below)

| C2   | Pre Test | Post Test | Diff     |                              | t-Test: Paired Two Sample for Means |           |
|--|----------|-----------|----------|------------------------------|-------------------------------------|-----------|
| RSE (Max Score 30)                         | 6        | 18        | -12      |                              |                                     |           |
| POMS (Max 200)                             | 148      | 70        | -78      |                              |                                     |           |
| SCAS (Max Score 114)                       | 73       | 30        | -43      |                              |                                     |           |
|  |          |           |          |                              | Pre Test                            | Post Test |
|  |          |           |          | Mean                         | 75.67                               | 39.33     |
|  |          |           |          | Variance                     | 5046.33                             | 741.33    |
| Sum  | 227      | 118       | -109     | Observations                 | 3.00                                | 3.00      |
| %  | 65.99    | 34.30     | -31.69   | Pearson Correlation          | 0.96                                |           |
| Count                                      | 3        | 3         | 3        | Hypothesized Mean Difference | 0.00                                |           |
| Mean                                       | 75.67    | 39.33     | -36.33   | df                           | 2.00                                |           |
| Variance ( $\sigma^2$ ) or ( $S^2$ )       | 5046.33  | 741.33    | -4305.00 | t Stat                       | 1.39                                |           |
| Standard Deviation ( $\sigma$ ) or ( $s$ ) | 71.04    | 27.23     | -43.81   | P(T<=t) one-tail             | 0.15                                |           |
|  |          |           |          | t Critical one-tail          | 2.92                                |           |
|  |          |           |          | P(T<=t) two-tail             | 0.30                                |           |
|  |          |           |          | t Critical two-tail          | 4.30                                |           |

### Candidate 3 (C3);

We saw a very minor positive improvement in the RSE questionnaire score of -2 from scores of 11 pre-test to 13 post-test, and reductions in scores for POMS +11 from 78 pre to 89 post and SCAS +6 from 35 pre and 41 post. Thus from the questionnaires following the OE programme, indicating C3 experienced slightly increased levels of self-esteem with increased mood disturbance and increased anxiety at a percentage difference of +5.52 from 36.05 pre-test to 41.57 post-test and a mean of +6.33 from 41.33 pre-test to 47.67 post-test. The t-test shows that the scores are not statically significant with a *t* Stat of -2.43 much lower than the *t Critical* score of 4.30, with a *p* value of 0.14 higher than the 0.05 Alpha set which would mean again we would accept the null hypothesis as there is no statistically significant difference between the data set.

| C3  | Pre Test | Post Test | Diff   |                              | t-Test: Paired Two Sample for Means |           |
|---|----------|-----------|--------|------------------------------|-------------------------------------|-----------|
| RSE (Max Score 30)                              | 11       | 13        | -2     |                              |                                     |           |
| POMS (Max 200)                                  | 78       | 89        | 11     |                              |                                     |           |
| SCAS (Max Score 114)                            | 35       | 41        | 6      |                              |                                     |           |
|   |          |           |        |                              | Pre Test                            | Post Test |
|   |          |           |        | Mean                         | 41.33                               | 47.67     |
|   |          |           |        | Variance                     | 1152.33                             | 1477.33   |
| Sum   | 124      | 143       | 19     | Observations                 | 3.00                                | 3.00      |
| %   | 36.05    | 41.57     | 5.52   | Pearson Correlation          | 1.00                                |           |
| Count   | 3        | 3         | 3      | Hypothesized Mean Difference | 0.00                                |           |
| Mean  | 41.33    | 47.67     | 6.33   | df                           | 2.00                                |           |
| Population Variance ( $\sigma^2$ ) or ( $S^2$ ) | 1152.33  | 1477.33   | 325.00 | t Stat                       | -2.43                               |           |
| Standard Deviation ( $\sigma$ ) or ( $s$ )      | 33.95    | 38.44     | 4.49   | P(T<=t) one-tail             | 0.07                                |           |
|   |          |           |        | t Critical one-tail          | 2.92                                |           |
|   |          |           |        | P(T<=t) two-tail             | 0.14                                |           |
|   |          |           |        | t Critical two-tail          | 4.30                                |           |



Candidate 4 (C4);

Here we saw an improvement in the score for POMs from 108 pre-test to 94 post-test with difference of -14, a no change score in the RSE score from 5 to 5 pre/post-test and an increase in SCAS score from 54 to 58 pre/post-test. Thus indicating that following the OE programme C4 experienced no change in the levels of self-esteem, lower levels of total mood disturbance and slightly increased level of anxiety. The percentage overall showed an improvement in the data across the questionnaires from 48.55 pre-test and 45.64 post-test with a difference of -2.91, with a mean of -3.33 from 55.67 pre-test to 52.33 post-test. The t-test again shows that the scores are not statically significant with a *t* Stat of 0.61 much lower than the *t Critical* score of 4.30, with a *p* value of 0.60 much higher than the 0.05 Alpha set which would mean again we would accept the null hypothesis as there is no statistically significant difference between the data set.

| C4                                     | Pre Test | Post Test | Diff    | t-Test: Paired Two Sample for Means |          |           |
|--|----------|-----------|---------|-------------------------------------|----------|-----------|
| RSE (Max Score 30)                     | 5        | 5         | 0       |                                     |          |           |
| POMS (Max 200)                         | 108      | 94        | -14     |                                     | Pre Test | Post Test |
| SCAS (Max Score 114)                   | 54       | 58        | 4       | Mean                                | 55.67    | 52.33     |
|  |          |           |         | Variance                            | 2654.33  | 2004.33   |
| Sum                                    | 167      | 157       | -10     | Observations                        | 3.00     | 3.00      |
| %                                      | 48.55    | 45.64     | -2.91   | Pearson Correlation                 | 0.99     |           |
| Count                                  | 3        | 3         | 3       | Hypothesized Mean Difference        | 0.00     |           |
| Mean                                   | 55.67    | 52.33     | -3.33   | df                                  | 2.00     |           |
| Variance ( $\sigma^2$ ) or ( $S^2$ )   | 2654.33  | 2004.33   | -650.00 | t Stat                              | 0.61     |           |
| Standard Deviation ( $\sigma$ ) or (s) | 51.52    | 44.77     | -6.75   | P(T<=t) one-tail                    | 0.30     |           |
|  |          |           |         | t Critical one-tail                 | 2.92     |           |
|  |          |           |         | P(T<=t) two-tail                    | 0.60     |           |
|  |          |           |         | t Critical two-tail                 | 4.30     |           |

Candidate 5 (C5);

Again we saw an improvement in the POMS score of -33, from 26 to -7 pre/post-test, a reduced RSE score of +3 from 23 to 20 pre/post-test and a higher SCAS score from 25 to 38 pre/post-test. This indicating that following the OE programme C5 experienced lower level of self-esteem, a reduced mood disturbance an increase in anxiety. The percentage overall showed an improvement in the data across the questionnaires from 21.51 pre-test and 14.83 post-test with a difference of -6.69, with a mean of -7.67 from 24.67 pre-test to 17.00 post-test. The t-test again shows that the scores are not statically significant with a *t* Stat of 0.57 much lower than the *t Critical* score of 4.30, with

a  $p$  value of 0.63 much higher than the 0.05 Alpha set which would mean we would accept the null hypothesis as there is no statistically significant difference between the data set.

| C5   | Pre Test | Post Test | Diff   | t-Test: Paired Two Sample for Means |          |           |
|--|----------|-----------|--------|-------------------------------------|----------|-----------|
| RSE (Max Score 30)                         | 23       | 20        | 3      |                                     |          |           |
| POMS (Max 200)                             | 26       | -7        | -33    |                                     | Pre Test | Post Test |
| SCAS (Max Score 114)                       | 25       | 38        | 13     | Mean                                | 24.67    | 17.00     |
|  |          |           |        | Variance                            | 2.33     | 513.00    |
| Sum  | 74       | 51        | -23    | Observations                        | 3.00     | 3.00      |
| %  | 21.51    | 14.83     | -6.69  | Pearson Correlation                 | -0.43    |           |
| Count                                      | 3        | 3         | 3      | Hypothesized Mean Difference        | 0.00     |           |
| Mean                                       | 24.67    | 17.00     | -7.67  | df                                  | 2.00     |           |
| Variance ( $\sigma^2$ ) or ( $S^2$ )       | 2.33     | 513.00    | 510.67 | t Stat                              | 0.57     |           |
| Standard Deviation ( $\sigma$ ) or ( $s$ ) | 1.53     | 22.65     | 21.12  | P(T<=t) one-tail                    | 0.31     |           |
|  |          |           |        | t Critical one-tail                 | 2.92     |           |
|  |          |           |        | P(T<=t) two-tail                    | 0.63     |           |
|  |          |           |        | t Critical two-tail                 | 4.30     |           |

## Results by Questionnaire

Interestingly when we examine the results by questionnaire we see much more of a positive variance across the data set. However, this still remains statistically insignificant due to the sample size and standard deviation spread.

**Rosenberg Self Esteem Scale;** recorded 3 out of the 5 candidates reporting a slight increase in self-esteem score following the OE programme, one reported no change and one reported a slight reduction. This gave an overall total positive percentage difference of -8.0 from 30.67 to 38.67 pre/post-test with an average of -2.4, which yielded an overall 60% positive difference across the 5 candidates. However, as per the previous t-tests this did not offer any statistically significant findings with a  $t$  Stat of -0.94 much lower than the  $t$  Critical score of 2.78, with a  $p$  value of 0.40 much higher than the 0.05 Alpha set = accept null hypothesis.

| RSE (Max 30/ +ive higher score)                 | Pre Test | Post Test | Diff  | t-Test: Paired Two Sample for Means |          |           |
|---|----------|-----------|-------|-------------------------------------|----------|-----------|
| C1  | 1        | 2         | -1    |                                     |          |           |
| C2  | 6        | 18        | -12   |                                     | Pre Test | Post Test |
| C3  | 11       | 13        | -2    | Mean                                | 9.20     | 11.6      |
| C4  | 5        | 5         | 0     | Variance                            | 72.20    | 62.3      |
| C5  | 23       | 20        | 3     | Observations                        | 5.00     | 5         |
|   |          |           |       | Pearson Correlation                 | 0.76     |           |
| Sum   | 46       | 58        | -12   | Hypothesized Mean Difference        | 0.00     |           |
| %   | 30.67    | 38.67     | -8.00 | df                                  | 4.00     |           |
| Count   | 5.00     | 5.00      | 5.00  | t Stat                              | -0.94    |           |
| Mean  | 9.20     | 11.60     | -2.4  | P(T<=t) one-tail                    | 0.20     |           |
| Population Variance ( $\sigma^2$ ) or ( $S^2$ ) | 72.20    | 62.30     | 9.9   | t Critical one-tail                 | 2.13     |           |
| Standard Deviation ( $\sigma$ ) or ( $s$ )      | 8.50     | 7.06      | 1.44  | P(T<=t) two-tail                    | 0.40     |           |
|   |          |           |       | t Critical two-tail                 | 2.78     |           |

**Profile of Mood States;** recorded 3 out of 5 candidates reporting a reduced level Total Mood Disturbance (TMD) following the OE programme, with 2 reporting an increase in TMD. This gave an overall total positive percentage difference of -7.10 from 42.60 to 35.50 pre/post-test with an average of -14.20, which yielded a 60% positive difference across the 5 candidates. However, again as per the previous t-tests this did not offer any statistically significant findings with a *t* Stat of 0.70 much lower than the *t Critical* score of 2.78, with a *p* value of 0.52 much higher than the 0.05 Alpha set = accept null hypothesis.

| POMS (Max 200/ +ive lower score)                | Pre Test | Post Test | Diff   | t-Test: Paired Two Sample for Means |                 |                  |
|---|----------|-----------|--------|-------------------------------------|-----------------|------------------|
| C1  | 66       | 109       | 43     |                                     |                 |                  |
| C2  | 148      | 70        | -78    |                                     | <i>Pre Test</i> | <i>Post Test</i> |
| C3  | 78       | 89        | 11     | Mean                                | 85.20           | 71.00            |
| C4  | 108      | 94        | -14    | Variance                            | 2097.20         | 2095.50          |
| C5  | 26       | -7        | -33    | Observations                        | 5.00            | 5.00             |
|   |          |           |        | Pearson Correlation                 | 0.50            |                  |
| Sum   | 426.00   | 355.00    | -71    | Hypothesized Mean Difference        | 0.00            |                  |
| %   | 42.60    | 35.50     | -7.10  | df                                  | 4.00            |                  |
| Count   | 5.00     | 5.00      | 5.00   | <i>t Stat</i>                       | 0.70            |                  |
| Mean  | 85.20    | 71.00     | -14.20 | P(T<=t) one-tail                    | 0.26            |                  |
| Population Variance ( $\sigma^2$ ) or ( $S^2$ ) | 2097.20  | 2095.50   | -1.7   | t Critical one-tail                 | 2.13            |                  |
| Standard Deviation ( $\sigma$ ) or (s)          | 45.80    | 45.78     | -0.02  | P(T<=t) two-tail                    | 0.52            |                  |
|   |          |           |        | t Critical two-tail                 | 2.78            |                  |

**Spence Children's Anxiety Scale;** recorded only 1 out of the 5 candidates reporting a reduced level anxiety following the OE programme, with 4 reporting an increase in anxiety. This did however offer a very slight overall total positive percentage difference of -0.53 from 37.32 to 37.19 pre/post-test with an average of -0.6, which only yielded a 20% positive difference across the 5 candidates. However, as expected as per the previous t-tests this did not offer any statistically significant findings with a *t* Stat of 0.06 much lower than the *t Critical* score of 2.78, with a *p* value of 0.96 much higher than the 0.05 Alpha set = accept null hypothesis.

Overall this only gave a 46.6% positive difference across all candidates and data collected from the pre and post-test questionnaires.

| SCAS (Max 114/ +ive lower score)                | Pre Test | Post Test | Diff    |                              | t-Test: Paired Two Sample for Means |           |
|---|----------|-----------|---------|------------------------------|-------------------------------------|-----------|
| C1  | 28       | 45        | 17      |                              |                                     |           |
| C2  | 73       | 30        | -43     |                              |                                     |           |
| C3  | 35       | 41        | 6       |                              | Pre Test                            | Post Test |
| C4  | 54       | 58        | 4       | Mean                         | 43.00                               | 42.40     |
| C5  | 25       | 38        | 13      | Variance                     | 408.50                              | 106.30    |
|   |          |           |         | Observations                 | 5.00                                | 5.00      |
|   |          |           |         | Pearson Correlation          |                                     | -0.18     |
| Sum   | 215.00   | 212.00    | -3      | Hypothesized Mean Difference |                                     | 0.00      |
| %   | 37.72    | 37.19     | -0.53   | df                           |                                     | 4.00      |
| Count   | 5.00     | 5.00      | 5.00    | t Stat                       |                                     | 0.06      |
| Mean  | 43.00    | 42.40     | -0.6    | P(T<=t) one-tail             |                                     | 0.48      |
| Population Variance ( $\sigma^2$ ) or ( $S^2$ ) | 408.50   | 106.30    | -302.20 | t Critical one-tail          |                                     | 2.13      |
| Standard Deviation ( $\sigma$ ) or (s)          | 20.21    | 10.31     | -9.90   | P(T<=t) two-tail             |                                     | 0.96      |
|   |          |           |         | t Critical two-tail          |                                     | 2.78      |

### Analysis of Results

1. Pre Test Data
2. Post Test Data
3. Pre Test by Subscale
4. Post Test by Subscale
5. Pre and Post Combined by Subscale
6. Pre and post Combined by Subscale and Difference Calculated

Scores were condensed from raw data in to pre and post-test per scores per measurement (1 & 2) (see appendix 3.1) and then condensed further in to pre and post-test by subscale measurements to give totals scores (3 & 4) (See appendix 3.2) and then combined by subscale and variance applied to show differences between scores and overall margins, which included the applied t-test and Standard Deviations shown in previous sections. (5 & 6) (See appendix 3.3)

Although there were no statistically significant findings as mentioned above, there were some identifiable changes in total subscale scores and highlighted variances on specific scales that I noted of interest. These would warrant further exploration in the discussion section and are subsequently shown below. A total scale of movement was set of 1-2 points or more either positive or negative change on the RSE scale (as scoring is only 0-3 either standard or reversed) and 3 points or more either positive or negative change for the POMS and SCAS above or below pre-test scores that would mark as a notifiable change amongst the 5 candidates.

## Candidate 1

**RSE** subscale score – 3.33% positive change by -1 variance

Any Notable Changes – Only movement '*I feel that I have a number of good qualities*' and '*I feel that I'm a person of worth, at least on an equal plane with others*' both moved from Strongly Disagree (SD) to Disagree (D), the remaining scores were unchanged.

**POMS** subscale score – 21.5% negative change by +43 variance

Any Notable Changes – *Vigour (positively loaded)* showed positive change of -10 and in particular within that scale positive changes in the candidate feeling more *Alert, Carefree and Vigorous*. The remaining subscales (Anger, Confusion, Depression, Fatigue and Tension) all showed a negative change from between +7 to +21 despite scores recording the candidate feeling less *Peeved, Nervous, Exhausted* and more *Efficient*.

**SCAS** subscale score – Total SCAS score negative change by 8.5% by variance of +17

Any Notable Changes – *Obsessive Compulsive* showed positive change of -3, and in particular the improvement in occurrences of '*I can't seem to get bad or silly thoughts out of my head*' from Always to Never pre/post-test and '*I get bothered by bad or silly thoughts or pictures in my mind*' from Sometimes to Never pre/post-test. The remaining subscales (Panic Attack and Agoraphobia, Separation Anxiety, Physical Injury Fears, Social Phobia and Generalised Anxiety Disorder) all showed a negative change of +5 to +7. The total T-Scale score worsened from 0-59 within 'Normal Range' pre-test to 60-100 'Elevated Range' post-test.

## Candidate 2

**RSE** Subscale Score – 40% positive change by -12 variance

Any Notable Changes – All scores improved. Highest positive movement seen of -2 – '*I take a positive attitude towards myself*', which changed from Strongly Disagree (SD) to Agree (A) and '*At times I think I am no good at all*', '*I feel I do*

*not have much to be proud of*, which changed from Strongly Agree (SA) to Disagree (D).

**POMS** Subscale Score – 39% positive change by -78 variance

Any Notable Changes – *Vigour (positively loaded)* showed highest positive change of -14 and in particular candidate reported feeling more *Lively, Energetic, Cheerful, Alert, Full of Pep and Vigorous*. *Tension* showed the second highest positive change of -12 and in particular candidate reporting feeling less *Tense, On Edge, Uneasy, Nervous, Restless, Anxious* and more *Relaxed*. All remaining subscale scores improved as well with candidate most notably reporting feeling less *Exhausted, Fatigued, Lonely, Discouraged, Desperate, Muddled, Furious, Bitter* and more *Efficient*.

**SCAS** Subscale Score – Total SCAS score positive change of 21.5% by variance of -43

Any Notable Changes – *Panic Attack* and *Agoraphobia* and *Separation Anxiety* showed highest positive change of -10, and in particular '*All of a sudden I feel really scared for no reason at all*', '*I worry that I will suddenly get a scared feeling when there is nothing to be afraid of*' and '*I feel scared if I have to sleep on my own*' from Often (O) to Never (N) pre/post-test, as well as '*I would feel afraid of being on my own at home*' from Always (A) to Never (N). The total T-Scale score improved from within 60-100 'Elevated Range' to 0-59 'Normal Range' pre-test to post-test.

### **Candidate 3**

**RSE** Subscale Score – 6.67% positive change by -2 variance

Any Notable Changes – Highest movement '*I take a positive attitude towards myself*' from Disagree (D) to Agree (A) and '*At times I think I am no good at all*' from Agree (A) to Disagree (D), all other remained unchanged.

**POMS** Subscale Score – 5.5% negative change by +11 variance

Any Notable Changes – *Vigour (positively loaded)* showed positive change of -5 as the highest and in particular within that scale positive changes in the candidate reporting feeling more *Cheerful, Alert, Full of Pep and Vigorous*.

Subscales of *Anger* and *Fatigue* also showed a small positive change reporting feelings of being less *Annoyed*, *Resentful*, *Exhausted* and *Worn Out*. Subscales *Confusion*, *Depression* and *Tension* showed negative change despite reports of feeling more *relaxed*, and less *Miserable* and *Discouraged*.

**SCAS** Subscale Score – Total SCAS score negative change of 3% by variance of +6

Any Notable Changes – *Panic Attack* and *Agoraphobia* showed a minor positive change of -1, and *Social Phobia* showed the largest change which was negative of +5 in particular to Often (O) or Always (A) '*I feel scared when I have to take a test*', '*I feel afraid that I will make a fool of myself in front of people*' and '*I worry what other people think of me*'. The total T-Scale score worsened from 0-59 within 'Normal Range' pre-test to 60-100 'Elevated Range' post-test.

#### **Candidate 4**

**RSE** Subscale Score – 0% change by 0 variance

Any Notable Changes – Not total change despite scores improving by -1 from Strongly Agree (SA) to Agree (A) for '*I feel I do not have much to be proud of*' and '*All in all, I am inclined to feel that I am a failure*' all other scores remained unchanged other than '*I feel that I have a number of good qualities*' from Disagree (D) to Strongly Disagree (SD).

**POMS** Subscale Score – 7% positive change by -14 variance

Any Notable Changes – *Vigour (positively loaded)* showed positive change of -14 as the highest and in particular within that scale positive changes in the candidate reporting feeling more *Active*, *Energetic*, *Cheerful*, *Carefree* and *Vigorous*. *Tension* showed the second highest positive change of -8 and in particular candidate reporting feeling less *Panicky* and *Nervous*. Subscale *Depression* improved as well with reports of feeling less *Discouraged*, *Miserable* and *Sad*. Subscales of *Anger*, *Confusion* and *Fatigue* worsened overall, despite reports of feeling less *Annoyed*, *Bewildered*, *Worn Out* and *Exhausted*.

**SCAS** Subscale Score – Total SCAS score negative change of 2% by variance of +4

Any Notable Changes – Despite overall negative change candidate reported highest positive changes of -4 for subscales *Obsessive Compulsive* and *Generalised Anxiety Disorder* in particular ‘*I can’t seem to get bad or silly thoughts out of my head*’ from Always (A) to Sometimes (S), ‘*I have to think of special thoughts to stop bad things from happening (like numbers or words)*’ from Often (O) to Never (N) and ‘*When I have a problem, my heart beats really fast*’ from Always (A) to Sometimes (S). The total T-Scale score worsened from 0-59 within ‘Normal Range’ pre-test to 60-100 ‘Elevated Range’ post-test.

### **Candidate 5**

**RSE** Subscale Score – 10% negative change by +3 variance, despite having the highest positive scores in the pre-test out of all the candidates.

Any Notable Changes – Highest positive change of -1 ‘*I certainly feel useless at times*’ which moved from Disagree (D) to Strongly Disagree (SD).

‘*I feel that I have a number of good qualities*’ and ‘*I am able to do things as well as most other people*’ both showed negative change from Strongly Agree (SA) to only Agree (A).

**POMS** Subscale Score – 16.5% positive change by -33 variance

Any Notable Changes – Subscales Anger -9, Confusion -6 and Fatigue -6 showed the highest positive change, in particular reporting feelings of being less *Angry, Bitter* and *Bad Tempered*, as well as less *Forgetful* and less *Exhausted, Worn Out* and *Bushed*. All other subscale improved and as with other candidates there was also a positive score change with Vigour of -2, and in particular reports of feeling more *Alert, Full of Pep* and *Vigorous*.

**SCAS** Subscale Score – Total SCAS score negative change of 6.5% by variance of +13

Any Notable Changes – Highest negative change was seen in subscales *Social Phobia* by +4 and *Panic Attack/Agoraphobia* and *Obsessive Compulsive* by +3. In particular statements; ‘*I worry that I will do badly at my school work*’ from Often (O) to Always (A), ‘*I have to keep checking that I have done things right (like the switch is off, or the door is locked)*’ which changed from Never (N) to



Often (O) and ‘*All of a sudden I feel really scared for no reason at all*’, ‘*I worry that I will suddenly get a scared feeling when there is nothing to be afraid of*’ which changed from Never (N) to Sometimes (S). The total T-Scale score worsened from 0-59 within ‘Normal Range’ pre-test to 60-100 ‘Elevated Range’ post-test.

### **Overall Results Analysis by Subscale**

**RSE** - Although statistically insignificant 3 out of the 5 candidates reported a slight to moderate increase in overall Self-Esteem post the outdoor education programme, 1 candidate saw no change and 1 candidate saw a reduction in overall self-esteem post programme despite all scores pre and post-test still being within normal expected range, suggesting this particular candidate had high levels of self-esteem to begin with and the programme did not effect this. 3 out of the 5 showed a slight improvement in feeling they ‘*have a number of good qualities*’, 1 showed a slight improvement in feeling they have more ‘*to be proud of*’ and 1 showed a slight improvement in feeling less ‘*useless*’.

| Candidate   | Question  | Positive Change |
|---|---|-----------------|
| 1   | I feel that I have a number of good qualities                             | SD to D         |
|   | I feel that I'm a person of worth, at least on an equal plane with others | SD to D         |
| 2   | I feel that I have a number of good qualities                             | D to A          |
|   | I take a positive attitude towards myself                                 | SD to A         |
|   | At times I think I am no good at all                                      | SA to D         |
|   | I feel I do not have much to be proud of                                  | SA to D         |
| 3   | I feel that I have a number of good qualities                             | SD to D         |
|   | I take a positive attitude towards myself                                 | D to A          |
|   | At times I think I am no good at all                                      | A to D          |
| 4   | I feel I do not have much to be proud of                                  | SA to A         |
|   | All in all, I am inclined to feel that I am a failure                     | SA to A         |
| 5 (Reported highest pre test scores indicating high level of SE at beginning) | I certainly feel useless at times   | D to SD         |

**POMS** – Although statistically insignificant 3 out of the 5 candidates reported a reduction in overall Total Mood Disturbance (TMD) post the outdoor education programme and 2 candidates reported an increased level of TMD post programme.

Although overall not all candidates showed improvements in TMD, when examining the subscale scores and then particular elements of those subscale scores further, we can see that **ALL** candidates consistently reported more *Vigour* post programme and in particular the feelings of being more *Alert* and *Vigorous*. Only 3 out of the 5 reported overall scores of reduced *Fatigue*. However, when subscale elements examined further **ALL** candidates consistently reported feeling less *Exhausted* post programme.

| Candidate | Question                              | Positive Change  |
|-----------|---------------------------------------|--|
| 1         | <b>Vigour</b> (subscale improvement)  | More <b>Alert</b> , Carefree and <b>Vigorous</b>                                 |
|           | <b>Fatigue</b> (element only)         | Less <b>Exhausted</b>  |
| 2         | <b>Vigour</b>                         | More Lively, Energetic, Cheerful, <b>Alert</b> , Full of Pep and <b>Vigorous</b> |
|           | Tension                               | Less Tense, On Edge, Uneasy, Nervous, Restless, Anxious and more Relaxed         |
|           | Anger                                 | Less Furious and Bitter  |
|           | <b>Fatigue</b> (subscale improvement) | Less <b>Exhausted</b> , Fatigued   |
| 3         | <b>Vigour</b> (subscale improvement)  | More Cheerful, <b>Alert</b> , Full of Pep and <b>Vigorous</b>                    |
|           | Anger                                 | Less Annoyed and Resentful   |
|           | <b>Fatigue</b> (subscale improvement) | Less <b>Exhausted</b> and Worn Out   |
| 4         | <b>Vigour</b> (subscale improvement)  | More Active, Energetic, Cheerful, <b>Alert</b> , Carefree and <b>Vigorous</b> .  |
|           | Tension                               | Less Panicky and Nervous   |
|           | <b>Fatigue</b> (element only)         | Less <b>Exhausted</b>  |
| 5         | <b>Vigour</b> (subscale improvement)  | More <b>Alert</b> , Full of Pep and <b>Vigorous</b>                              |
|           | Anger                                 | Less Angry, Bitter and Bad Tempered, as well as less Forgetful                   |
|           | <b>Fatigue</b> (subscale improvement) | Less <b>Exhausted</b> , Worn Out and Bushed                                      |

**SCAS** – Although statistically insignificant 1 out of the 5 candidates reported a slight reduction in overall anxiety post outdoor education programme, and the remaining 4 candidates reported an increase in anxiety post programme. 3 out of the 5 showed improvement in reduced Obsessive Compulsive traits, specifically feeling they are more able to get ‘*bad or silly thoughts out of my head*’ and 2 showed improvement in reduced *Panic Attack and Agoraphobia* traits, specifically not feeling ‘*scared for no reason at all*’ and ‘*heart beating too quickly for no reason*’.

| Candidate  | Subscale                     | Statement  | Positive Change |
|--|------------------------------|--|-----------------|
| 1<br>Something else afraid of? – Being Forgotten   | Obsessive Compulsive         | I can't seem to get bad or silly thoughts out of my head   | A to N          |
|  |                              | I get bothered by bad or silly thoughts or pictures in my mind   | S to N          |
| 2<br>Something else afraid of? – Disappointing people and losing more than already have. Letting anger out on wrong person | Panic Attack and Agoraphobia | All of a sudden I feel really scared for no reason at all  | O to N          |
|  |                              | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of                        | O to N          |
|  | Separation Anxiety           | I feel scared if I have to sleep on my own   | O to N          |
| 3<br>Something else afraid of? – Small space surrounded by loads of people   | Panic Attack and Agoraphobia | I would feel afraid of being on my own at home   | A to N          |
|  |                              | I suddenly start to tremble or shake when there is no reason for this  | A to O          |
| 4<br>Something else afraid of? – Losing people   | Obsessive Compulsive         | My heart suddenly starts to beat too quickly for no reason   | O to S          |
|  |                              | ** note ** decline in Social Phobia – consistent with practitioner comments of worrying what others will think |                 |
|  | Generalised Anxiety          | I can't seem to get bad or silly thoughts out of my head   | A to S          |
| 5<br>Something else afraid of? – Being Bullied   | Obsessive Compulsive         | I have to think of special thoughts to stop bad things from happening (like numbers or words)                  | O to N          |
|  |                              | When I have a problem, my heart beats really fast  | A to S          |
|  |                              | I can't seem to get bad or silly thoughts out of my head.  | O to S          |

## Discussion

Although the results did not show any statistical significance in support of the proposed hypotheses, perhaps we can offer some explanations as to why we have not seen the expected restorative changes by using Kaplan’s Attention Restoration Theory (ART) (as mentioned in the review of literature). As we know the four elements must be present in nature for it to be truly restorative “being away,” “fascination”, “extent”, and “compatibility”, I will explore further in an attempt to offer some level of reasoning along with identifying limitations within the study.

| Hypothesis                                     | Result                        | Did Result Support Hypothesis?   |
|--|-------------------------------|--|
| 1) Enhance overall mental health (restoration) | Not statistically significant | No, only consistent improvements seen across subscales for all candidates post-test was ‘Vigour’ |
| 2) Increase anxiety initially pre-programme    | Not statistically significant | No, 4 out of the 5 recorded ‘Elevated’ anxiety post-test and only 1 ‘Elevated’ pre-test          |
| 3) Increase/improve mood and self-esteem       | Not statistically significant | No, 3 out of 5 (different candidates) recorded improvement in mood and self-esteem post-test     |

### *Enhance overall mental health (restoration)*

As we can see from the further analysis by subscale in the Profile of Mood states pre/post-test we saw the only consistent change (positive or negative) across the whole data set, where all candidates reported feeling more *Vigour* (Alert, Vigorous) post programme as well as feeling less *Exhausted*. Findings which have been generally corroborated previously, as Roe, Aspinall, and Thompson. (2016) found, physical activity outdoors was associated with greater feelings of revitalisation, larger mood enhancing effects with tendencies to feel less fatigued.

I will go on to discuss this further in line with supportive literature around the feeling of revitalisation and restoration after having been in nature/green space, with a specific focus on forest settings after having identified from the self-selected activity programme that 4 out of the 6 weeks saw the candidates

opting for bush craft type activities in the woodland area at the research venue.  
(See below)

| Self-Selected Programme |                                       |
|-------------------------|---------------------------------------|
| Week                    | Activity                              |
| Week 1 –                | Bush craft                            |
| Week 2 –                | Zip Line & Archery                    |
| Week 3 –                | Canoeing                              |
| Week 4 –                | Stand Up Paddle Boarding & Bush Craft |
| Week 5 –                | Bush Craft & Archery                  |
| Week 6 –                | Bush Craft                            |

These results were fairly consistent in part with other authors findings; Song, Ikei, Igarashi, Miwa, Takagaki and Miyazaki (2014) results showed ‘fatigue’ being significantly lower and ‘vigour’ significantly higher after walking in a natural environment, Yu, Lin, Tsai, Tsai, Chen (2017) results showed that the positive mood state of ‘vigour’ was higher after the forest bathing program and Sonntag-Öström, Nordin, Lundell, Dolling, Wiklund, Karlsson, Carlberge , Järholm (2014), Sonntag-Öström (2011), Lee, Park, Tsunetsugu, Ohira, Kagawa, & Miyazaki (2011) and He, Guo, Hu, Chen, Wang, Xu, Ma, Zhang, Lan, Yang, Lan, Li, Chen, & Su (2019) also found that visits to the forest environments enhanced mood after the forest exposure and groups had significantly lower scores in the negative subscales (tension, anxiety, depression, anger, fatigue, and confusion) and increased vigour. However, although we did not see any reduction or consistencies in negative emotions post programme, the change in positive emotions was enhanced throughout all candidates subscales, which is supported by findings from McMahan and Estes (2015) who found the effects on positive emotions were generally stronger and more consistent following exposure to natural environments.

As we know already Kaplan suggests that an environment should hold a level of ‘*fascination*’, and in particular ‘*soft*’ *fascination* - such activities generally provide the opportunity to reflect and introspect and ‘*hard*’ *fascination* is more likely just to entertain and reduce boredom.

This could perhaps offer reasoning as to why we saw the candidates requesting to return to the woodland area across 4 out of the 6 weeks and when we

examine the weekly leader/outdoor practitioner observations (see appendix 4) we can see the specific type of activities they engaged with;

*Fire lighting, learning about different fuel sources through experimentation (leaves, grass, size of sticks etc), roasting marshmallows, use of saw and knife to chop/cut and whittle wood, drawing, talking/chatting (socialising), sitting amongst trees in group, sitting/relaxing in own space.*

I would therefore posit that these activities were less active and stimulating, thus requiring *less effortful* attention, which in turn provides more satisfaction and opportunity to experience a sense of solitude, further supported by Fernee, Gabrielsen, Andersen & Mesel (2017) who stated these natural spaces are likely to provide more enjoyment and foster the experience of tranquillity. Thus this activity would offer an enhanced restorative environment, when compared to the likes of stand up paddle boarding, canoeing, archery and zip wire, which could be considered as facilitating *hard fascination* in an attempt to entertain or reduce boredom. Of course this does not take in to account any differences in the candidates' abilities and whether in fact they are more able or have taken part in such an activity before and have subsequently honed some level of *mastery* (D'Amato & Krasny, 2011; Ewert & McAvoy, 2000) or competence.

This might in turn suggest that candidates would deem participation in the same or similar activity to also require *less effortful* attention having done it before as opposed to someone who has not or is a relative novice, again further supported by Kaplan who suggests via '*compatibility*' that when individuals are engaging in a novel activity and learning a new skill or set of skills they are unlikely to feel relaxed and restored. Furthermore those who did not experience any level of mastery throughout the programme or were not given opportunities for challenge (Cotton & Butselaar, 2013; Ewert, et al. 2014; Mutz & Müller, 2016) and did not experience gradual increases in the level of challenge and difficulty to support mental and physical health (Tucker, 2013) may not have experienced positive changes in self-perception as Tucker (2009) describes and therefore not altered behaviours in support of improvements to own self-esteem and anxieties.

*Increase anxiety initially pre-programme/ Increase/improve mood and self-esteem*

The results presented a hugely diverse set of responses and no other consistencies were identified in the data set or by specific candidate; 4 out of the 5 candidates scored within *Normal* anxiety range pre programme and within *Elevated* range post programme. Only 1 candidate reported *Elevated* anxiety levels pre programme and *Normal* anxiety levels post and only 3 out of the 5 candidates showed any improvement in self-esteem or mood post programme, with 2 candidates reporting levels of increased Total Mood Disturbance, particularly relating to ‘Uncertainty about things’, again consistent in part with other literature; namely Tillmann, Tobin, Avison, Gilliland (2018) and their systematic review of literature towards mental health benefits of interactions with nature in children and teenagers; found that self-esteem exhibited the most non-significant findings when looking the relationship between self-esteem and nature where most authors focussed on nature through engagement, as we did here in this study.

This could well related to the diverse range of pre-presenting mental health conditions and external effecting factors as a further limitation to the study, neither of which were screened prior to, and although may have presented inaccuracies in the data set, without further investigation I am unable to ascertain which potential effecting factors are present amongst the candidates and how they may or may not affect the measurable mental health outcomes.

| Post Test | C1       | C2     | C3       | C4       | C5       |
|-----------|----------|--------|----------|----------|----------|
| RSE       | -1       | -12    | -2       | 0        | 3        |
| POMS      | 43       | -78    | 11       | -14      | -33      |
| SCAS      | 17       | -43    | 6        | 4        | 13       |
| SCAS T    | Elevated | Normal | Elevated | Elevated | Elevated |

The second most consistent alteration seen within the results table was the negative change in anxiety post programme. I would posit that with the

programme ending/ceasing there may be some increased anxieties surrounding candidates not knowing what is to come, lacking consistency, missing developed relationships and subsequently not having access to the following, which I have rephrased and corroborated with other authors explanations.

|                                  |  |  |                     |
|----------------------------------|--|--|---------------------|
| <b>Delahay. (2019)</b>           | <b>Mutz, Muller &amp; Goring. (2019), Bennett. (2014), Tillmann, Tobin, Avison, Gilliland. (2018), Holland, Powell, Thomsen &amp; Monz. (2018)</b> | <b>Autry. (2001), Baklien. (2016), Dorsch. (2016), Gelkopf. (2013), Tucker. (2013)</b> | <b>Gass. (2012)</b> |
| <b>Restorative Environments</b>  | They take place in an unfamiliar natural physical environment  | Processing and Reflection  | <b>Autonomy</b>     |
| <b>Continued Mastery</b>         | Consist of challenging activities with authentic and clear consequences that usually involve cooperation with others                               | Facilitating new relationships, through shared experiences                             | <b>Competence</b>   |
| <b>Peer Social Relationships</b> | Take place in a small-group social setting   | Providing social support   | <b>Relatedness</b>  |
| <b>Supportive Networks</b>       | Are guided by experienced, skilled instructors who ensure physical safety and emotional support during the program.                                | Appropriately qualified, caring, empathetic and patients leaders                       |                     |

These of course would further provide opportunities for candidates to practice **autonomy**, through inquiry and reflection on one's own actions; **competence**, through skill acquisition and problem solving; and **relatedness**, through relationships with peers and practitioners, all of which as Beightol, Jeverson, Carter, Gray, and Gass (2012) describes are essential outdoor education programmes in support of positive mental health outcomes.



Kaplan goes on to provide six other aspects of 'compatibility' (Daniel, et al. 2014), which provides some further insight as to why overall mental health (restoration), self-esteem, anxiety and mood did not improve;

1. **Distraction** (*the environment should not be distracting because it is highly stimulating, but because it requires little effort to sink into*)
  - As a commercial outdoor education centre the venue tended to be in use by other groups at the same time, therefore the candidates could well have been distracted by other individuals, activities, noise and other staff members. This would create over stimulation and as Wyles, White, Hattam, Pahl, King, and Austen (2019) suggests a resulting lack of immersion in the programme and candidates inability to tune out distractions. Thus reducing potential restorative properties of the overall environment.
2. **Deficit of information** (*a restorative environment does not require the individual to search for information to make sense of it; the individual should already have all the information needed to understand and enjoy the environment*)
  - This could be related to the information that was given in terms of the pre-programme design and any potential anxieties not knowing, not understanding or being able to make sense of what was is happening for each activity in question. Johnson & Rosen (2000) goes on to suggest that these deficits may contribute to difficulties in following rules and heightened emotional reactivity. Thus again would result in lack of immersion and engagement as seen above.
3. **Danger** (*the environment cannot be dangerous in any sense of the word: whether physically or due to fear of looking foolish or acting inappropriately*)
  - The candidates could well have experienced different levels of perceived fear with regards to the actual activities in question or how they might look in front of their peers. The resolution of which was originally thought to improve psychological resilience and mental health, but other authors Mackenzie, Son and Hollenhorst. (2014) found this not to be the case. This can be seen from the SCAS

subscales under **Social Phobia** where all candidates scored an 'often' or 'always' post-test for the statements '*I feel afraid if I have to talk in front of my class*' and 'sometimes', 'often' and 'always' for statement '*I feel afraid that I will make a fool of myself in front of people*'. Again this risk and/or fear could well have resulted in a lack of willingness and subsequent immersion in the programme

4. **Duty** (*the individual should not feel drawn to the environment out of a sense of duty or responsibility, but out of a desire for enjoyment and restoration*)

- There could well have been an underlying duty to attend the programme as originally advertised via a teacher directly to the candidates and they may have felt encouraged to attend as opposed to wanting to attend under their own desires. Schell, Cotton and Luxmoore (2012) suggests this should be much more of a collaborative and empowering experience, which can be a very powerful for a young person with a mental illness whose life may have been significantly disrupted. Thus the lack of self-responsibility and perceived duty to others may well have reduced the overall effectiveness of the programme in which candidates may feel they had little or no control over the outcome.

5. **Deception** – (*the individual should not be experiencing a discrepancy between the task they are doing and their true feelings about it*)

- There may well have been an element of stronger characters dictating the direction of the programme, whereas weaker characters may well be easily influenced by the rest of the group and therefore may have experienced a discrepancy between the activity and how they feel about it (whether positive or negative). Supported by Piccininni, Michaelson, Janssen, Pickett (2018) who suggest that this poor emotional state among adolescents may impact their usage of and feelings towards the outdoors, resulting in reverse causality. Again supported by the leader/practitioner observations stating that some candidates were 'influenced by the others in the group and wanted to stop when they did' and 'may want to continue but says no

because the others have'. Thus perhaps the more confident characters would have an effect on the discrepancy of feelings versus task for the more apprehensive candidates further reducing overall effect.

6. **Difficulty** – *(the environment must not be one in which individuals need to prepare or anticipate difficult situations to navigate)*
- Having no clear direction and offering a self-selected programme could well have added to anticipatory fears for those as describe Eisenberg, Spinrad & Eggnum (2010) who are already struggling to respond and interact with their environment and/ or stressors in a resilient and adaptive manner. This in terms of the unknown; whether that be activity, relationships with others, group cohesion and cooperation may well have resulted in overall poorer mental health in line with the posttest measured outcomes.

As alluded towards above Kaplan also describes the **Extent** at which individual feels immersed and engaged in an environment, that the environment should be somewhat familiar in order to have a restorative connection. As a further identified limitation there was no question pre-test to ascertain whether candidates had engaged with similar activities or environments before and therefore this quantity was unknown, other than the odd subjective comment as seen within the leader/practitioner observations 'I've never done this before' or regaling stories of previous experiences at different locations.

For some candidates the whole experience could well have been out of their comfort zone in an environment that was deeply uncomfortable, the assumed existing similarity in place attachment, or centres of significance (Wattchow and Brown, 2011) from other locations (parks, green spaces, leisure attractions etc) could well have been incorrect and for others the familiarisation (Taylor and Kuo, 2011) of such environments could well have lessened the potential restorative impact and therefore contributing to the worsening of overall anxiety, self-esteem and mood.

These additional stressors of an unknown environment and activity could well have added to the overall worsening of results and are key when considering

what Russell, Widmer, Lundberg & Ward (2015) describes as the candidates *ability to handle stressors* as opposed to the *amount of existing stressors in their lives* and of course that sense of **Being Away** and psychologically detached from existing and external worries was equally only assumed, thus the experience of the programme could well have bought with it additional worries and demands, which again could have contributed to the lack of restorative properties in the environment and the falling of measured outcomes.

In addition where candidates saw engagement as an isolated exposure (not part of the daily activities) as opposed to a routine exposure (occur on a daily or near daily basis) to nature/greenspace this could well have effected outcomes, and as Taylor and Kuo (2011) suggests these routine exposures better lend themselves as a means for symptom reduction whereas isolated exposures do not. This more active engagement in nature seen as part of this particular outdoor education programme as opposed to passive engagement may have also contributed to the reduced restorative properties of the particular environment, and as Kamitsis & Simmonds (2017) suggest the passive connection with the aesthetic elements of nature has in itself been found to produce more positive psychological health outcomes.

This subsequent potential lacking level of immersion could well have been attributed to the relatively short term programme if it did not allow candidates sufficient time to experience the difference between the new and old selves. Subsequently reducing opportunities relating to duration, exposure and frequency of participation (Pietilä, Neuvonen, Borodulin, Korpela, Sievänen, and Tyrväinen. (2015), Pasanen, et al. 2014, Siegel, et al. 2015, and Wilson & Christensen, 2012) which Thomsen, Powell, Monz (2018) suggest are all seen as key influencing factors. It would then further suggest that if the overall intensity of the experience was insufficient, then as Ungar (2005) supports, it would unlikely result in wholly positive outcomes.

### **Further Limitations**

**Questionnaires;** although the Rosenberg Self Esteem Scale (RSE) and Profile of Mood (POMS) were used most frequently to assess mental health, the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, & Lushene, 1983) was

most commonly used and Spence Childrens Anxiety Scale (SCAS) was used within school intervention and individual profiling environments as per literature review, thus providing further potential limitations.

Measurements of Mood seemed most commonly researched, which has lead me to consider whether I could have focussed on this one particular aspect using a number of different measures; E.g. The Feeling Scale (FS) (Hardy & Rejeski, 1989), Felt Arousal Scale (FAS) (Svebak & Murgatroyd, 1985), Mood Survey Scale (MSS) (Abele-Brehm & Brehm, 1986) and certainly the Profile of Mood questionnaire (2-Y Edition) specifically designed for adolescents 13–17yrs available as short 35 item version for some candidates who struggled to understand the words/statements would have been better suited. Alternatively a description paper could have been administered and the process perhaps would have been easier to manage with the originally planned individual capacity, as opposed to the group environment questionnaires took place.

**Pre-Screening;** Was not undertaken in this instance as candidates were all already accessing CAMHS (Children and Adolescent Mental Health Services) from the National Health Service and it was deemed unnecessary. In hindsight the Warwick–Edinburgh Mental Well-being Scale (WEMWBS) covering subjective well-being and psychological functioning to address aspects of positive mental health and seemed most popular in UK based research. This could have been used initially to ascertain what level candidates were entering the programme, although perhaps would not have changed the results.

**Gender;** This research particularly emphasised the importance of accounting for differences between gender as supported by Piccininni, Michaelson, Janssen, Pickett (2018) when researching, planning, and implementing mental health initiatives that consider exposure to the outdoors.

Of the total results shown it is worth reiterating that although the male candidate within the programme did not show any improvement, all scores were still within or just outside normal ranges pre/post-test and 3 out of the 4 female candidates showed increased anxiety post-test which in part tends to corroborate with inconsistencies reported by other authors; Gustafsson, Szczepanski , Nelson & Gustafsson (2012) showed positive overall mental health effects for males and

an inconclusive effect for females and Craig & Pepler (2014) who stated females diagnoses tend to manifest more often in terms of anxiety. This of course does not offer any substantial evidence being as the data set was so small and there was no control group. However, it would offer some explanation as to the immersion within the programme as discussed previously and the length of the programme not being long enough for females to see any positive benefit, as suggested by Jiang, Chang & Sullivan (2014) who suggest that women need a longer exposure to nature to gain a measurable improvement in mental health, which would clearly lend itself to some potential further research.

**Control Group;** no control group was used. However, this would perhaps give greater depth and significance to the study if I could ascertain whether the OEP gave different results between control and participation groups pre/post-test regardless of mental health condition.

**Recruitment and Length of Programme;** candidates with existing experience of OEP/such activities OR offer a more prescriptive programme based on less effortful activities based in a natural environment (walking, cycling, natural art, conservation work, gardening) over a longer term where candidates are able to develop some level of *mastery* and competence over the activity thus requiring less potential effortful attention. These activities might especially be *softly fascinating* in that it is typically goal-directed and repetitive, thus enabling the candidates to enter what is referred to as an immersive “flow state” situated somewhere between skill and challenge. This could well align itself nicely with a ‘mindfulness’ intervention alongside the OEP in which a flow state is akin to a mindful state. Coventry, Neale, Dyke, Pateman and Cinderby (2019) suggest that by cultivating a focus on the present, rather than ruminating on the past or worrying about the future, mindfulness states can enable people to more effectively cope with physical or mental stressors that can negatively affect wellbeing.

**Quantitative and Qualitative;** Limited qualitative research was found during the review of literature, future direction in this area of research could include a more in-depth qualitative analysis, such as personal interviews alongside the quantitative questionnaires. This type of analysis could provide more

information about whether an OEP within nature/greenspace could support improvements in mental health together with social, educational, vocational aspects and would lend itself to potential follow up measures at different intervals.

## **Conclusion**

This restoration experienced by connection with the natural environment remains difficult to measure, although believed by our outdoor practitioners/leaders to be insightful. Accessibility to green space, exposure to nature, and active use through engagement within a natural environment is still associated with having positive outcomes towards enhancing mental health.

The current study examined pre/post-test results for self-esteem, mood and anxiety following a 6 week outdoor education programme (OEP) in nature as to whether such a programme would offer any restorative opportunities for a small cohort of secondary school candidates with poor mental health.

Although the results were statistically insignificant and relatively inconsistent in outcome we can at least offer some positive insight in to the effect that an outdoor education programme within nature/greenspace 'may' have on vigour and fatigue (exhaustion) in light of its restorative capability.

Of course the activities themselves and presence of nature are perhaps somewhat difficult to disentangle at this stage;

- Does nature and/or activity provide an opportunity for mental health improvement?
- Does contact with nature and/or activity itself assist in the development of coping mechanisms?
- Do both just enhance possibilities for interaction with other children and development of peer supportive networks?

I think in part all are true to some extent – the presence of, participation in and physical connection with nature remain important for some and whilst I am certainly not suggesting that access to nature/green space via outdoor education is a 'one size fits all' approach for improving all mental health difficulties, seemingly exposure to nature and outdoor activities can improve mental health for at least some symptoms, causes, and circumstances.

Whether this effect is due to the physical activity involved, or engaging with a natural setting itself, the effect of an activity experience upon the individual, the



mere presence of green space or a combination of all these still remains elusive and requires more research.

This study suggests that nature can effect mental health positively for some people, and for some people based on the interaction. There is no denying that some people will be affected more than others by the therapeutic nature of outdoor environments and equally these programmes may just exemplify the benefits of nature and proposed necessary integration in to our daily routines and for some these may just depend on the context of the surrounding environment. Nevertheless it continues to remain an area of real interest for the author and in times of increasing mental health concern an adventure intervention or programme of similar distinction facilitated on a field, at a local park, a dedicated venue or any green space within a community with little or no cost could well be the social prescribing answer we have been looking for.

### **Summary of Findings**

- A self-selected outdoor education programme in nature can in part help to improve vigour and reduce exhaustion (fatigue) for some people.
- Traditional outdoor education activities (canoeing, kayaking etc) may require too much effortful attention for some and not hold enough soft fascination in order to be truly restorative. However, mastery and competence over an activity 'may' require less effortful attention for some, compared to someone who is a relative novice or has relatively little experience.
- The end of an OEP 'may' present increased anxieties when no longer having access to; Restorative Environments, Supportive Networks, Peer Social Relationships and Continued Mastery to practice autonomy, competence, relatedness

### **Lessons Learned**

- **Highly Stimulating** - A busy commercial outdoor education centre 'may' not have provided the best environment for the study.

- **Lack of Information and No surprises** - A self-selected programme design 'may' not have provided the necessary stability to support reducing anxieties or removing the need to gain further information.
- **Reducing Fears** - Perceptions amongst peers and removing possibility for embarrassment is essential.
- **Real Immersion** - Integration within the cohort is essential to build rapport amongst candidates and leaders/researchers, constructing a programme 'with' candidates prior to commencement of the programme 'may' have proved more beneficial in order for them to have ownership and a real desire and wish to attend.
- **True Feelings** - Mental health can present a diverse range of individual characteristics and where possible these need to be supported throughout. Foster an environment to give everyone a voice.
- **Length of programme** – It is unlikely that the short 6 week (3hrs p/w) course gave a chance for the candidates to see a 'real' difference between old and new selves. To become truly immersed and detached from real-life I would posit that this needs to be a much more intensive process.

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## Appendices

### Appendix 1

Rosenberg Self Esteems Scale (RSE)

| No. | Statements   | General feelings about yourself |           |              |                        |
|-----|--|---------------------------------|-----------|--------------|------------------------|
|     |  | 1                               | 2         | 3            | 4                      |
|     |  | Strongly Agree (SA)             | Agree (A) | Disagree (D) | Strongly Disagree (SD) |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A         | D            | SD                     |
| 2   | At times I think I am no good at all.                                      | SA                              | A         | D            | SD                     |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A         | D            | SD                     |
| 4   | I am able to do things as well as most other people.                       | SA                              | A         | D            | SD                     |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A         | D            | SD                     |
| 6   | I certainly feel useless at times.   | SA                              | A         | D            | SD                     |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A         | D            | SD                     |
| 8   | I wish I could have more respect for myself.                               | SA                              | A         | D            | SD                     |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A         | D            | SD                     |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A         | D            | SD                     |

Profile of Mood States (POMS)

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

### Spence Children's Anxiety Scale (SCAS)

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things.  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).                 | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is.....<br>.....<br>.....        | YES  |           | NO    |        |
|     | How often are you afraid of this thing?  | 0  | 1         | 2     | 3      |



**Appendix 2**

| Rosenberg Self Esteems Scale (RSE)  |  |                                 |                    |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
|---|--|---------------------------------|--------------------|-------------------|-----------------------------|------------|---------------------------------|--|--|--|--------------------------|----------------|-------------------|-----------------------------|---|---|----|---|---|----|---|---------------------------------------|----|---|---|----|---|--|----|---|---|----|---|--|----|---|---|----|---|---|----|---|---|----|---|------------------------------------|----|---|---|----|---|--|----|---|---|----|---|--|----|---|---|----|---|--|----|---|---|----|----|--|----|---|---|----|
| Pre Test Raw Data   |  |                                 | Post Test Raw Data |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| Candidate 1   |  |                                 |                    |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 2   | At times I think I am no good at all.                                      | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 4   | I am able to do things as well as most other people.                       | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 8   | I wish I could have more respect for myself.                               | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 2   | At times I think I am no good at all.                                      | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| Candidate 2   |  |                                 |                    |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 2   | At times I think I am no good at all.                                      | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 4   | I am able to do things as well as most other people.                       | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 8   | I wish I could have more respect for myself.                               | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| Candidate 3   |  |                                 |                    |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
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| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| <table border="1"> <thead> <tr> <th rowspan="2">No.</th> <th rowspan="2">Statements</th> <th colspan="4">General feelings about yourself</th> </tr> <tr> <th>1<br/>Strongly Agree (SA)</th> <th>2<br/>Agree (A)</th> <th>3<br/>Disagree (D)</th> <th>4<br/>Strongly Disagree (SD)</th> </tr> </thead> <tbody> <tr><td>1</td><td>On the whole, I am satisfied with myself.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>2</td><td>At times I think I am no good at all.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>3</td><td>I feel that I have a number of good qualities.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>4</td><td>I am able to do things as well as most other people.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>5</td><td>I feel I do not have much to be proud of.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>6</td><td>I certainly feel useless at times.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>7</td><td>I feel that I'm a person of worth, at least on an equal plane with others.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>8</td><td>I wish I could have more respect for myself.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>9</td><td>All in all, I am inclined to feel that I am a failure.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> <tr><td>10</td><td>I take a positive attitude towards myself.</td><td>SA</td><td>A</td><td>D</td><td>SD</td></tr> </tbody> </table> |  |                                 |                    |                   | No.                         | Statements | General feelings about yourself |  |  |  | 1<br>Strongly Agree (SA) | 2<br>Agree (A) | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) | 1 | On the whole, I am satisfied with myself. | SA | A | D | SD | 2 | At times I think I am no good at all. | SA | A | D | SD | 3 | I feel that I have a number of good qualities. | SA | A | D | SD | 4 | I am able to do things as well as most other people. | SA | A | D | SD | 5 | I feel I do not have much to be proud of. | SA | A | D | SD | 6 | I certainly feel useless at times. | SA | A | D | SD | 7 | I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD | 8 | I wish I could have more respect for myself. | SA | A | D | SD | 9 | All in all, I am inclined to feel that I am a failure. | SA | A | D | SD | 10 | I take a positive attitude towards myself. | SA | A | D | SD |
| No.   | Statements   | General feelings about yourself |                    |                   |                             |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
|   |  | 1<br>Strongly Agree (SA)        | 2<br>Agree (A)     | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 2   | At times I think I am no good at all.                                      | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 4   | I am able to do things as well as most other people.                       | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 6   | I certainly feel useless at times.   | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 8   | I wish I could have more respect for myself.                               | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A                  | D                 | SD                          |            |                                 |  |  |  |                          |                |                   |                             |   |   |    |   |   |    |   |                                       |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |   |    |   |   |    |   |                                    |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |   |  |    |   |   |    |    |  |    |   |   |    |

Candidate 4

| No. | Statements   | General feelings about yourself |                |                   |                             |
|-----|--|---------------------------------|----------------|-------------------|-----------------------------|
|     |  | 1<br>Strongly Agree (SA)        | 2<br>Agree (A) | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A              | D                 | SD                          |
| 2   | At times I think I am no good at all.                                      | SA                              | A              | D                 | SD                          |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A              | D                 | SD                          |
| 4   | I am able to do things as well as most other people.                       | SA                              | A              | D                 | SD                          |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A              | D                 | SD                          |
| 6   | I certainly feel useless at times.   | SA                              | A              | D                 | SD                          |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A              | D                 | SD                          |
| 8   | I wish I could have more respect for myself.                               | SA                              | A              | D                 | SD                          |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A              | D                 | SD                          |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A              | D                 | SD                          |

| No. | Statements   | General feelings about yourself |                |                   |                             |
|-----|--|---------------------------------|----------------|-------------------|-----------------------------|
|     |  | 1<br>Strongly Agree (SA)        | 2<br>Agree (A) | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A              | D                 | SD                          |
| 2   | At times I think I am no good at all.                                      | SA                              | A              | D                 | SD                          |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A              | D                 | SD                          |
| 4   | I am able to do things as well as most other people.                       | SA                              | A              | D                 | SD                          |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A              | D                 | SD                          |
| 6   | I certainly feel useless at times.   | SA                              | A              | D                 | SD                          |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A              | D                 | SD                          |
| 8   | I wish I could have more respect for myself.                               | SA                              | A              | D                 | SD                          |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A              | D                 | SD                          |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A              | D                 | SD                          |

Candidate 5

| No. | Statements   | General feelings about yourself |                |                   |                             |
|-----|--|---------------------------------|----------------|-------------------|-----------------------------|
|     |  | 1<br>Strongly Agree (SA)        | 2<br>Agree (A) | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A              | D                 | SD                          |
| 2   | At times I think I am no good at all.                                      | SA                              | A              | D                 | SD                          |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A              | D                 | SD                          |
| 4   | I am able to do things as well as most other people.                       | SA                              | A              | D                 | SD                          |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A              | D                 | SD                          |
| 6   | I certainly feel useless at times.   | SA                              | A              | D                 | SD                          |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A              | D                 | SD                          |
| 8   | I wish I could have more respect for myself.                               | SA                              | A              | D                 | SD                          |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A              | D                 | SD                          |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A              | D                 | SD                          |

| No. | Statements   | General feelings about yourself |                |                   |                             |
|-----|--|---------------------------------|----------------|-------------------|-----------------------------|
|     |  | 1<br>Strongly Agree (SA)        | 2<br>Agree (A) | 3<br>Disagree (D) | 4<br>Strongly Disagree (SD) |
| 1   | On the whole, I am satisfied with myself.                                  | SA                              | A              | D                 | SD                          |
| 2   | At times I think I am no good at all.                                      | SA                              | A              | D                 | SD                          |
| 3   | I feel that I have a number of good qualities.                             | SA                              | A              | D                 | SD                          |
| 4   | I am able to do things as well as most other people.                       | SA                              | A              | D                 | SD                          |
| 5   | I feel I do not have much to be proud of.                                  | SA                              | A              | D                 | SD                          |
| 6   | I certainly feel useless at times.   | SA                              | A              | D                 | SD                          |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SA                              | A              | D                 | SD                          |
| 8   | I wish I could have more respect for myself.                               | SA                              | A              | D                 | SD                          |
| 9   | All in all, I am inclined to feel that I am a failure.                     | SA                              | A              | D                 | SD                          |
| 10  | I take a positive attitude towards myself.                                 | SA                              | A              | D                 | SD                          |

Profile of Mood States (POMS)

Pre Test Raw Date

Post Test Raw Data

Candidate 1

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Inferable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Fearful               | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Inferable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Fearful               | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

Profile of Mood States (POMS)

Pre Test Raw Date

Post Test Raw Data

Candidate 2

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Fuddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Stier                 | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Worried               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Fuddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Stier                 | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Worried               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

Profile of Mood States (POMS)

Pre Test Raw Date

Post Test Raw Data

Candidate 3

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Wearry                 | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Wearry                 | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

Profile of Mood States (POMS)

Pre Test Raw Date

Post Test Raw Data

Candidate 4

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Muddled               | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Bitter                | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Anxious               | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

Profile of Mood States (POMS)

Pre Test Raw Date

Post Test Raw Data

Candidate 5

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Jaded                 | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Over                  | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Alert                 | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling               | How I have felt |          |            |             |           |
|-----|-----------------------|-----------------|----------|------------|-------------|-----------|
|     |                       | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 1   | Friendly              | 0               | 1        | 2          | 3           | 4         |
| 2   | Tense                 | 0               | 1        | 2          | 3           | 4         |
| 3   | Angry                 | 0               | 1        | 2          | 3           | 4         |
| 4   | Worn Out              | 0               | 1        | 2          | 3           | 4         |
| 5   | Unhappy               | 0               | 1        | 2          | 3           | 4         |
| 6   | Clear Headed          | 0               | 1        | 2          | 3           | 4         |
| 7   | Lively                | 0               | 1        | 2          | 3           | 4         |
| 8   | Confused              | 0               | 1        | 2          | 3           | 4         |
| 9   | Sorry for things done | 0               | 1        | 2          | 3           | 4         |
| 10  | Shaky                 | 0               | 1        | 2          | 3           | 4         |
| 11  | Listless              | 0               | 1        | 2          | 3           | 4         |
| 12  | Peeved                | 0               | 1        | 2          | 3           | 4         |
| 13  | Considerate           | 0               | 1        | 2          | 3           | 4         |
| 14  | Sad                   | 0               | 1        | 2          | 3           | 4         |
| 15  | Active                | 0               | 1        | 2          | 3           | 4         |
| 16  | On Edge               | 0               | 1        | 2          | 3           | 4         |
| 17  | Grouchy               | 0               | 1        | 2          | 3           | 4         |
| 18  | Blue                  | 0               | 1        | 2          | 3           | 4         |
| 19  | Energetic             | 0               | 1        | 2          | 3           | 4         |
| 20  | Panicky               | 0               | 1        | 2          | 3           | 4         |
| 21  | Hopeless              | 0               | 1        | 2          | 3           | 4         |
| 22  | Relaxed               | 0               | 1        | 2          | 3           | 4         |
| 23  | Unworthy              | 0               | 1        | 2          | 3           | 4         |
| 24  | Spiteful              | 0               | 1        | 2          | 3           | 4         |
| 25  | Sympathetic           | 0               | 1        | 2          | 3           | 4         |
| 26  | Uneasy                | 0               | 1        | 2          | 3           | 4         |
| 27  | Restless              | 0               | 1        | 2          | 3           | 4         |
| 28  | Unable to Concentrate | 0               | 1        | 2          | 3           | 4         |
| 29  | Fatigued              | 0               | 1        | 2          | 3           | 4         |
| 30  | Helpful               | 0               | 1        | 2          | 3           | 4         |
| 31  | Annoyed               | 0               | 1        | 2          | 3           | 4         |
| 32  | Discouraged           | 0               | 1        | 2          | 3           | 4         |
| 33  | Resentful             | 0               | 1        | 2          | 3           | 4         |
| 34  | Nervous               | 0               | 1        | 2          | 3           | 4         |
| 35  | Lonely                | 0               | 1        | 2          | 3           | 4         |
| 36  | Miserable             | 0               | 1        | 2          | 3           | 4         |
| 37  | Jaded                 | 0               | 1        | 2          | 3           | 4         |
| 38  | Cheerful              | 0               | 1        | 2          | 3           | 4         |
| 39  | Over                  | 0               | 1        | 2          | 3           | 4         |
| 40  | Exhausted             | 0               | 1        | 2          | 3           | 4         |
| 41  | Alert                 | 0               | 1        | 2          | 3           | 4         |
| 42  | Ready to Fight        | 0               | 1        | 2          | 3           | 4         |
| 43  | Good Natured          | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

| No. | Feeling                | How I have felt |          |            |             |           |
|-----|------------------------|-----------------|----------|------------|-------------|-----------|
|     |                        | Not at All      | A Little | Moderately | Quite a Lot | Extremely |
| 44  | Gloomy                 | 0               | 1        | 2          | 3           | 4         |
| 45  | Desperate              | 0               | 1        | 2          | 3           | 4         |
| 46  | Sluggish               | 0               | 1        | 2          | 3           | 4         |
| 47  | Rebellious             | 0               | 1        | 2          | 3           | 4         |
| 48  | Helpless               | 0               | 1        | 2          | 3           | 4         |
| 49  | Weary                  | 0               | 1        | 2          | 3           | 4         |
| 50  | Bewildered             | 0               | 1        | 2          | 3           | 4         |
| 51  | Alert                  | 0               | 1        | 2          | 3           | 4         |
| 52  | Deceived               | 0               | 1        | 2          | 3           | 4         |
| 53  | Furious                | 0               | 1        | 2          | 3           | 4         |
| 54  | Efficient              | 0               | 1        | 2          | 3           | 4         |
| 55  | Trusting               | 0               | 1        | 2          | 3           | 4         |
| 56  | Full of Pep            | 0               | 1        | 2          | 3           | 4         |
| 57  | Bad Tempered           | 0               | 1        | 2          | 3           | 4         |
| 58  | Worthless              | 0               | 1        | 2          | 3           | 4         |
| 59  | Forgetful              | 0               | 1        | 2          | 3           | 4         |
| 60  | Carefree               | 0               | 1        | 2          | 3           | 4         |
| 61  | Terrified              | 0               | 1        | 2          | 3           | 4         |
| 62  | Guilty                 | 0               | 1        | 2          | 3           | 4         |
| 63  | Vigorous               | 0               | 1        | 2          | 3           | 4         |
| 64  | Uncertain about things | 0               | 1        | 2          | 3           | 4         |
| 65  | Bushed                 | 0               | 1        | 2          | 3           | 4         |

Spence Children's Anxiety Scale (SCAS)

Pre Test Raw Data

Post Test Raw Data

Candidate 1

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things   | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things   | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| Statement | How often each of these things happen to you   |           |       |        |   |
|-----------|--|-----------|-------|--------|---|
|           | Never  | Sometimes | Often | Always |   |
| 24        | When I have a problem, I feel shaky.   | 0         | 1     | 2      | 3 |
| 25        | I am scared of being in high places or elevators (lifts).  | 0         | 1     | 2      | 3 |
| 26        | I am a good person.  | 0         | 1     | 2      | 3 |
| 27        | I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0         | 1     | 2      | 3 |
| 28        | I feel scared if I have to travel in the car, or on a bus or a train.  | 0         | 1     | 2      | 3 |
| 29        | I worry what other people think of me.   | 0         | 1     | 2      | 3 |
| 30        | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).                 | 0         | 1     | 2      | 3 |
| 31        | I feel happy.  | 0         | 1     | 2      | 3 |
| 32        | All of a sudden I feel really scared for no reason at all.   | 0         | 1     | 2      | 3 |
| 33        | I am scared of insects or spiders.   | 0         | 1     | 2      | 3 |
| 34        | I suddenly become dizzy or faint when there is no reason for this.   | 0         | 1     | 2      | 3 |
| 35        | I feel afraid if I have to talk in front of my class.  | 0         | 1     | 2      | 3 |
| 36        | My heart suddenly starts to beat too quickly for no reason.  | 0         | 1     | 2      | 3 |
| 37        | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0         | 1     | 2      | 3 |
| 38        | I like myself.   | 0         | 1     | 2      | 3 |
| 39        | I am afraid of being in small closed places, like tunnels or small rooms.  | 0         | 1     | 2      | 3 |
| 40        | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 0         | 1     | 2      | 3 |
| 41        | I get bothered by bad or silly thoughts or pictures in my mind.  | 0         | 1     | 2      | 3 |
| 42        | I have to do some things in just the right way to stop bad things happening.   | 0         | 1     | 2      | 3 |
| 43        | I am proud of my school work.  | 0         | 1     | 2      | 3 |
| 44        | I would feel scared if I had to stay away from home overnight.   | 0         | 1     | 2      | 3 |
| 45        | Is there something else that you are really afraid of?<br>Please write down what it is.<br><i>Being forgotten</i>    | YES       |       | NO     |   |
|           | How often are you afraid of this thing?  | 0         | 1     | 2      | 3 |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).                 | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is.<br><i>Being forgotten</i>    | YES  |           | NO    |        |
|     | How often are you afraid of this thing?  | 0  | 1         | 2     | 3      |



Candidate 2

|           |  | How often each of these things happen to you |           |       |        |
|-----------|--|--|-----------|-------|--------|
| Statement |  | Never  | Sometimes | Often | Always |
|           | I worry about things.  | 0  | 1         | 2     | 3      |
|           | I am scared of the dark.   | 0  | 1         | 2     | 3      |
|           | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
|           | I feel afraid.   | 0  | 1         | 2     | 3      |
|           | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
|           | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
|           | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
|           | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
|           | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
|           | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
|           | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
|           | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
|           | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
|           | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
|           | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
|           | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
|           | I am good at sports.   | 0  | 1         | 2     | 3      |
|           | I am scared of dogs.   | 0  | 1         | 2     | 3      |
|           | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
|           | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
|           | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
|           | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
|           | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

|           |  | How often each of these things happen to you |           |       |        |
|-----------|--|--|-----------|-------|--------|
| Statement |  | Never  | Sometimes | Often | Always |
|           | I worry about things.  | 0  | 1         | 2     | 3      |
|           | I am scared of the dark.   | 0  | 1         | 2     | 3      |
|           | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
|           | I feel afraid.   | 0  | 1         | 2     | 3      |
|           | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
|           | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
|           | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
|           | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
|           | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
|           | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
|           | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
|           | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
|           | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
|           | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
|           | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
|           | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
|           | I am good at sports.   | 0  | 1         | 2     | 3      |
|           | I am scared of dogs.   | 0  | 1         | 2     | 3      |
|           | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
|           | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
|           | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
|           | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
|           | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

|           |  | How often each of these things happen to you |           |       |        |
|-----------|--|--|-----------|-------|--------|
| Statement |  | Never  | Sometimes | Often | Always |
|           | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
|           | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
|           | I am a good person.  | 0  | 1         | 2     | 3      |
|           | I have to think of special thoughts to stop bad things from happening (like numbers or words).   | 0  | 1         | 2     | 3      |
|           | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
|           | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
|           | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).   | 0  | 1         | 2     | 3      |
|           | I feel happy.  | 0  | 1         | 2     | 3      |
|           | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
|           | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
|           | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
|           | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
|           | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
|           | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.   | 0  | 1         | 2     | 3      |
|           | I like myself.   | 0  | 1         | 2     | 3      |
|           | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
|           | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).   | 0  | 1         | 2     | 3      |
|           | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
|           | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
|           | I am proud of my school work.  | 0  | 1         | 2     | 3      |
|           | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
|           | Is there something else that you are really afraid of?<br>Please write down what it is.<br><i>people and losing more people than I already have</i><br><i>I know, and about other people</i><br>How often are you afraid of this thing?<br>0 | YES  |           | NO    | 3      |

Thank you for completing this questionnaire.

|           |   | How often each of these things happen to you |           |       |        |
|-----------|---|--|-----------|-------|--------|
| Statement |   | Never  | Sometimes | Often | Always |
|           | When I have a problem, I feel shaky.  | 0  | 1         | 2     | 3      |
|           | I am scared of being in high places or elevators (lifts).   | 0  | 1         | 2     | 3      |
|           | I am a good person.   | 0  | 1         | 2     | 3      |
|           | I have to think of special thoughts to stop bad things from happening (like numbers or words).  | 0  | 1         | 2     | 3      |
|           | I feel scared if I have to travel in the car, or on a bus or a train.   | 0  | 1         | 2     | 3      |
|           | I worry what other people think of me.  | 0  | 1         | 2     | 3      |
|           | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).  | 0  | 1         | 2     | 3      |
|           | I feel happy.   | 0  | 1         | 2     | 3      |
|           | All of a sudden I feel really scared for no reason at all.  | 0  | 1         | 2     | 3      |
|           | I am scared of insects or spiders.  | 0  | 1         | 2     | 3      |
|           | I suddenly become dizzy or faint when there is no reason for this.  | 0  | 1         | 2     | 3      |
|           | I feel afraid if I have to talk in front of my class.   | 0  | 1         | 2     | 3      |
|           | My heart suddenly starts to beat too quickly for no reason.   | 0  | 1         | 2     | 3      |
|           | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.  | 0  | 1         | 2     | 3      |
|           | I like myself.  | 0  | 1         | 2     | 3      |
|           | I am afraid of being in small closed places, like tunnels or small rooms.   | 0  | 1         | 2     | 3      |
|           | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).                                      | 0  | 1         | 2     | 3      |
|           | I get bothered by bad or silly thoughts or pictures in my mind.   | 0  | 1         | 2     | 3      |
|           | I have to do some things in just the right way to stop bad things happening.  | 0  | 1         | 2     | 3      |
|           | I am proud of my school work.   | 0  | 1         | 2     | 3      |
|           | I would feel scared if I had to stay away from home overnight.  | 0  | 1         | 2     | 3      |
|           | Is there something else that you are really afraid of?<br>Please write down what it is.<br>.....<br>.....<br>How often are you afraid of this thing?<br>0 | YES  |           | NO    | 3      |

Thank you for completing this questionnaire.

Candidate 3

| No. | Statement   | How often each of these things happen to you |           |       |        |
|-----|---|--|-----------|-------|--------|
|     |   | Never  | Sometimes | Often | Always |
| 1   | I worry about things  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked) | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists   | 0  | 1         | 2     | 3      |

| No. | Statement   | How often each of these things happen to you |           |       |        |
|-----|---|--|-----------|-------|--------|
|     |   | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts)  | 0  | 1         | 2     | 3      |
| 26  | I am a good person  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words)                                   | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds)                             | 0  | 1         | 2     | 3      |
| 31  | I feel happy  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of   | 0  | 1         | 2     | 3      |
| 38  | I like myself   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)             | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is <i>scared to talk in front of people</i> | YES  |           | NO    |        |
|     | How often are you afraid of this thing?   | 0  | 1         | 2     | 3      |

Thank you for completing this questionnaire.

| No. | Statement   | How often each of these things happen to you |           |       |        |
|-----|---|--|-----------|-------|--------|
|     |   | Never  | Sometimes | Often | Always |
| 1   | I worry about things  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked) | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists   | 0  | 1         | 2     | 3      |

| No. | Statement   | How often each of these things happen to you |           |       |        |
|-----|---|--|-----------|-------|--------|
|     |   | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts)  | 0  | 1         | 2     | 3      |
| 26  | I am a good person  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words)                                   | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds)                             | 0  | 1         | 2     | 3      |
| 31  | I feel happy  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of   | 0  | 1         | 2     | 3      |
| 38  | I like myself   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order)             | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is <i>scared to talk in front of people</i> | YES  |           | NO    |        |
|     | How often are you afraid of this thing?   | 0  | 1         | 2     | 3      |

Candidate 4

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things.  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things.  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).                 | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is. <i>Looshitz</i>              | YES  |           | NO    |        |
|     | How often are you afraid of this thing?  | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).                 | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is. <i>Looshitz</i>              | YES  |           | NO    |        |
|     | How often are you afraid of this thing?  | 0  | 1         | 2     | 3      |

Candidate 5

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things.  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 1   | I worry about things.  | 0  | 1         | 2     | 3      |
| 2   | I am scared of the dark.   | 0  | 1         | 2     | 3      |
| 3   | When I have a problem, I get a funny feeling in my stomach.  | 0  | 1         | 2     | 3      |
| 4   | I feel afraid.   | 0  | 1         | 2     | 3      |
| 5   | I would feel afraid of being on my own at home.  | 0  | 1         | 2     | 3      |
| 6   | I feel scared when I have to take a test.  | 0  | 1         | 2     | 3      |
| 7   | I feel afraid if I have to use public toilets or bathrooms.  | 0  | 1         | 2     | 3      |
| 8   | I worry being away from my parents.  | 0  | 1         | 2     | 3      |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                    | 0  | 1         | 2     | 3      |
| 10  | I worry that I will do badly at my school work.  | 0  | 1         | 2     | 3      |
| 11  | I am popular amongst other kids my own age.  | 0  | 1         | 2     | 3      |
| 12  | I worry that something awful will happen to someone in my family.                                      | 0  | 1         | 2     | 3      |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                                | 0  | 1         | 2     | 3      |
| 14  | I have to keep checking that I have done things right (like the switch is off, or the door is locked). | 0  | 1         | 2     | 3      |
| 15  | I feel scared if I have to sleep on my own.  | 0  | 1         | 2     | 3      |
| 16  | I have trouble going to school in the mornings because I feel nervous and afraid.                      | 0  | 1         | 2     | 3      |
| 17  | I am good at sports.   | 0  | 1         | 2     | 3      |
| 18  | I am scared of dogs.   | 0  | 1         | 2     | 3      |
| 19  | I can't seem to get bad or silly thoughts out of my head.  | 0  | 1         | 2     | 3      |
| 20  | When I have a problem, my heart beats really fast.   | 0  | 1         | 2     | 3      |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                                 | 0  | 1         | 2     | 3      |
| 22  | I worry that something bad will happen to me.  | 0  | 1         | 2     | 3      |
| 23  | I am scared of going to the doctors or dentists.   | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).   | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).   | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.   | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).                                     | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is.....<br>.....<br>.....<br>How often are you afraid of this thing? |  | YES       | NO    |        |
|     |  | 0  | 1         | 2     | 3      |

| No. | Statement  | How often each of these things happen to you |           |       |        |
|-----|--|--|-----------|-------|--------|
|     |  | Never  | Sometimes | Often | Always |
| 24  | When I have a problem, I feel shaky.   | 0  | 1         | 2     | 3      |
| 25  | I am scared of being in high places or elevators (lifts).  | 0  | 1         | 2     | 3      |
| 26  | I am a good person.  | 0  | 1         | 2     | 3      |
| 27  | I have to think of special thoughts to stop bad things from happening (like numbers or words).   | 0  | 1         | 2     | 3      |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.  | 0  | 1         | 2     | 3      |
| 29  | I worry what other people think of me.   | 0  | 1         | 2     | 3      |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses, busy playgrounds).   | 0  | 1         | 2     | 3      |
| 31  | I feel happy.  | 0  | 1         | 2     | 3      |
| 32  | All of a sudden I feel really scared for no reason at all.   | 0  | 1         | 2     | 3      |
| 33  | I am scared of insects or spiders.   | 0  | 1         | 2     | 3      |
| 34  | I suddenly become dizzy or faint when there is no reason for this.   | 0  | 1         | 2     | 3      |
| 35  | I feel afraid if I have to talk in front of my class.  | 0  | 1         | 2     | 3      |
| 36  | My heart suddenly starts to beat too quickly for no reason.  | 0  | 1         | 2     | 3      |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.   | 0  | 1         | 2     | 3      |
| 38  | I like myself.   | 0  | 1         | 2     | 3      |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.  | 0  | 1         | 2     | 3      |
| 40  | I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order).                                     | 0  | 1         | 2     | 3      |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.  | 0  | 1         | 2     | 3      |
| 42  | I have to do some things in just the right way to stop bad things happening.   | 0  | 1         | 2     | 3      |
| 43  | I am proud of my school work.  | 0  | 1         | 2     | 3      |
| 44  | I would feel scared if I had to stay away from home overnight.   | 0  | 1         | 2     | 3      |
| 45  | Is there something else that you are really afraid of?<br>Please write down what it is.....<br>.....<br>.....<br>How often are you afraid of this thing? |  | YES       | NO    |        |
|     |  | 0  | 1         | 2     | 3      |

**Appendix. 3.1****Rosenberg Self Esteem Scale (RSE)****Pre Test Data**

| Rosenberg Self Esteem Scale (RSE)                                   |  |    |    |    |    |    |
|---|--|----|----|----|----|----|
| Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) |  |    |    |    |    |    |
|   |  | 1  | 2  | 3  | 4  | 5  |
| No.   | Question   |    |    |    |    |    |
| 1   | On the whole, I am satisfied with myself.                                  | SD | D  | D  | D  | A  |
| 2   | At times I think I am no good at all. **                                   | SA | SA | A  | SA | SD |
| 3   | I feel that I have a number of good qualities.                             | SD | D  | SD | D  | SA |
| 4   | I am able to do things as well as most other people.                       | D  | D  | A  | SD | SA |
| 5   | I feel I do not have much to be proud of. **                               | SA | SA | A  | SA | D  |
| 6   | I certainly feel useless at times. **                                      | SA | SA | A  | A  | D  |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | SD | D  | D  | D  | A  |
| 8   | I wish I could have more respect for myself. **                            | SA | A  | A  | SA | A  |
| 9   | All in all, I am inclined to feel that I am a failure. **                  | SA | A  | D  | A  | SD |
| 10  | I take a positive attitude towards myself.                                 | SD | SD | D  | SD | A  |

**Post Test Data**

| Rosenberg Self Esteem Scale (RSE)                                   |  |    |   |    |    |    |
|---|--|----|---|----|----|----|
| Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) |  |    |   |    |    |    |
|   |  | 1  | 2 | 3  | 4  | 5  |
| No.   | Question   |    |   |    |    |    |
| 1   | On the whole, I am satisfied with myself.                                  | SD | A | D  | D  | A  |
| 2   | At times I think I am no good at all. **                                   | SA | D | D  | SA | D  |
| 3   | I feel that I have a number of good qualities.                             | D  | A | D  | SD | A  |
| 4   | I am able to do things as well as most other people.                       | SD | A | A  | SD | A  |
| 5   | I feel I do not have much to be proud of. **                               | SA | D | A  | A  | D  |
| 6   | I certainly feel useless at times. **                                      | SA | A | A  | SA | SD |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | D  | A | D  | D  | A  |
| 8   | I wish I could have more respect for myself. **                            | SA | A | SA | SA | A  |
| 9   | All in all, I am inclined to feel that I am a failure. **                  | SA | D | D  | D  | D  |
| 10  | I take a positive attitude towards myself.                                 | SD | A | A  | SD | A  |

**Pre Test By Subscale**

| Rosenberg Self Esteem Scale (RSE) by Subscale                       |  |   |   |    |   |    |
|---|--|---|---|----|---|----|
| Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) |  |   |   |    |   |    |
|   |  | 1 | 2 | 3  | 4 | 5  |
| No.   | Question   |   |   |    |   |    |
| <b>Standard Score</b>   |  |   |   |    |   |    |
| SA = 3, A = 2, D = 1, SD = 0  |  |   |   |    |   |    |
| 1   | On the whole, I am satisfied with myself.                                  | 0 | 1 | 1  | 1 | 2  |
| 3   | I feel that I have a number of good qualities.                             | 0 | 1 | 0  | 1 | 3  |
| 4   | I am able to do things as well as most other people.                       | 1 | 1 | 2  | 0 | 3  |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | 0 | 1 | 1  | 1 | 2  |
| 10  | I take a positive attitude towards myself.                                 | 0 | 0 | 1  | 0 | 2  |
| <b>Reversed in Valence</b>  |  |   |   |    |   |    |
| SA = 0, A = 1, D = 2, SD = 3  |  |   |   |    |   |    |
| 2   | At times I think I am no good at all. **                                   | 0 | 0 | 1  | 0 | 3  |
| 5   | I feel I do not have much to be proud of. **                               | 0 | 0 | 1  | 0 | 2  |
| 6   | I certainly feel useless at times. **                                      | 0 | 0 | 1  | 1 | 2  |
| 8   | I wish I could have more respect for myself. **                            | 0 | 1 | 1  | 0 | 1  |
| 9   | All in all, I am inclined to feel that I am a failure. **                  | 0 | 1 | 2  | 1 | 3  |
| <b>Totals</b>   |  | 1 | 6 | 11 | 5 | 23 |

### Post Test By Subscale

| Rosenberg Self Esteem Scale (RSE)                                   |  |   |    |    |   |    |
|---|--|---|----|----|---|----|
| Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) |  |   |    |    |   |    |
|   |  | 1 | 2  | 3  | 4 | 5  |
| <b>No.</b>  | <b>Question</b>  |   |    |    |   |    |
|   | <b>Standard Score</b>  |   |    |    |   |    |
|   | SA = 3, A = 2, D = 1, SD = 0   |   |    |    |   |    |
| 1   | On the whole, I am satisfied with myself.                                  | 0 | 2  | 1  | 1 | 2  |
| 3   | I feel that I have a number of good qualities.                             | 1 | 2  | 1  | 0 | 2  |
| 4   | I am able to do things as well as most other people.                       | 0 | 2  | 2  | 0 | 2  |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | 1 | 2  | 1  | 1 | 2  |
| 10  | I take a positive attitude towards myself.                                 | 0 | 2  | 2  | 0 | 2  |
|   | <b>Reversed in Valence</b>   |   |    |    |   |    |
|   | SA = 0, A = 1, D = 2, SD = 3   |   |    |    |   |    |
| 2   | At times I think I am no good at all. **                                   | 0 | 2  | 2  | 0 | 2  |
| 5   | I feel I do not have much to be proud of. **                               | 0 | 2  | 1  | 1 | 2  |
| 6   | I certainly feel useless at times. **                                      | 0 | 1  | 1  | 0 | 3  |
| 8   | I wish I could have more respect for myself. **                            | 0 | 1  | 0  | 0 | 1  |
| 9   | All in all, I am inclined to feel that I am a failure. **                  | 0 | 2  | 2  | 2 | 2  |
|   | <b>Totals</b>  | 2 | 18 | 13 | 5 | 20 |

### Pre and Post Test Combined By Subscale

| Rosenberg Self Esteem Scale (RSE) Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) |  |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
|---|--|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|
| Stongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)                                   |  |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
|   |  | 1               |                  | 2               |                  | 3               |                  | 4               |                  | 5               |                  |
| <b>No.</b>  | <b>Question</b>  | <b>Pre Test</b> | <b>Post Test</b> | <b>Pre Test</b> | <b>Post Test</b> | <b>Pre Test</b> | <b>Post Test</b> | <b>Pre Test</b> | <b>Post Test</b> | <b>Pre Test</b> | <b>Post Test</b> |
|   | <b>Standard Score</b>  |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
|   | SA = 3, A = 2, D = 1, SD = 0   |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
| 1   | On the whole, I am satisfied w   | 0               | 0                | 1               | 2                | 1               | 1                | 1               | 1                | 2               | 2                |
| 3   | I feel that I have a number of g   | 0               | 1                | 1               | 2                | 0               | 1                | 1               | 0                | 3               | 2                |
| 4   | I am able to do things as well a   | 1               | 0                | 1               | 2                | 2               | 2                | 0               | 0                | 3               | 2                |
| 7   | I feel that I'm a person of worth, at least on an equal plane with others. | 0               | 1                | 1               | 2                | 1               | 1                | 1               | 1                | 2               | 2                |
| 10  | I take a positive attitude toward  | 0               | 0                | 0               | 2                | 1               | 2                | 0               | 0                | 2               | 2                |
|   | <b>Reversed in Valence</b>   |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
|   | SA = 0, A = 1, D = 2, SD = 3   |                 |                  |                 |                  |                 |                  |                 |                  |                 |                  |
| 2   | At times I think I am no good a  | 0               | 0                | 0               | 2                | 1               | 2                | 0               | 0                | 3               | 2                |
| 5   | I feel I do not have much to be  | 0               | 0                | 0               | 2                | 1               | 1                | 0               | 1                | 2               | 2                |
| 6   | I certainly feel useless at time   | 0               | 0                | 0               | 1                | 1               | 1                | 1               | 0                | 2               | 3                |
| 8   | I wish I could have more respe   | 0               | 0                | 1               | 1                | 1               | 0                | 0               | 0                | 1               | 1                |
| 9   | All in all, I am inclined to feel t  | 0               | 0                | 1               | 2                | 2               | 2                | 1               | 2                | 3               | 2                |
|   | <b>Totals</b>  | 1               | 2                | 6               | 18               | 11              | 13               | 5               | 5                | 23              | 20               |

### Pre and Post Test Combine By Subscale and Difference Calculated

| Rosenberg Self Esteem Scale (RSE) Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD) Standard Score SA = 3, A = 2, D = 1, SD = 0 / Reversed in Valence SA = 0, A = 1, D = 2, SD = 3 |          |           |           |           |           |            |           |           |           |          |           |          |           |           |  |
|---|----------|-----------|-----------|-----------|-----------|------------|-----------|-----------|-----------|----------|-----------|----------|-----------|-----------|--|
| Question  | 1        |           |           | 2         |           |            | 3         |           |           | 4        |           |          | 6         |           |  |
|   | Imogen   |           |           | Charlotte |           |            | Maddie    |           |           | Saffiye  |           |          | Rory      |           |  |
|   | Pre Test | Post Test | Diff      | Pre Test  | Post Test | Diff       | Pre Test  | Post Test | Diff      | Pre Test | Post Test | Diff     | Pre Test  | Post Test |  |
| <b>Standard Score</b>   |          |           |           |           |           |            |           |           |           |          |           |          |           |           |  |
| 1. On the whole, I am satisfied with myself.  | 0        | 0         |           | 1         | 2         | -1         | 1         | 1         |           | 1        | 1         |          | 2         | 2         |  |
| 3. I feel that I have a number of good qualities.   | 0        | 1         | -1        | 1         | 2         | -1         | 0         | 1         | -1        | 1        | 0         |          | 3         | 2         |  |
| 4. I am able to do things as well as most other people.   | 1        | 0         |           | 1         | 2         | -1         | 2         | 2         |           | 0        | 0         |          | 3         | 2         |  |
| 7. I feel that I'm a person of worth, at least on an equal plane with others.   | 0        | 1         | -1        | 1         | 2         | -1         | 1         | 1         |           | 0        | 1         |          | 2         | 2         |  |
| 10. I take a positive attitude towards myself.  | 0        | 0         |           | 0         | 2         | -2         | 1         | 2         | -1        | 0        | 0         |          | 2         | 2         |  |
| <b>Reversed in Valence</b>  |          |           |           |           |           |            |           |           |           |          |           |          |           |           |  |
| 2. At times I think I am no good at all. **   | 0        | 0         |           | 0         | 2         | -2         | 1         | 2         | -1        | 0        | 0         |          | 3         | 2         |  |
| 5. I feel I do not have much to be proud of. **   | 0        | 0         |           | 0         | 2         | -2         | 1         | 1         |           | 0        | 1         | -1       | 2         | 2         |  |
| 6. I certainly feel useless at times. **  | 0        | 0         |           | 0         | 1         | -1         | 1         | 1         |           | 0        | 1         |          | 2         | 3         |  |
| 8. I wish I could have more respect for myself. **  | 0        | 0         |           | 1         | 1         | 0          | 1         | 0         |           | 1        | 0         |          | 1         | 1         |  |
| 9. All in all, I am inclined to feel that I am a failure. **  | 0        | 0         |           | 1         | 2         | -1         | 2         | 2         |           | 0        | 1         | -1       | 3         | 2         |  |
| <b>Totals</b>   | <b>1</b> | <b>2</b>  | <b>-1</b> | <b>6</b>  | <b>18</b> | <b>-12</b> | <b>11</b> | <b>13</b> | <b>-2</b> | <b>5</b> | <b>5</b>  | <b>0</b> | <b>23</b> | <b>20</b> |  |

## Appendix. 3.2 Profile of Mood States (POMS)

### Pre Test Data

| Profile of Mood Scale   |                        |    |     |    |     |    |
|---|------------------------|----|-----|----|-----|----|
| Not at All (NA), A Little (AL), Moderately (M), Quite a Lot (QA), Extremely (E) |                        |    |     |    |     |    |
| Not at All = 0, A Little = 1, Moderately = 2, Quite a Lot = 3, Extremely = 4    |                        |    |     |    |     |    |
| No.   | Question               | 1  | 2   | 3  | 4   | 5  |
| 1   | Friendly               | M  | M   | M  | QL  | M  |
| 2   | Tense                  | AL | E   | AL | M   | AL |
| 3   | Angry                  | AL | E   | AL | AL  | M  |
| 4   | Worn Out               | NA | M   | M  | E   | M  |
| 5   | Unhappy                | QL | E   | AL | E   | AL |
| 6   | Clear Headed           | AL | NA  | AL | NA  | M  |
| 7   | Lively                 | AL | NA  | NA | NA  | QL |
| 8   | Confused               | NA | AL  | M  | M   | M  |
| 9   | Sorry for things done  | NA | M   | NA | E   | M  |
| 10  | Shaky                  | NA | M   | QL | M   | NA |
| 11  | Listless               | AL | M   | QL | AL  | AL |
| 12  | Peeved                 | QL | E   | AL | M   | AL |
| 13  | Considerate            | NA | AL  | AL | QL  | M  |
| 14  | Sad                    | AL | QL  | M  | QL  | AL |
| 15  | Active                 | QL | M   | AL | NA  | E  |
| 16  | On Edge                | NA | E   | M  | QL  | AL |
| 17  | Grouchy                | NA | QL  | QL | AL  | NA |
| 18  | Blue                   | QL | M   | M  | AL  | NA |
| 19  | Energetic              | M  | NA  | NA | NA  | E  |
| 20  | Panicky                | NA | M   | AL | E   | NA |
| 21  | Hopeless               | QL | QL  | NA | QL  | NA |
| 22  | Relaxed **             | NA | NA  | NA | AL  | M  |
| 23  | Unworthy               | QL | QL  | AL | AL  | NA |
| 24  | Spiteful               | NA | M   | M  | AL  | AL |
| 25  | Sympathetic            | NA | M   | M  | E   | AL |
| 26  | Uneasy                 | NA | QL  | QL | QL  | AL |
| 27  | Restless               | NA | M   | E  | E   | AL |
| 28  | Unable to Concentrate  | QL | E   | QL | E   | M  |
| 29  | Fatigued               | M  | M   | M  | M   | NA |
| 30  | Helpful                | NA | AL  | AL | M   | M  |
| 31  | Annoyed                | QL | QL  | M  | QL  | NA |
| 32  | Discouraged            | QL | E   | QL | QL  | NA |
| 33  | Resentful              | QL | M   | M  | AL  | NA |
| 34  | Nervous                | AL | QL  | AL | E   | NA |
| 35  | Lonely                 | M  | E   | M  | QL  | AL |
| 36  | Miserable              | QL | E   | QL | E   | AL |
| 37  | Muddled                | NA | QL  | AL | QL  | NA |
| 38  | Cheerful               | NA | NA  | AL | AL  | M  |
| 39  | Bitter                 | QL | E   | M  | AL  | M  |
| 40  | Exhausted              | QL | QL  | QL | QL  | M  |
| 41  | Anxious                | NA | E   | M  | M   | AL |
| 42  | Ready to Fight         | NA | QL  | NA | AL  | AL |
| 43  | Good Natured           | NA | M   | AL | AL  | AL |
| 44  | Gloomy                 | NA | M   | M  | QL  | NA |
| 45  | Desperate              | NA | QL  | NA | AL  | AL |
| 46  | Sluggish               | AL | QL  | M  | AL  | NA |
| 47  | Rebellious             | AL | M   | NA | M   | AL |
| 48  | Helpless               | M  | QL  | NA | E   | NA |
| 49  | Weary                  | QL | QL  | M  | AL  | NA |
| 50  | Bewildered             | NA | E   | NA | M   | NA |
| 51  | Alert                  | NA | AL  | NA | AL  | AL |
| 52  | Deceived               | NA | QL  | NA | AL  | NA |
| 53  | Furious                | M  | E   | AL | M   | AL |
| 54  | Efficient **           | NA | AL  | AL | M   | AL |
| 55  | Trusting               | NA | NA  | M  | NA  | M  |
| 56  | Full of Pep            | NA | NA  | AL | AL  | M  |
| 57  | Bad Tempered           | M  | E   | M  | QL  | M  |
| 58  | Worthless              | E  | QL  | AL | NA  | NA |
| 59  | Forgetful              | NA | QL  | QL | M   | QL |
| 60  | Carefree               | NA | NA  | M  | AL  | AL |
| 61  | Terrified              | NA | M   | NA | M   | NA |
| 62  | Guilty                 | NA | E   | AL | AL  | AL |
| 63  | Vigorous               | NA | NA  | AL | AL  | AL |
| 64  | Uncertain about things | NA | QL  | QL | M   | AL |
| 65  | Bushed                 | NA | QL  | NA | AL  | M  |
| Total Mood Disturbance (-32 - 200)  |                        | 66 | 148 | 77 | 107 | 26 |
| Anger (0-48)  |                        | 18 | 38  | 16 | 19  | 11 |
| Confusion (0-28)  |                        | 7  | 21  | 15 | 17  | 11 |
| Depression (0-60)   |                        | 29 | 46  | 18 | 36  | 8  |
| Fatigue (0-28)  |                        | 10 | 18  | 14 | 13  | 7  |
| Tension (0-36)  |                        | 6  | 28  | 20 | 27  | 7  |
| Vigour (0-32)   |                        | 4  | 3   | 6  | 5   | 18 |
| Dummy Items   |                        |    |     |    |     |    |

### Post Test Data

| Profile of Mood Scale   |                        |     |    |    |    |    |
|---|------------------------|-----|----|----|----|----|
| Not at All (NA), A Little (AL), Moderately (M), Quite a Lot (QA), Extremely (E) |                        |     |    |    |    |    |
| Not at All = 0, A Little = 1, Moderately = 2, Quite a Lot = 3, Extremely = 4    |                        |     |    |    |    |    |
| No.   | Question               | 1   | 2  | 3  | 4  | 5  |
| 1   | Friendly               | AL  | M  | QL | QL | M  |
| 2   | Tense                  | AL  | M  | E  | M  | NA |
| 3   | Angry                  | E   | QL | M  | M  | NA |
| 4   | Worn Out               | QL  | M  | AL | AL | NA |
| 5   | Unhappy                | E   | AL | QL | E  | NA |
| 6   | Clear Headed           | AL  | AL | AL | NA | M  |
| 7   | Lively                 | AL  | QL | NA | AL | QL |
| 8   | Confused               | M   | QL | M  | M  | AL |
| 9   | Sorry for things done  | NA  | AL | M  | M  | AL |
| 10  | Shaky                  | NA  | M  | QL | AL | NA |
| 11  | Listless               | E   | AL | M  | M  | AL |
| 12  | Peeved                 | M   | QL | M  | M  | AL |
| 13  | Considerate            | NA  | M  | M  | QL | M  |
| 14  | Sad                    | QL  | AL | QL | AL | AL |
| 15  | Active                 | AL  | M  | AL | M  | E  |
| 16  | On Edge                | NA  | AL | QL | M  | AL |
| 17  | Grouchy                | QL  | M  | M  | AL | NA |
| 18  | Blue                   | QL  | AL | QL | AL | NA |
| 19  | Energetic              | M   | QL | NA | M  | QL |
| 20  | Panicky                | NA  | M  | QL | M  | NA |
| 21  | Hopeless               | E   | AL | AL | QL | NA |
| 22  | Relaxed **             | NA  | AL | AL | AL | QL |
| 23  | Unworthy               | E   | M  | AL | AL | NA |
| 24  | Spiteful               | M   | M  | M  | QL | NA |
| 25  | Sympathetic            | NA  | M  | M  | QL | M  |
| 26  | Uneasy                 | NA  | AL | QL | M  | NA |
| 27  | Restless               | M   | AL | QL | E  | NA |
| 28  | Unable to Concentrate  | E   | E  | QL | E  | AL |
| 29  | Fatigued               | QL  | AL | M  | QL | NA |
| 30  | Helpful                | NA  | M  | AL | M  | M  |
| 31  | Annoyed                | E   | QL | AL | AL | NA |
| 32  | Discouraged            | E   | AL | M  | AL | NA |
| 33  | Resentful              | E   | QL | AL | AL | AL |
| 34  | Nervous                | NA  | AL | QL | M  | NA |
| 35  | Lonely                 | E   | AL | M  | M  | NA |
| 36  | Miserable              | E   | M  | M  | M  | AL |
| 37  | Muddled                | QL  | AL | QL | QL | NA |
| 38  | Cheerful               | NA  | QL | M  | QL | M  |
| 39  | Bitter                 | E   | AL | AL | E  | NA |
| 40  | Exhausted              | AL  | AL | QL | M  | NA |
| 41  | Anxious                | NA  | QL | QL | AL | NA |
| 42  | Ready to Fight         | E   | M  | NA | M  | NA |
| 43  | Good Natured           | NA  | M  | M  | AL | M  |
| 44  | Gloomy                 | E   | AL | AL | M  | NA |
| 45  | Desperate              | AL  | NA | NA | M  | NA |
| 46  | Sluggish               | QL  | AL | AL | M  | NA |
| 47  | Rebellious             | E   | AL | NA | QL | NA |
| 48  | Helpless               | E   | M  | AL | QL | NA |
| 49  | Weary                  | QL  | AL | QL | AL | NA |
| 50  | Bewildered             | AL  | M  | M  | AL | NA |
| 51  | Alert                  | E   | M  | M  | M  | AL |
| 52  | Deceived               | NA  | QL | AL | M  | NA |
| 53  | Furious                | E   | M  | AL | AL | NA |
| 54  | Efficient **           | E   | AL | AL | AL | M  |
| 55  | Trusting               | AL  | E  | AL | AL | QL |
| 56  | Full of Pep            | NA  | M  | M  | M  | QL |
| 57  | Bad Tempered           | E   | E  | M  | M  | NA |
| 58  | Worthless              | E   | AL | AL | QL | NA |
| 59  | Forgetful              | AL  | QL | E  | QL | NA |
| 60  | Carefree               | M   | NA | M  | E  | NA |
| 61  | Terrified              | NA  | AL | AL | E  | NA |
| 62  | Guilty                 | NA  | M  | AL | E  | NA |
| 63  | Vigorous               | E   | M  | M  | QL | AL |
| 64  | Uncertain about things | QL  | M  | QL | E  | AL |
| 65  | Bushed                 | QL  | AL | M  | E  | NA |
| Total Mood Disturbance (-32 - 200)  |                        | 109 | 72 | 89 | 94 | 0  |
| Anger (0-48)  |                        | 39  | 29 | 15 | 24 | 4  |
| Confusion (0-28)  |                        | 14  | 18 | 20 | 20 | 5  |
| Depression (0-60)   |                        | 43  | 18 | 24 | 35 | 3  |
| Fatigue (0-28)  |                        | 20  | 8  | 13 | 15 | 1  |
| Tension (0-36)  |                        | 7   | 16 | 28 | 19 | 2  |
| Vigour (0-32)   |                        | 14  | 17 | 11 | 19 | 15 |
| Dummy Items   |                        |     |    |    |    |    |



### Pre Test By Subscale

| Profile of Mood Scale  |                       |   |    |     |     |     |    |
|--|-----------------------|---|----|-----|-----|-----|----|
| Not at All (NA), A Little (AL), Moderately (M), Quite a Lot (QA), Extremely (E)                      |                       |   |    |     |     |     |    |
| Not at All = 0, A Little = 1, Moderately = 2, Quite a Lot = 3, Extremely = 4                         |                       |   |    |     |     |     |    |
| Relaxed and Efficient : Not at All = 4, A Little = 3, Moderately = 2, Quite a Lot = 1, Extremely = 0 |                       |   |    |     |     |     |    |
| No.  | Question              | 1 | 2  | 3   | 4   | 5   |    |
| 1  | Friendly              | 2 | 2  | 2   | 3   | 2   |    |
| 2  | Tense                 | 1 | 4  | 1   | 2   | 1   |    |
| 3  | Angry                 | 1 | 4  | 1   | 1   | 2   |    |
| 4  | Worn Out              | 0 | 2  | 2   | 4   | 2   |    |
| 5  | Unhappy               | 3 | 4  | 1   | 4   | 1   |    |
| 6  | Clear Headed          | 1 | 0  | 1   | 0   | 2   |    |
| 7  | Lively                | 1 | 0  | 0   | 0   | 3   |    |
| 8  | Confused              | 0 | 1  | 2   | 2   | 2   |    |
| 9  | Sorry for things done | 0 | 2  | 0   | 4   | 2   |    |
| 10   | Shaky                 | 0 | 2  | 3   | 2   | 0   |    |
| 11   | Listless              | 1 | 2  | 3   | 1   | 1   |    |
| 12   | Peeved                | 3 | 4  | 1   | 2   | 1   |    |
| 13   | Considerate           | 0 | 1  | 1   | 3   | 2   |    |
| 14   | Sad                   | 3 | 3  | 2   | 3   | 1   |    |
| 15   | Active                | 1 | 2  | 1   | 0   | 4   |    |
| 16   | On Edge               | 0 | 4  | 2   | 3   | 1   |    |
| 17   | Grouchy               | 0 | 3  | 3   | 1   | 0   |    |
| 18   | Blue                  | 3 | 2  | 2   | 1   | 0   |    |
| 19   | Energetic             | 2 | 0  | 0   | 0   | 4   |    |
| 20   | Panicky               | 0 | 2  | 1   | 4   | 0   |    |
| 21   | Hopeless              | 3 | 3  | 0   | 3   | 0   |    |
| 22   | Relaxed **            | 4 | 4  | 4   | 3   | 2   |    |
| 23   | Unworthy              | 3 | 3  | 1   | 1   | 0   |    |
| 24   | Spiteful              | 0 | 2  | 2   | 1   | 1   |    |
| 25   | Sympathetic           | 0 | 2  | 2   | 4   | 1   |    |
| 26   | Uneasy                | 0 | 3  | 3   | 3   | 1   |    |
| 27   | Restless              | 0 | 2  | 4   | 4   | 1   |    |
| 28   | Unable to Concentrate | 3 | 4  | 3   | 4   | 2   |    |
| 29   | Fatigued              | 2 | 2  | 2   | 2   | 0   |    |
| 30   | Helpful               | 0 | 1  | 1   | 2   | 2   |    |
| 31   | Annoyed               | 3 | 3  | 2   | 3   | 0   |    |
| 32   | Discouraged           | 3 | 4  | 3   | 3   | 0   |    |
| 33   | Resentful             | 3 | 2  | 2   | 1   | 0   |    |
| 34   | Nervous               | 1 | 3  | 1   | 4   | 0   |    |
| 35   | Lonely                | 2 | 4  | 2   | 3   | 1   |    |
| 36   | Miserable             | 3 | 4  | 3   | 4   | 1   |    |
| 37   | Muddled               | 0 | 3  | 1   | 3   | 0   |    |
| 38   | Cheerful              | 0 | 0  | 1   | 1   | 2   |    |
| 39   | Bitter                |   | 3  | 4   | 2   | 1   | 2  |
| 40   | Exhausted             |   | 1  | 3   | 3   | 3   | 2  |
| 41   | Anxious               |   | 0  | 4   | 2   | 2   | 1  |
| 42   | Ready to Fight        |   | 0  | 3   | 0   | 1   | 1  |
| 43   | Good Natured          |   | 0  | 2   | 1   | 1   | 1  |
| 44   | Gloomy                |   | 0  | 2   | 2   | 3   | 0  |
| 45   | Desperate             |   | 0  | 3   | 0   | 1   | 1  |
| 46   | Sluggish              |   | 1  | 3   | 2   | 1   | 0  |
| 47   | Rebellious            |   | 1  | 2   | 0   | 2   | 1  |
| 48   | Helpless              |   | 2  | 3   | 0   | 4   | 0  |
| 49   | Wearry                |   | 3  | 3   | 2   | 1   | 0  |
| 50   | Bewildered            |   | 0  | 4   | 0   | 2   | 0  |
| 51   | Alert                 |   | 0  | 1   | 0   | 1   | 1  |
| 52   | Deceived              |   | 0  | 3   | 0   | 1   | 0  |
| 53   | Furious               |   | 2  | 4   | 1   | 2   | 1  |
| 54   | Efficient **          |   | 4  | 3   | 3   | 2   | 3  |
| 55   | Trusting              |   | 0  | 0   | 2   | 0   | 2  |
| 56   | Full of Pep           |   | 0  | 0   | 1   | 1   | 2  |
| 57   | Bad Tempered          |   | 2  | 4   | 2   | 3   | 2  |
| 58   | Worthless             |   | 4  | 3   | 1   | 0   | 0  |
| 59   | Forgetful             |   | 0  | 3   | 3   | 2   | 3  |
| 60   | Carefree              |   | 0  | 0   | 2   | 1   | 1  |
| 61   | Terrified             |   | 0  | 2   | 0   | 2   | 0  |
| 62   | Guilty                |   | 0  | 4   | 1   | 1   | 1  |
| 63   | Vigorous              |   | 0  | 0   | 1   | 1   | 1  |
| 64   | Uncertain about thing |   | 0  | 3   | 3   | 2   | 1  |
| 65   | Bushed                |   | 0  | 3   | 0   | 1   | 2  |
| <b>Totals</b>  |                       |   | 75 | 162 | 100 | 131 | 74 |

### Post Test By Subscale

| Profile of Mood Scale  |                       |   |     |     |     |     |    |
|--|-----------------------|---|-----|-----|-----|-----|----|
| Not at All (NA), A Little (AL), Moderately (M), Quite a Lot (QA), Extremely (E)                      |                       |   |     |     |     |     |    |
| Not at All = 0, A Little = 1, Moderately = 2, Quite a Lot = 3, Extremely = 4                         |                       |   |     |     |     |     |    |
| Relaxed and Efficient : Not at All = 4, A Little = 3, Moderately = 2, Quite a Lot = 1, Extremely = 0 |                       |   |     |     |     |     |    |
| No.  | Question              | 1 | 2   | 3   | 4   | 5   |    |
| 1  | Friendly              | 1 | 2   | 3   | 3   | 2   |    |
| 2  | Tense                 | 1 | 2   | 4   | 2   | 0   |    |
| 3  | Angry                 | 4 | 3   | 2   | 2   | 0   |    |
| 4  | Worn Out              | 3 | 2   | 1   | 1   | 0   |    |
| 5  | Unhappy               | 4 | 1   | 3   | 4   | 0   |    |
| 6  | Clear Headed          | 1 | 1   | 1   | 0   | 2   |    |
| 7  | Lively                | 1 | 3   | 0   | 1   | 3   |    |
| 8  | Confused              | 2 | 3   | 2   | 2   | 1   |    |
| 9  | Sorry for things done | 0 | 1   | 2   | 2   | 1   |    |
| 10   | Shaky                 | 0 | 2   | 3   | 1   | 0   |    |
| 11   | Listless              | 4 | 1   | 2   | 2   | 1   |    |
| 12   | Peeved                | 2 | 3   | 2   | 2   | 1   |    |
| 13   | Considerate           | 0 | 2   | 2   | 3   | 2   |    |
| 14   | Sad                   | 3 | 1   | 3   | 1   | 1   |    |
| 15   | Active                | 1 | 2   | 1   | 2   | 4   |    |
| 16   | On Edge               | 0 | 1   | 3   | 2   | 1   |    |
| 17   | Grouchy               | 3 | 2   | 2   | 1   | 0   |    |
| 18   | Blue                  | 3 | 1   | 3   | 1   | 0   |    |
| 19   | Energetic             | 2 | 3   | 0   | 2   | 3   |    |
| 20   | Panicky               | 0 | 2   | 3   | 2   | 0   |    |
| 21   | Hopeless              | 4 | 1   | 1   | 3   | 0   |    |
| 22   | Relaxed **            | 4 | 3   | 3   | 3   | 1   |    |
| 23   | Unworthy              | 4 | 2   | 1   | 1   | 0   |    |
| 24   | Spiteful              | 2 | 2   | 2   | 3   | 0   |    |
| 25   | Sympathetic           | 0 | 2   | 2   | 3   | 2   |    |
| 26   | Uneasy                | 0 | 1   | 3   | 2   | 0   |    |
| 27   | Restless              | 2 | 1   | 3   | 4   | 0   |    |
| 28   | Unable to Concentrate | 4 | 4   | 3   | 4   | 1   |    |
| 29   | Fatigued              | 3 | 1   | 2   | 3   | 0   |    |
| 30   | Helpful               | 0 | 2   | 1   | 2   | 2   |    |
| 31   | Annoyed               | 4 | 3   | 1   | 1   | 0   |    |
| 32   | Discouraged           | 4 | 1   | 2   | 1   | 0   |    |
| 33   | Resentful             | 4 | 3   | 1   | 1   | 1   |    |
| 34   | Nervous               | 0 | 1   | 3   | 2   | 0   |    |
| 35   | Lonely                | 4 | 1   | 2   | 2   | 0   |    |
| 36   | Miserable             | 4 | 2   | 2   | 2   | 1   |    |
| 37   | Muddled               | 3 | 1   | 3   | 3   | 0   |    |
| 38   | Cheerful              | 0 | 3   | 2   | 3   | 2   |    |
| 39   | Bitter                |   | 4   | 1   | 1   | 4   | 0  |
| 40   | Exhausted             |   | 3   | 1   | 2   | 2   | 0  |
| 41   | Anxious               |   | 0   | 3   | 3   | 1   | 0  |
| 42   | Ready to Fight        |   | 4   | 2   | 0   | 2   | 0  |
| 43   | Good Natured          |   | 0   | 2   | 2   | 1   | 2  |
| 44   | Gloomy                |   | 4   | 1   | 1   | 2   | 0  |
| 45   | Desperate             |   | 1   | 0   | 0   | 2   | 0  |
| 46   | Sluggish              |   | 3   | 1   | 1   | 2   | 0  |
| 47   | Rebellious            |   | 4   | 1   | 0   | 3   | 0  |
| 48   | Helpless              |   | 4   | 2   | 1   | 3   | 0  |
| 49   | Wearry                |   | 3   | 1   | 3   | 1   | 0  |
| 50   | Bewildered            |   | 1   | 2   | 2   | 1   | 0  |
| 51   | Alert                 |   | 4   | 2   | 2   | 2   | 1  |
| 52   | Deceived              |   | 0   | 3   | 1   | 2   | 0  |
| 53   | Furious               |   | 4   | 2   | 1   | 1   | 0  |
| 54   | Efficient **          |   | 0   | 1   | 3   | 3   | 2  |
| 55   | Trusting              |   | 1   | 4   | 1   | 1   | 3  |
| 56   | Full of Pep           |   | 0   | 2   | 2   | 2   | 3  |
| 57   | Bad Tempered          |   | 4   | 4   | 2   | 2   | 0  |
| 58   | Worthless             |   | 4   | 1   | 1   | 3   | 0  |
| 59   | Forgetful             |   | 1   | 3   | 4   | 3   | 0  |
| 60   | Carefree              |   | 2   | 0   | 2   | 4   | 0  |
| 61   | Terrified             |   | 0   | 1   | 1   | 4   | 0  |
| 62   | Guilty                |   | 0   | 2   | 1   | 4   | 0  |
| 63   | Vigorous              |   | 4   | 2   | 2   | 3   | 1  |
| 64   | Uncertain about thing |   | 3   | 2   | 3   | 4   | 1  |
| 65   | Bushed                |   | 3   | 1   | 2   | 4   | 0  |
| <b>Totals</b>  |                       |   | 142 | 119 | 123 | 145 | 45 |

### Pre and Post Test Combined By Subscale

|                           | Pre Test | Post Test | Pre Test | Post Test | Pre Test | Post Test | Pre Test | Post Test | Pre Test | Post Test | Pre Test | Post Test |
|---------------------------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
| 1 Friendly                | 2        | 1         | -1       | 3         | 2        | 0         | 2        | 3         | 1        | 3         | 2        | 0         |
| 2 Tense                   | 1        | 0         | 4        | 2         | -2       | 1         | 4        | 3         | 2        | 0         | 1        | 0         |
| 3 Angry                   | 1        | 4         | 3        | 4         | 3        | -1        | 1        | 2         | 1        | 2         | 1        | 2         |
| 4 Worn Out                | 0        | 3         | 3        | 2         | 2        | 0         | 2        | 1         | -1       | 4         | 1        | -3        |
| 5 Unhappy                 | 3        | 4         | 1        | 4         | 1        | -3        | 1        | 3         | 2        | 4         | 4        | 0         |
| 6 Clear                   | 1        | 1         | 0        | 0         | 1        | 1         | 1        | 0         | 0        | 0         | 0        | 2         |
| 7 Lively                  | 1        | 1         | 0        | 0         | 3        | 3         | 0        | 0         | 0        | 1         | 1        | 3         |
| 8 Confused                | 0        | 2         | 2        | 1         | 3        | 2         | 2        | 2         | 0        | 2         | 2        | 1         |
| 9 Sorry for things done   | 0        | 0         | 0        | 2         | 1        | -1        | 0        | 2         | 2        | 4         | 2        | -2        |
| 10 Shaky                  | 0        | 0         | 0        | 2         | 2        | 0         | 3        | 3         | 0        | 2         | 1        | 0         |
| 11 Listless               | 1        | 4         | 3        | 2         | 1        | -1        | 3        | 2         | -1       | 1         | 2        | 1         |
| 12 Peeved                 | 3        | 2         | -1       | 4         | 3        | -1        | 1        | 2         | 1        | 2         | 0        | 1         |
| 13 Considerate            | 0        | 0         | 0        | 1         | 2        | 1         | 1        | 2         | 1        | 3         | 3        | 0         |
| 14 Sad                    | 3        | 3         | 0        | 3         | 1        | -2        | 2        | 3         | 1        | 3         | -2       | 1         |
| 15 Active                 | 1        | 1         | 0        | 2         | 2        | 0         | 1        | 0         | 0        | 2         | 2        | 4         |
| 16 On Edge                | 0        | 0         | 0        | 4         | 1        | -3        | 2        | 3         | 1        | 3         | 2        | -1        |
| 17 Grouchy                | 0        | 3         | 3        | 2         | -1       | 3         | 2        | -1        | 1        | 1         | 0        | 0         |
| 18 Blue                   | 3        | 3         | 0        | 2         | 1        | -1        | 2        | 3         | 1        | 1         | 1        | 0         |
| 19 Energetic              | 2        | 2         | 0        | 0         | 3        | 3         | 0        | 0         | 0        | 2         | 2        | 4         |
| 20 Panicky                | 0        | 0         | 0        | 2         | 2        | 0         | 1        | 3         | 2        | 4         | 2        | -2        |
| 21 Hopeless               | 3        | 4         | 1        | 3         | 1        | -2        | 0        | 1         | 1        | 3         | 3        | 0         |
| 22 Relaxed**              | 4        | 4         | 0        | 4         | 3        | -1        | 4        | 3         | -1       | 3         | 3        | 0         |
| 23 Unworthy               | 3        | 4         | 1        | 3         | 2        | -1        | 1        | 1         | 0        | 1         | 1        | 0         |
| 24 Spiteful               | 0        | 2         | 2        | 2         | 0        | 2         | 2        | 0         | 1        | 3         | 2        | 1         |
| 25 Sympathetic            | 0        | 0         | 0        | 2         | 2        | 0         | 2        | 2         | 0        | 4         | 3        | -1        |
| 26 Uneasy                 | 0        | 0         | 0        | 3         | 1        | -2        | 3        | 3         | 0        | 3         | 2        | -1        |
| 27 Restless               | 0        | 2         | 2        | 2         | 1        | -1        | 4        | 3         | -1       | 4         | 4        | 0         |
| 28 Unable to Concentrate  | 3        | 4         | 1        | 4         | 4        | 0         | 3        | 3         | 0        | 4         | 4        | 0         |
| 29 Fatigued               | 2        | 3         | 1        | 2         | 1        | -1        | 2        | 2         | 0        | 2         | 3        | 1         |
| 30 Helpful                | 0        | 0         | 0        | 1         | 2        | 1         | 1        | 1         | 0        | 2         | 2        | 0         |
| 31 Annoyed                | 3        | 4         | 1        | 3         | 3        | 0         | 2        | 1         | -1       | 3         | 1        | -2        |
| 32 Discouraged            | 3        | 4         | 1        | 4         | 1        | -3        | 3        | 2         | -1       | 3         | 1        | -2        |
| 33 Resentful              | 3        | 4         | 1        | 2         | 3        | 1         | 2        | 1         | -1       | 1         | 1        | 0         |
| 34 Nervous                | 1        | 0         | -1       | 3         | 1        | -2        | 1        | 3         | 2        | 4         | -2       | 0         |
| 35 Lonely                 | 2        | 4         | 2        | 4         | 1        | -3        | 2        | 2         | 0        | 3         | 2        | -1        |
| 36 Miserable              | 3        | 4         | 1        | 4         | 2        | -2        | 3        | 2         | -1       | 4         | 2        | -2        |
| 37 Muddled                | 0        | 3         | 3        | 3         | 1        | -2        | 1        | 3         | 2        | 3         | 3        | 0         |
| 38 Cheerful               | 0        | 0         | 0        | 0         | 3        | 3         | 1        | 2         | 1        | 1         | 3        | 2         |
| 39 Bitter                 | 3        | 4         | 1        | 4         | 1        | -3        | 2        | 1         | -1       | 1         | 4        | 3         |
| 40 Exhausted              | 3        | 1         | -2       | 3         | 1        | -2        | 3        | 2         | -1       | 3         | 2        | -1        |
| 41 Anxious                | 0        | 0         | 0        | 4         | 3        | -1        | 2        | 3         | 1        | 2         | 1        | -1        |
| 42 Ready to Fight         | 0        | 4         | 4        | 3         | 2        | -1        | 0        | 0         | 0        | 1         | 2        | 1         |
| 43 Good Natured           | 0        | 0         | 0        | 2         | 2        | 0         | 1        | 2         | 1        | 1         | 1        | 0         |
| 44 Gloomy                 | 0        | 4         | 4        | 2         | 1        | -1        | 2        | 1         | -1       | 3         | 2        | -1        |
| 45 Desperate              | 0        | 1         | 1        | 3         | 0        | -3        | 0        | 0         | 0        | 1         | 2        | 1         |
| 46 Sluggish               | 1        | 3         | 2        | 3         | 1        | -2        | 2        | 1         | -1       | 1         | 2        | 1         |
| 47 Rebellious             | 1        | 4         | 3        | 2         | 1        | -1        | 0        | 0         | 0        | 2         | 3        | 1         |
| 48 Helpless               | 2        | 4         | 2        | 3         | 2        | -1        | 0        | 1         | 1        | 4         | 3        | -1        |
| 49 Weary                  | 3        | 3         | 0        | 3         | 1        | -2        | 2        | 3         | 1        | 1         | 1        | 0         |
| 50 Bewildered             | 0        | 1         | 1        | 4         | 2        | -2        | 0        | 2         | 2        | 2         | 1        | -1        |
| 51 Alert                  | 0        | 4         | 4        | 1         | 2        | 1         | 0        | 2         | 2        | 1         | 2        | 1         |
| 52 Deceived               | 0        | 0         | 0        | 3         | 3        | 0         | 0        | 1         | 1        | 1         | 2        | 1         |
| 53 Furious                | 2        | 4         | 2        | 4         | 2        | -2        | 1        | 0         | 2        | 1         | 0        | 2         |
| 54 Efficient**            | 4        | 4         | 0        | 4         | 3        | -1        | 4        | 3         | -1       | 3         | 3        | 0         |
| 55 Trusting               | 0        | 1         | 1        | 0         | 4        | 2         | 1        | -1        | 0        | 1         | 1        | 2         |
| 56 Full of Pep            | 0        | 0         | 0        | 0         | 2        | 2         | 1        | 2         | 1        | 2         | 1        | 2         |
| 57 Tempered               | 2        | 4         | 2        | 4         | 4        | 0         | 2        | 2         | 0        | 3         | 2        | -1        |
| 58 Worthless              | 4        | 4         | 0        | 3         | 1        | -2        | 1        | 1         | 0        | 0         | 3        | 3         |
| 59 Forgetful              | 0        | 1         | 1        | 3         | 3        | 0         | 3        | 4         | 1        | 2         | 3        | 1         |
| 60 Carefree               | 0        | 2         | 2        | 0         | 0        | 0         | 2        | 2         | 0        | 1         | 4        | 3         |
| 61 Terrified              | 0        | 0         | 0        | 2         | 1        | -1        | 0        | 1         | 2        | 4         | 2        | 0         |
| 62 Guilty                 | 0        | 0         | 0        | 4         | 2        | -2        | 1        | 1         | 0        | 1         | 4        | 3         |
| 63 Vigorous               | 0        | 4         | 4        | 0         | 2        | 2         | 1        | 2         | 1        | 1         | 3        | 2         |
| 64 Uncertain about things | 0        | 3         | 3        | 3         | 2        | -1        | 3        | 3         | 0        | 2         | 4        | 2         |
| 65 Bushed                 | 0        | 3         | 3        | 3         | 1        | -2        | 0        | 2         | 2        | 1         | 4        | 3         |
| TOTALS                    | 77       | 140       | 63       | 162       | 119      | -43       | 100      | 123       | 23       | 131       | 149      | 14        |

### Pre and Post Test Combined By Subscale and Difference Calculated

| No.               | Question               | Pre Test | Post Test | Dif | Pre Test | Post Test | Dif | Pre Test | Post Test | Dif | Pre Test | Post Test | Dif |
|-------------------|------------------------|----------|-----------|-----|----------|-----------|-----|----------|-----------|-----|----------|-----------|-----|
| Anger (0-48)      |                        |          |           |     |          |           |     |          |           |     |          |           |     |
| 3                 | Angry                  | 1        | 4         | 3   | 4        | 3         | -1  | 1        | 2         | 1   | 1        | 2         | 1   |
| 12                | Peeved                 | 3        | 2         | -1  | 4        | 3         | -1  | 1        | 2         | 1   | 2        | 0         | -1  |
| 17                | Grouchy                | 0        | 3         | 3   | 2        | -1        | 3   | 2        | -1        | 1   | 1        | 0         | 0   |
| 24                | Spiteful               | 0        | 2         | 2   | 2        | 2         | 0   | 1        | 3         | 2   | 1        | 0         | -1  |
| 31                | Annoyed                | 3        | 4         | 1   | 3        | 3         | 0   | 2        | 1         | -1  | 3        | 1         | -2  |
| 33                | Resentful              | 3        | 4         | 1   | 2        | 3         | 1   | 2        | 1         | 1   | 0        | 0         | 1   |
| 39                | Bitter                 | 3        | 4         | 1   | 4        | 1         | -3  | 2        | 1         | -1  | 4        | 3         | 2   |
| 42                | Fight                  | 0        | 4         | 4   | 3        | 2         | -1  | 0        | 0         | 0   | 1        | 1         | 0   |
| 47                | Rebellious             | 1        | 4         | 3   | 2        | 1         | -1  | 0        | 0         | 2   | 3        | 1         | 0   |
| 52                | Deceived               | 0        | 0         | 0   | 3        | 3         | 0   | 0        | 1         | 1   | 2        | 1         | 0   |
| 53                | Furious                | 2        | 4         | 2   | 4        | 2         | -2  | 1        | 0         | 2   | 1        | -1        | 0   |
| 57                | Tempered               | 2        | 4         | 2   | 4        | 4         | 0   | 2        | 2         | 0   | 3        | 2         | -1  |
| TOTALS            |                        | 18       | 39        | 21  | 36       | 29        | -9  | 16       | 15        | -1  | 19       | 24        | 5   |
| Confusion (0-28)  |                        |          |           |     |          |           |     |          |           |     |          |           |     |
| 8                 | Confused               | 0        | 2         | 2   | 1        | 3         | 2   | 2        | 2         | 0   | 2        | 2         | 1   |
| 28                | Unable to Concentrate  | 3        | 4         | 1   | 4        | 4         | 0   | 3        | 3         | 0   | 4        | 4         | 0   |
| 37                | Muddled                | 0        | 3         | 3   | 3        | 1         | -2  | 1        | 3         | 2   | 3        | 0         | 0   |
| 50                | Bewildered             | 0        | 1         | 1   | 4        | 2         | -2  | 0        | 2         | 2   | 1        | -1        | 0   |
| 54                | Efficient**            | 4        | 4         | 0   | 4        | 3         | -1  | 2        | 3         | 1   | 3        | 2         | -1  |
| 59                | Forgetful              | 0        | 1         | 1   | 3        | 3         | 0   | 3        | 4         | 1   | 2        | 3         | 1   |
| 64                | Uncertain about things | 0        | 3         | 3   | 3        | 2         | -1  | 3        | 3         | 0   | 2        | 4         | 2   |
| TOTALS            |                        | 7        | 14        | 7   | 21       | 16        | -5  | 15       | 20        | 5   | 17       | 20        | 3   |
| Depression (0-60) |                        |          |           |     |          |           |     |          |           |     |          |           |     |
| 5                 | Unhappy                | 3        | 4         | 1   | 4        | 1         | -3  | 1        | 3         | 2   | 4        | 4         | 0   |
| 9                 | Sorry for things done  | 0        | 0         | 0   | 2        | 1         | -1  | 0        | 2         | 2   | 4        | 2         | -2  |
| 14                | Sad                    | 3        | 3         | 0   | 3        | 1         | -2  | 2        | 3         | 1   | 3        | 1         | 0   |
| 16                | Blue                   | 3        | 3         | 0   | 2        | 1         | -1  | 2        | 3         | 1   | 1        | 0         | 0   |
| 21                | Hopeless               | 3        | 4         | 1   | 3        | 1         | -2  | 0        | 1         | 1   | 3        | 0         | 0   |
| 23                | Unworthy               | 3        | 4         | 1   | 3        | 2         | -1  | 1        | 1         | 0   | 1        | 1         | 0   |
| 32                | Discouraged            | 3        | 4         | 1   | 4        | 1         | -3  | 3        | 2         | -1  | 3        | 1         | -2  |
| 35                | Lonely                 | 2        | 4         | 2   | 4        | 1         | -3  | 2        | 2         | 0   | 3        | 2         | -1  |
| 36                | Miserable              | 3        | 4         | 1   | 4        | 2         | -2  | 3        | 2         | -1  | 4        | 2         | -2  |
| 44                | Gloomy                 | 0        | 4         | 4   | 2        | 1         | -1  | 2        | 1         | 3   | 2        | -1        | 0   |
| 45                | Desperate              | 0        | 1         | 1   | 3        | 0         | -3  | 0        | 0         | 1   | 2        | 1         | 0   |
| 48                | Helpless               | 2        | 4         | 2   | 3        | 2         | -1  | 0        | 1         | 4   | 3        | -1        | 0   |
| 58                | Worthless              | 4        | 4         | 0   | 3        | 1         | -2  | 1        | 1         | 0   | 3        | 3         | 0   |
| 61                | Terrified              | 0        | 0         | 0   | 2        | 1         | -1  | 0        | 1         | 2   | 4        | 2         | 0   |
| 62                | Guilty                 | 0        | 0         | 0   | 4        | 2         | -2  | 1        | 1         | 0   | 1        | 4         | 3   |
| TOTALS            |                        | 29       | 43        | 14  | 46       | 18        | -8  | 18       | 24        | 6   | 37       | 35        | -2  |
| Fatigue (0-28)    |                        |          |           |     |          |           |     |          |           |     |          |           |     |
| 1                 | Friendly               | 2        | 1         | -1  | 2        | 2         | 0   | 2        | 3         | -1  | 3        | 3         | 0   |
| 6                 | Headed                 | 1        | 1         | 0   | 0        | 1         | -1  | 1        | 1         | 0   | 0        | 0         | 0   |
| 13                | Considerate            | 0        | 0         | 0   | 1        | 2         | 1   | 1        | 2         | -1  | 3        | 3         | 2   |
| 25                | Sympathetic            | 0        | 0         | 0   | 2        | 2         | 0   | 2        | 2         | 0   | 4        | 3         | 1   |
| 30                | Helpful                | 0        | 0         | 0   | 1        | 2         | 1   | 1        | 1         | 0   | 2        | 2         | 0   |
| 43                | Good Natured           | 0        | 0         | 0   | 2        | 2         | 0   | 1        | 2         | 1   | 1        | 1         | 0   |
| 44                | Gloomy                 | 0        | 4         | 4   | 2        | 1         | -1  | 2        | 1         | -1  | 3        | 2         | -1  |
| 45                | Desperate              | 0        | 1         | 1   | 3        | 0         | -3  | 0        | 0         | 0   | 1        | 2         | 1   |
| 48                | Helpless               | 2        | 4         | 2   | 3        | 2         | -1  | 0        | 1         | 4   | 3        | -1        | 0   |
| 58                | Worthless              | 4        | 4         | 0   | 3        | 1         | -2  | 1        | 1         | 0   | 3        | 3         | 0   |
| 61                | Terrified              | 0        | 0         | 0   | 2        | 1         | -1  | 0        | 1         | 2   | 4        | 2         | 0   |
| 62                | Guilty                 | 0        | 0         | 0   | 4        | 2         | -2  | 1        | 1         | 0   | 1        | 4         | 3   |
| 43                | Natured                | 0        | 0         | 0   | 2        | 2         | 0   | 1        | 2         | -1  | 1        | 1         | 0   |
| 55                | Trusting               | 0        | 1         | 1   | 0        | 4         | 2   | 1        | 1         | 0   | 1        | 1         | 2   |
| TOTALS            |                        | 3        | 3         | 0   | 8        | 15        | -7  | 10       | 12        | -2  | 13       | 13        | 0   |

### Appendix. 3.3

## Spence Children's Anxiety Scale (SCAS)

### Pre Test Data

| Spence Childrens Anxiety Scale (SCAC)           |  |            |            |           |            |           |
|---|--|------------|------------|-----------|------------|-----------|
| Never (N), Sometimes (S), Often (O), Always (A) |  | 1          | 2          | 3         | 4          | 5         |
| No.   | Question   |            |            |           |            |           |
| 1   | I worry about things.  | S          | A          | O         | O          | S         |
| 2   | I am scared of the dark.   | O          | S          | S         | N          | O         |
| 3   | When I have a problem, I get a funny feeling in my stomach.                    | N          | A          | A         | O          | N         |
| 4   | I feel afraid.   | N          | O          | S         | A          | N         |
| 5   | I would feel afraid of being on my own at home.                                | N          | A          | N         | S          | N         |
| 6   | I feel scared when I have to take a test.                                      | S          | A          | N         | A          | O         |
| 7   | I feel afraid if I have to use public toilets or bathrooms.                    | N          | S          | N         | N          | N         |
| 8   | I worry being away from my parents.  | S          | S          | N         | N          | O         |
| 9   | I feel afraid that I will make a fool of myself in front of people.            | N          | O          | O         | A          | S         |
| 10  | I worry that I will do badly at my school work.                                | N          | O          | S         | A          | O         |
| 11  | I am popular amongst other kids my own age.                                    | S          | N          | N         | N          | S         |
| 12  | I worry that something awful will happen to someone in my family.              | A          | A          | S         | S          | N         |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.        | N          | O          | S         | O          | N         |
| 14  | I have to keep checking that I have done things right (like the switch is off, | O          | O          | N         | S          | N         |
| 15  | I feel scared if I have to sleep on my own.                                    | N          | O          | N         | N          | N         |
| 16  | I have trouble going to school in the mornings because I feel nervous and      | N          | O          | A         | S          | N         |
| 17  | I am good at sports.   | S          | O          | N         | N          | A         |
| 18  | I am scared of dogs.   | N          | N          | N         | N          | N         |
| 19  | I can't seem to get bad or silly thoughts out of my head.                      | A          | A          | O         | A          | O         |
| 20  | When I have a problem, my heart beats really fast.                             | S          | A          | S         | A          | S         |
| 21  | I suddenly start to tremble or shake when there is no reason for this.         | N          | O          | A         | O          | N         |
| 22  | I worry that something bad will happen to me.                                  | N          | O          | S         | S          | S         |
| 23  | I am scared of going to the doctors or dentists.                               | A          | S          | N         | A          | N         |
| 24  | When I have a problem, I feel shaky.   | N          | O          | S         | O          | N         |
| 25  | I am scared of being in high places or elevators (lifts).                      | N          | S          | N         | S          | S         |
| 26  | I am a good person.  | S          | S          | S         | O          | S         |
| 27  | I have to think of special thoughts to stop bad things from happening (like    | N          | N          | N         | O          | N         |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.          | S          | O          | N         | S          | N         |
| 29  | I worry what other people think of me.   | S          | A          | O         | A          | O         |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies,     | N          | A          | A         | N          | S         |
| 31  | I feel happy.  | S          | N          | S         | S          | S         |
| 32  | All of a sudden I feel really scared for no reason at all.                     | N          | O          | N         | S          | N         |
| 33  | I am scared of insects or spiders.   | O          | N          | N         | N          | N         |
| 34  | I suddenly become dizzy or faint when there is no reason for this.             | N          | O          | S         | S          | S         |
| 35  | I feel afraid if I have to talk in front of my class.                          | S          | O          | A         | A          | S         |
| 36  | My heart suddenly starts to beat too quickly for no reason.                    | N          | S          | O         | O          | N         |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to b   | N          | O          | N         | O          | N         |
| 38  | I like myself.   | N          | N          | S         | N          | O         |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.      | A          | A          | N         | N          | A         |
| 40  | I have to do some things over and over again (like washing my hands, clea      | O          | S          | N         | N          | N         |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.                | S          | O          | S         | S          | S         |
| 42  | I have to do some things in just the right way to stop bad things happening    | N          | A          | N         | S          | N         |
| 43  | I am proud of my school work.  | S          | S          | N         | N          | S         |
| 44  | I would feel scared if I had to stay away from home overnight.                 | N          | S          | N         | N          | S         |
| 45  | Is there something else that you are really afraid of? Please write down w     | YES - BEIN | YES - DISA | NO - CAN  | YES - LOSI | NO        |
|   | How often are you afraid of this thing?  | A          | A          | N         | A          | N         |
|   | Panic Attack and Agoraphobia   | 4          | 19         | 10        | 11         | 5         |
|   | Separation Anxiety   | 4          | 12         | 4         | 3          | 3         |
|   | Physical Injury Fears  | 7          | 3          | 1         | 4          | 3         |
|   | Social Phobia  | 3          | 13         | 8         | 15         | 8         |
|   | Obsessive Compulsive   | 8          | 11         | 3         | 8          | 3         |
|   | Generalised Anxiety Disorder   | 2          | 15         | 9         | 13         | 3         |
|   | <b>Total SCAS Score</b>  | <b>28</b>  | <b>73</b>  | <b>35</b> | <b>54</b>  | <b>25</b> |

| Post Test Data                                  |   | Spence Childrens Anxiety Scale (SCAC) |                               |                               |                               |                               |
|---|---|---------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Never (N), Sometimes (S), Often (O), Always (A) |   | 1                                     | 2                             | 3                             | 4                             | 5                             |
| No.   | Question  |                                       |                               |                               |                               |                               |
| 1   | I worry about things.   | O                                     | S                             | O                             | O                             | S                             |
| 2   | I am scared of the dark.  | A                                     | N                             | S                             | N                             | S                             |
| 3   | When I have a problem, I get a funny feeling in my stomach.   | S                                     | S                             | O                             | S                             | N                             |
| 4   | I feel afraid.  | O                                     | S                             | S                             | O                             | N                             |
| 5   | I would feel afraid of being on my own at home.   | S                                     | N                             | N                             | S                             | N                             |
| 6   | I feel scared when I have to take a test.   | S                                     | A                             | O                             | A                             | O                             |
| 7   | I feel afraid if I have to use public toilets or bathrooms.   | O                                     | S                             | N                             | O                             | S                             |
| 8   | I worry being away from my parents.   | A                                     | N                             | S                             | N                             | S                             |
| 9   | I feel afraid that I will make a fool of myself in front of people.                                 | S                                     | S                             | A                             | A                             | O                             |
| 10  | I worry that I will do badly at my school work.   | N                                     | S                             | O                             | A                             | A                             |
| 11  | I am popular amongst other kids my own age.   | S                                     | N                             | N                             | N                             | S                             |
| 12  | I worry that something awful will happen to someone in my family.                                   | A                                     | S                             | S                             | S                             | S                             |
| 13  | I suddenly feel as if I can't breathe when there is no reason for this.                             | N                                     | S                             | O                             | S                             | N                             |
| 14  | I have to keep checking that I have done things right (like the switch is off, the door is locked). | A                                     | N                             | S                             | N                             | O                             |
| 15  | I feel scared if I have to sleep on my own.   | N                                     | N                             | N                             | N                             | N                             |
| 16  | I have trouble going to school in the mornings because I feel nervous and shy.                      | N                                     | S                             | A                             | S                             | S                             |
| 17  | I am good at sports.  | S                                     | S                             | N                             | N                             | A                             |
| 18  | I am scared of dogs.  | N                                     | N                             | N                             | O                             | N                             |
| 19  | I can't seem to get bad or silly thoughts out of my head.   | N                                     | S                             | O                             | S                             | S                             |
| 20  | When I have a problem, my heart beats really fast.  | O                                     | S                             | O                             | S                             | S                             |
| 21  | I suddenly start to tremble or shake when there is no reason for this.                              | S                                     | S                             | O                             | O                             | N                             |
| 22  | I worry that something bad will happen to me.   | S                                     | S                             | S                             | S                             | S                             |
| 23  | I am scared of going to the doctors or dentists.  | A                                     | N                             | N                             | A                             | S                             |
| 24  | When I have a problem, I feel shaky.  | S                                     | S                             | S                             | O                             | N                             |
| 25  | I am scared of being in high places or elevators (lifts).   | N                                     | N                             | N                             | S                             | O                             |
| 26  | I am a good person.   | S                                     | O                             | O                             | S                             | O                             |
| 27  | I have to think of special thoughts to stop bad things from happening (like a magic spell).         | N                                     | S                             | N                             | N                             | N                             |
| 28  | I feel scared if I have to travel in the car, or on a bus or a train.                               | S                                     | N                             | N                             | N                             | N                             |
| 29  | I worry what other people think of me.  | O                                     | S                             | A                             | A                             | O                             |
| 30  | I am afraid of being in crowded places (like shopping centres, the movies, buses).                  | S                                     | A                             | A                             | O                             | O                             |
| 31  | I feel happy.   | N                                     | O                             | S                             | S                             | S                             |
| 32  | All of a sudden I feel really scared for no reason at all.  | N                                     | N                             | N                             | A                             | S                             |
| 33  | I am scared of insects or spiders.  | O                                     | N                             | N                             | A                             | S                             |
| 34  | I suddenly become dizzy or faint when there is no reason for this.                                  | N                                     | S                             | S                             | S                             | S                             |
| 35  | I feel afraid if I have to talk in front of my class.   | O                                     | A                             | A                             | A                             | O                             |
| 36  | My heart suddenly starts to beat too quickly for no reason.   | N                                     | S                             | S                             | O                             | N                             |
| 37  | I worry that I will suddenly get a scared feeling when there is nothing to be worried about.        | N                                     | N                             | N                             | O                             | S                             |
| 38  | I like myself.  | N                                     | O                             | S                             | N                             | A                             |
| 39  | I am afraid of being in small closed places, like tunnels or small rooms.                           | A                                     | O                             | N                             | S                             | A                             |
| 40  | I have to do some things over and over again (like washing my hands, cleaning).                     | O                                     | N                             | N                             | S                             | S                             |
| 41  | I get bothered by bad or silly thoughts or pictures in my mind.                                     | N                                     | S                             | S                             | S                             | S                             |
| 42  | I have to do some things in just the right way to stop bad things happening.                        | N                                     | N                             | N                             | S                             | S                             |
| 43  | I am proud of my school work.   | S                                     | O                             | N                             | N                             | S                             |
| 44  | I would feel scared if I had to stay away from home overnight.                                      | O                                     | N                             | N                             | S                             | S                             |
| 45  | Is there something else that you are really afraid of? Please write down what it is.                | YES - BEING BULLIED BY PEOPLE         | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE |
|   | How often are you afraid of this thing?   | A                                     | N                             | A                             | S                             | O                             |
|   | Panic Attack and Agoraphobia  | 6                                     | 9                             | 8                             | 14                            | 8                             |
|   | Separation Anxiety  | 9                                     | 2                             | 6                             | 4                             | 4                             |
|   | Physical Injury Fears   | 8                                     | 0                             | 1                             | 9                             | 5                             |
|   | Social Phobia   | 8                                     | 10                            | 13                            | 17                            | 12                            |
|   | Obsessive Compulsive  | 5                                     | 3                             | 5                             | 4                             | 6                             |
|   | Generalised Anxiety Disorder  | 9                                     | 6                             | 9                             | 9                             | 3                             |
|   | <b>Total SCAS Score</b>   | <b>45</b>                             | <b>30</b>                     | <b>42</b>                     | <b>57</b>                     | <b>38</b>                     |

| Pre Test By Subscale  |          |           |          |          |    |
|---|----------|-----------|----------|----------|----|
| Spence Childrens Anxiety Scale (SCAC) Never (N), Sometimes (S), Often (O), Always (A)                                   |          |           |          |          |    |
| Candidate   | 1        | 2         | 3        | 4        | 5  |
| <b>No. Question</b>   |          |           |          |          |    |
| 1 I worry about things.   | 1        | 3         | 2        | 2        | 1  |
| 2 I am scared of the dark.  | 2        | 1         | 1        | 0        | 2  |
| 3 When I have a problem, I get a funny feeling in my stomach.   | 0        | 3         | 3        | 2        | 0  |
| 4 I feel afraid.  | 0        | 2         | 1        | 3        | 0  |
| 5 I would feel afraid of being on my own at home.   | 0        | 3         | 0        | 1        | 0  |
| 6 I feel scared when I have to take a test.   | 1        | 3         | 0        | 3        | 2  |
| 7 I feel afraid if I have to use public toilets or bathrooms.   | 0        | 1         | 0        | 0        | 0  |
| 8 I worry being away from my parents.   | 1        | 1         | 0        | 0        | 2  |
| 9 I feel afraid that I will make a fool of myself in front of people.   | 0        | 2         | 2        | 3        | 1  |
| 10 I worry that I will do badly at my school work.  | 0        | 2         | 1        | 3        | 2  |
| 11 I am popular amongst other kids my own age.  | 1        | 0         | 0        | 0        | 1  |
| 12 I worry that something awful will happen to someone in my family.  | 3        | 3         | 1        | 1        | 0  |
| 13 I suddenly feel as if I can't breathe when there is no reason for this.  | 0        | 2         | 1        | 2        | 0  |
| 14 I have to keep checking that I have done things right (like the switch is off, or the door is locked).               | 2        | 2         | 0        | 1        | 0  |
| 15 I feel scared if I have to sleep on my own.  | 0        | 2         | 0        | 0        | 0  |
| 16 I have trouble going to school in the mornings because I feel nervous and afraid.                                    | 0        | 2         | 3        | 1        | 0  |
| 17 I am good at sports.   | 1        | 2         | 0        | 0        | 3  |
| 18 I am scared of dogs.   | 0        | 0         | 0        | 0        | 0  |
| 19 I can't seem to get bad or silly thoughts out of my head.  | 3        | 3         | 2        | 3        | 2  |
| 20 When I have a problem, my heart beats really fast.   | 1        | 3         | 1        | 3        | 1  |
| 21 I suddenly start to tremble or shake when there is no reason for this.   | 0        | 2         | 3        | 2        | 0  |
| 22 I worry that something bad will happen to me.  | 0        | 2         | 1        | 1        | 1  |
| 23 I am scared of going to the doctors or dentists.   | 3        | 1         | 0        | 3        | 0  |
| 24 When I have a problem, I feel shaky.   | 0        | 2         | 1        | 2        | 0  |
| 25 I am scared of being in high places or elevators (lifts).  | 0        | 1         | 0        | 1        | 1  |
| 26 I am a good person.  | 1        | 1         | 1        | 2        | 1  |
| 27 I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0        | 0         | 0        | 2        | 0  |
| 28 I feel scared if I have to travel in the car, or on a bus or a train.  | 1        | 2         | 0        | 1        | 0  |
| 29 I worry what other people think of me.   | 1        | 3         | 2        | 3        | 2  |
| 30 I am afraid of being in crowded places (like shopping centres, the movies, buses, busy                               | 0        | 3         | 3        | 0        | 1  |
| 31 I feel happy.  | 1        | 0         | 1        | 1        | 1  |
| 32 All of a sudden I feel really scared for no reason at all.   | 0        | 2         | 0        | 1        | 0  |
| 33 I am scared of insects or spiders.   | 2        | 0         | 0        | 0        | 0  |
| 34 I suddenly become dizzy or faint when there is no reason for this.   | 0        | 2         | 1        | 1        | 1  |
| 35 I feel afraid if I have to talk in front of my class.  | 1        | 2         | 3        | 3        | 1  |
| 36 My heart suddenly starts to beat too quickly for no  | 0        | 1         | 2        | 2        | 0  |
| 37 I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0        | 2         | 0        | 2        | 0  |
| 38 I like myself.   | 0        | 0         | 1        | 0        | 2  |
| 39 I am afraid of being in small closed places, like tunnels or small rooms.  | 3        | 3         | 0        | 0        | 3  |
| 40 I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 2        | 1         | 0        | 0        | 0  |
| 41 I get bothered by bad or silly thoughts or pictures in my mind.  | 1        | 2         | 1        | 1        | 1  |
| 42 I have to do some things in just the right way to stop bad things happening.   | 0        | 3         | 0        | 1        | 0  |
| 43 I am proud of my school work.  | 1        | 1         | 0        | 0        | 1  |
| 44 I would feel scared if I had to stay away from home overnight.   | 0        | 1         | 0        | 0        | 1  |
| 45 Is there something else that you are really afraid of? Please write down what it is.....                             | YES - BE | YES - DIS | NO - CAN | YES - LC | NO |
| How often are you afraid of this thing?   | 3        | 3         | 0        | 3        | 0  |
| <b>Totals</b>   | 36       | 80        | 38       | 60       | 34 |

## Post Test By Subscale

| Spence Childrens Anxiety Scale (SCAC) Never (N), Sometimes (S), Often (O), Always (A)                                   |                               |    |                               |    |                               |
|---|-------------------------------|----|-------------------------------|----|-------------------------------|
| Candidate   | 1                             | 2  | 3                             | 4  | 5                             |
| <b>No. Question</b>   |                               |    |                               |    |                               |
| 1 I worry about things.   | 2                             | 1  | 2                             | 2  | 1                             |
| 2 I am scared of the dark.  | 3                             | 0  | 1                             | 0  | 1                             |
| 3 When I have a problem, I get a funny feeling in my stomach.   | 1                             | 1  | 2                             | 1  | 0                             |
| 4 I feel afraid.  | 2                             | 1  | 1                             | 2  | 0                             |
| 5 I would feel afraid of being on my own at home.   | 1                             | 0  | 0                             | 1  | 0                             |
| 6 I feel scared when I have to take a test.   | 1                             | 3  | 2                             | 3  | 2                             |
| 7 I feel afraid if I have to use public toilets or bathrooms.   | 2                             | 1  | 0                             | 2  | 1                             |
| 8 I worry being away from my parents.   | 3                             | 0  | 1                             | 0  | 1                             |
| 9 I feel afraid that I will make a fool of myself in front of people.   | 1                             | 1  | 3                             | 3  | 2                             |
| 10 I worry that I will do badly at my school work.  | 0                             | 1  | 2                             | 3  | 3                             |
| 11 I am popular amongst other kids my own age.  | 1                             | 0  | 0                             | 0  | 1                             |
| 12 I worry that something awful will happen to someone in my family.  | 3                             | 1  | 1                             | 1  | 1                             |
| 13 I suddenly feel as if I can't breathe when there is no reason for this.  | 0                             | 1  | 2                             | 2  | 0                             |
| 14 I have to keep checking that I have done things right (like the switch is off, or the door is locked).               | 3                             | 0  | 1                             | 0  | 2                             |
| 15 I feel scared if I have to sleep on my own.  | 0                             | 0  | 0                             | 0  | 0                             |
| 16 I have trouble going to school in the mornings because I feel nervous and afraid.                                    | 0                             | 1  | 3                             | 1  | 1                             |
| 17 I am good at sports.   | 1                             | 1  | 0                             | 0  | 3                             |
| 18 I am scared of dogs.   | 0                             | 0  | 0                             | 2  | 0                             |
| 19 I can't seem to get bad or silly thoughts out of my head.  | 0                             | 1  | 2                             | 1  | 1                             |
| 20 When I have a problem, my heart beats really fast.   | 2                             | 1  | 2                             | 1  | 1                             |
| 21 I suddenly start to tremble or shake when there is no reason for this.   | 1                             | 1  | 2                             | 2  | 0                             |
| 22 I worry that something bad will happen to me.  | 1                             | 1  | 1                             | 1  | 1                             |
| 23 I am scared of going to the doctors or dentists.   | 3                             | 0  | 0                             | 3  | 1                             |
| 24 When I have a problem, I feel shaky.   | 1                             | 1  | 1                             | 2  | 0                             |
| 25 I am scared of being in high places or elevators (lifts).  | 0                             | 0  | 0                             | 1  | 2                             |
| 26 I am a good person.  | 1                             | 2  | 2                             | 1  | 2                             |
| 27 I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0                             | 1  | 0                             | 0  | 0                             |
| 28 I feel scared if I have to travel in the car, or on a bus or a train.  | 1                             | 0  | 0                             | 0  | 0                             |
| 29 I worry what other people think of me.   | 2                             | 1  | 3                             | 3  | 2                             |
| 30 I am afraid of being in crowded places (like shopping centres, the movies, buses, busy places).                      | 1                             | 3  | 3                             | 2  | 2                             |
| 31 I feel happy.  | 0                             | 2  | 1                             | 1  | 1                             |
| 32 All of a sudden I feel really scared for no reason at all.   | 0                             | 0  | 0                             | 3  | 1                             |
| 33 I am scared of insects or spiders.   | 2                             | 0  | 0                             | 3  | 1                             |
| 34 I suddenly become dizzy or faint when there is no reason for this.   | 0                             | 1  | 1                             | 1  | 1                             |
| 35 I feel afraid if I have to talk in front of my class.  | 2                             | 3  | 3                             | 3  | 2                             |
| 36 My heart suddenly starts to beat too quickly for no reason.  | 0                             | 1  | 1                             | 2  | 0                             |
| 37 I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0                             | 0  | 0                             | 2  | 1                             |
| 38 I like myself.   | 0                             | 2  | 1                             | 0  | 3                             |
| 39 I am afraid of being in small closed places, like tunnels or small rooms.  | 3                             | 2  | 0                             | 1  | 3                             |
| 40 I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 2                             | 0  | 0                             | 1  | 1                             |
| 41 I get bothered by bad or silly thoughts or pictures in my mind.  | 0                             | 1  | 1                             | 1  | 1                             |
| 42 I have to do some things in just the right way to stop bad things happening.   | 0                             | 0  | 0                             | 1  | 1                             |
| 43 I am proud of my school work.  | 1                             | 2  | 0                             | 0  | 1                             |
| 44 I would feel scared if I had to stay away from home overnight.   | 2                             | 0  | 0                             | 1  | 1                             |
| 45 Is there something else that you are really afraid of? Please write down what it is.                                 | YES - BEING BULLIED BY PEOPLE | NO | YES - BEING BULLIED BY PEOPLE | NO | YES - BEING BULLIED BY PEOPLE |
| How often are you afraid of this thing?   | 3                             | 0  | 3                             | 1  | 2                             |
| <b>Totals</b>   | 52                            | 39 | 48                            | 61 | 51                            |

## Pre and Post Test Combined By Subscale

| Spence Childrens Anxiety Scale (SCAC) Never (N), Sometimes (S), Often (O), Always (A)                                   |                               |           |                               |           |                               |           |                               |           |                               |           |  |  |
|---|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|-----------|--|--|
| No. Question  | 1                             |           | 2                             |           | 3                             |           | 4                             |           | 5                             |           |  |  |
|   | Pre Test                      | Post Test | Pre Test                      | Post Test | Pre Test                      | Post Test | Pre Test                      | Post Test | Pre Test                      | Post Test |  |  |
| 1 I worry about things.   | 1                             | 2         | 3                             | 1         | 2                             | 2         | 2                             | 2         | 1                             | 1         |  |  |
| 2 I am scared of the dark.  | 2                             | 3         | 1                             | 0         | 1                             | 1         | 0                             | 0         | 2                             | 1         |  |  |
| 3 When I have a problem, I get a funny feeling in my stomach.   | 0                             | 1         | 3                             | 1         | 3                             | 2         | 2                             | 1         | 0                             | 0         |  |  |
| 4 I feel afraid.  | 0                             | 2         | 2                             | 1         | 1                             | 1         | 3                             | 2         | 0                             | 0         |  |  |
| 5 I would feel afraid of being on my own at home.   | 0                             | 1         | 3                             | 0         | 0                             | 0         | 1                             | 1         | 0                             | 0         |  |  |
| 6 I feel scared when I have to take a test.   | 1                             | 1         | 3                             | 3         | 0                             | 2         | 3                             | 3         | 2                             | 2         |  |  |
| 7 I feel afraid if I have to use public toilets or bathrooms.   | 0                             | 2         | 1                             | 1         | 0                             | 0         | 0                             | 2         | 0                             | 1         |  |  |
| 8 I worry being away from my parents.   | 1                             | 3         | 1                             | 0         | 0                             | 1         | 0                             | 0         | 2                             | 1         |  |  |
| 9 I feel afraid that I will make a fool of myself in front of people.   | 0                             | 1         | 2                             | 1         | 2                             | 3         | 3                             | 3         | 1                             | 2         |  |  |
| 10 I worry that I will do badly at my school work.  | 0                             | 0         | 2                             | 1         | 1                             | 2         | 3                             | 3         | 2                             | 3         |  |  |
| 11 I am popular amongst other kids my own age.  | 1                             | 1         | 0                             | 0         | 0                             | 0         | 0                             | 0         | 1                             | 1         |  |  |
| 12 I worry that something awful will happen to someone in my family.  | 3                             | 3         | 3                             | 1         | 1                             | 1         | 1                             | 1         | 0                             | 1         |  |  |
| 13 I suddenly feel as if I can't breathe when there is no reason for this.  | 0                             | 0         | 2                             | 1         | 1                             | 2         | 2                             | 2         | 0                             | 0         |  |  |
| 14 I have to keep checking that I have done things right (like the switch is off, or the door is locked).               | 2                             | 3         | 2                             | 0         | 0                             | 1         | 1                             | 0         | 0                             | 2         |  |  |
| 15 I feel scared if I have to sleep on my own.  | 0                             | 0         | 2                             | 0         | 0                             | 0         | 0                             | 0         | 0                             | 0         |  |  |
| 16 I have trouble going to school in the mornings because I feel nervous and afraid.                                    | 0                             | 0         | 2                             | 1         | 3                             | 3         | 1                             | 1         | 0                             | 1         |  |  |
| 17 I am good at sports.   | 1                             | 1         | 2                             | 1         | 0                             | 0         | 0                             | 0         | 3                             | 3         |  |  |
| 18 I am scared of dogs.   | 0                             | 0         | 0                             | 0         | 0                             | 0         | 0                             | 2         | 0                             | 0         |  |  |
| 19 I can't seem to get bad or silly thoughts out of my head.  | 3                             | 0         | 3                             | 1         | 2                             | 2         | 3                             | 1         | 2                             | 1         |  |  |
| 20 When I have a problem, my heart beats really fast.   | 1                             | 2         | 3                             | 1         | 1                             | 2         | 3                             | 1         | 1                             | 1         |  |  |
| 21 I suddenly start to tremble or shake when there is no reason for this.   | 0                             | 1         | 2                             | 1         | 3                             | 2         | 2                             | 2         | 0                             | 0         |  |  |
| 22 I worry that something bad will happen to me.  | 0                             | 1         | 2                             | 1         | 1                             | 1         | 1                             | 1         | 1                             | 1         |  |  |
| 23 I am scared of going to the doctors or dentists.   | 3                             | 3         | 1                             | 0         | 0                             | 0         | 3                             | 3         | 0                             | 1         |  |  |
| 24 When I have a problem, I feel shaky.   | 0                             | 1         | 2                             | 1         | 1                             | 1         | 2                             | 2         | 0                             | 0         |  |  |
| 25 I am scared of being in high places or elevators   | 0                             | 0         | 1                             | 0         | 0                             | 0         | 1                             | 1         | 1                             | 2         |  |  |
| 26 I am a good person.  | 1                             | 1         | 1                             | 2         | 1                             | 2         | 2                             | 1         | 1                             | 2         |  |  |
| 27 I have to think of special thoughts to stop bad things from happening (like numbers or words).                       | 0                             | 0         | 0                             | 1         | 0                             | 0         | 2                             | 0         | 0                             | 0         |  |  |
| 28 I feel scared if I have to travel in the car, or on a bus or a train.  | 1                             | 1         | 2                             | 0         | 0                             | 0         | 1                             | 0         | 0                             | 0         |  |  |
| 29 I worry what other people think of me.   | 1                             | 2         | 3                             | 1         | 2                             | 3         | 3                             | 3         | 2                             | 2         |  |  |
| 30 I am afraid of being in crowded places (like shopping centres, the movies, buses, busy places).                      | 0                             | 1         | 3                             | 3         | 3                             | 3         | 0                             | 2         | 1                             | 2         |  |  |
| 31 I feel happy.  | 1                             | 0         | 0                             | 2         | 1                             | 1         | 1                             | 1         | 1                             | 1         |  |  |
| 32 All of a sudden I feel really scared for no reason   | 0                             | 0         | 2                             | 0         | 0                             | 0         | 1                             | 3         | 0                             | 1         |  |  |
| 33 I am scared of insects or spiders.   | 2                             | 2         | 0                             | 0         | 0                             | 0         | 0                             | 3         | 0                             | 1         |  |  |
| 34 I suddenly become dizzy or faint when there is no reason for this.   | 0                             | 0         | 2                             | 1         | 1                             | 1         | 1                             | 1         | 1                             | 1         |  |  |
| 35 I feel afraid if I have to talk in front of my class.  | 1                             | 2         | 2                             | 3         | 3                             | 3         | 3                             | 3         | 1                             | 2         |  |  |
| 36 My heart suddenly starts to beat too quickly for no reason.  | 0                             | 0         | 1                             | 1         | 2                             | 1         | 2                             | 2         | 0                             | 0         |  |  |
| 37 I worry that I will suddenly get a scared feeling when there is nothing to be afraid of.                             | 0                             | 0         | 2                             | 0         | 0                             | 0         | 2                             | 2         | 0                             | 1         |  |  |
| 38 I like myself.   | 0                             | 0         | 0                             | 2         | 1                             | 1         | 0                             | 0         | 2                             | 3         |  |  |
| 39 I am afraid of being in small closed places, like tunnels or small rooms.  | 3                             | 3         | 3                             | 2         | 0                             | 0         | 0                             | 1         | 3                             | 3         |  |  |
| 40 I have to do some things over and over again (like washing my hands, cleaning or putting things in a certain order). | 2                             | 2         | 1                             | 0         | 0                             | 0         | 0                             | 1         | 0                             | 1         |  |  |
| 41 I get bothered by bad or silly thoughts or pictures in my mind.  | 1                             | 0         | 2                             | 1         | 1                             | 1         | 1                             | 1         | 1                             | 1         |  |  |
| 42 I have to do some things in just the right way to stop bad things happening.   | 0                             | 0         | 3                             | 0         | 0                             | 0         | 1                             | 1         | 0                             | 1         |  |  |
| 43 I am proud of my school work.  | 1                             | 1         | 1                             | 2         | 0                             | 0         | 0                             | 0         | 0                             | 1         |  |  |
| 44 I would feel scared if I had to stay away from home overnight.   | 0                             | 2         | 1                             | 0         | 0                             | 0         | 0                             | 1         | 1                             | 1         |  |  |
| 45 Is there something else that you are really afraid of? Please write down what it is.                                 | YES - BEING BULLIED BY PEOPLE | NO        | YES - BEING BULLIED BY PEOPLE | NO        | YES - BEING BULLIED BY PEOPLE | NO        | YES - BEING BULLIED BY PEOPLE | NO        | YES - BEING BULLIED BY PEOPLE | NO        |  |  |
| How often are you afraid of this thing?   | 3                             | 3         | 3                             | 0         | 0                             | 3         | 3                             | 1         | 0                             | 2         |  |  |
| <b>Totals</b>   | 36                            | 57        | 80                            | 39        | 38                            | 48        | 60                            | 61        | 34                            | 51        |  |  |
| % (Out of MAX 144)  | 25                            | 36        | 56                            | 27        | 26                            | 33        | 42                            | 42        | 24                            | 35        |  |  |
| % Increase or Decrease  | >11.1111                      | <28.4722  | >6.9444                       | >0.6944   | >11.8055                      |           |                               |           |                               |           |  |  |
|   | Negative                      | Positive  | Negative                      | Negative  | Negative                      |           |                               |           |                               |           |  |  |

## Pre and Post Test Combined By Subscale and Difference Calculated

| Spence Childrens Anxiety Scale (SCAC) Never (N), Sometimes (S), Often (O), Always (A) N = 0, S = 1, O = 2, A = 3 |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Question   | 1                             |                               |                               | 2                             |                               |                               | 3                             |                               |                               | 4                             |                               |                               | 6                             |                               |                               |
|  | Pre Test                      | Post Test                     | Diff                          | Pre Test                      | Post Test                     | Diff                          | Pre Test                      | Post Test                     | Diff                          | Pre Test                      | Post Test                     | Diff                          | Pre Test                      | Post Test                     | Diff                          |
| <b>Panic/agoraphobia</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 13. I suddenly feel as if I can't breathe when there is no reason for it.  | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            | 1                             | 2                             | 1                             | 2                             | 2                             | 0                             | 0                             | 0                             | 0                             |
| 21. I suddenly start to tremble or shake when there is no reason for it.   | 0                             | 1                             | 1                             | 2                             | 1                             | -1                            | 3                             | 2                             | -1                            | 2                             | 2                             | 0                             | 0                             | 0                             | 0                             |
| 28. I feel scared if I have to travel in the car, or on a bus or a train.  | 1                             | 1                             | 0                             | 2                             | 0                             | -2                            | 0                             | 0                             | 0                             | 1                             | 0                             | -1                            | 0                             | 0                             | 0                             |
| 30. I am afraid of being in crowded places (like shopping centres).  | 0                             | 1                             | 1                             | 3                             | 3                             | 0                             | 3                             | 3                             | 0                             | 0                             | 0                             | 2                             | 2                             | 1                             | 2                             |
| 32. All of a sudden I feel really scared for no reason at all.   | 0                             | 0                             | 0                             | 2                             | 0                             | -2                            | 0                             | 0                             | 0                             | 1                             | 3                             | 2                             | 0                             | 0                             | 1                             |
| 34. I suddenly become dizzy or faint when there is no reason for it.   | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             |
| 36. My heart suddenly starts to beat too quickly for no reason.  | 0                             | 0                             | 0                             | 1                             | 1                             | 0                             | 2                             | 1                             | -1                            | 2                             | 2                             | 0                             | 0                             | 0                             | 0                             |
| 37. I worry that I will suddenly get a scared feeling when there is no reason for it.                            | 0                             | 0                             | 0                             | 2                             | 0                             | -2                            | 0                             | 0                             | 0                             | 2                             | 2                             | 0                             | 0                             | 0                             | 1                             |
| 39. I am afraid of being in small closed places, like tunnels or lifts.  | 3                             | 3                             | 0                             | 3                             | 2                             | -1                            | 0                             | 0                             | 0                             | 0                             | 0                             | 1                             | 1                             | 3                             | 3                             |
| <b>TOTALS</b>  | <b>4</b>                      | <b>6</b>                      | <b>2</b>                      | <b>19</b>                     | <b>9</b>                      | <b>-10</b>                    | <b>10</b>                     | <b>9</b>                      | <b>-1</b>                     | <b>11</b>                     | <b>15</b>                     | <b>4</b>                      | <b>5</b>                      | <b>8</b>                      | <b>3</b>                      |
| <b>Separation anxiety</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 5. I would feel afraid of being on my own at home.   | 0                             | 1                             | 1                             | 3                             | 0                             | -3                            | 0                             | 0                             | 0                             | 1                             | 1                             | 0                             | 0                             | 0                             | 0                             |
| 8. I worry being away from my parents.   | 1                             | 3                             | 2                             | 1                             | 0                             | -1                            | 0                             | 1                             | 1                             | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            |
| 12. I worry that something awful will happen to someone in my family.  | 3                             | 3                             | 0                             | 3                             | 1                             | -2                            | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             | 0                             | 1                             | 1                             |
| 15. I feel scared if I have to sleep on my own.  | 0                             | 0                             | 0                             | 2                             | 0                             | -2                            | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             |
| 16. I have trouble going to school in the mornings because I feel nervous.                                       | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            | 3                             | 3                             | 0                             | 1                             | 1                             | 0                             | 0                             | 1                             | 1                             |
| 44. I would feel scared if I had to stay away from home overnight.   | 0                             | 2                             | 2                             | 1                             | 0                             | -1                            | 0                             | 0                             | 0                             | 0                             | 1                             | 1                             | 1                             | 1                             | 0                             |
| <b>TOTALS</b>  | <b>4</b>                      | <b>9</b>                      | <b>5</b>                      | <b>12</b>                     | <b>2</b>                      | <b>-10</b>                    | <b>4</b>                      | <b>5</b>                      | <b>1</b>                      | <b>3</b>                      | <b>4</b>                      | <b>3</b>                      | <b>3</b>                      | <b>4</b>                      | <b>2</b>                      |
| <b>Physical injury fears</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 2. I am scared of the dark.  | 2                             | 3                             | 1                             | 1                             | 0                             | -1                            | 1                             | 1                             | 0                             | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            |
| 18. I am scared of dogs.   | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 2                             | 2                             | 0                             | 0                             | 0                             |
| 23. I am scared of going to the doctors or dentists.   | 3                             | 3                             | 0                             | 1                             | 0                             | -1                            | 0                             | 0                             | 0                             | 3                             | 3                             | 0                             | 0                             | 1                             | 1                             |
| 25. I am scared of being in high places or elevators (lifts).  | 0                             | 0                             | 0                             | 1                             | 0                             | -1                            | 0                             | 0                             | 0                             | 1                             | 1                             | 1                             | 1                             | 2                             | 1                             |
| 33. I am scared of insects or spiders.   | 2                             | 2                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 3                             | 3                             | 0                             | 1                             | 1                             |
| <b>TOTALS</b>  | <b>7</b>                      | <b>8</b>                      | <b>1</b>                      | <b>3</b>                      | <b>0</b>                      | <b>-3</b>                     | <b>1</b>                      | <b>1</b>                      | <b>0</b>                      | <b>4</b>                      | <b>9</b>                      | <b>5</b>                      | <b>3</b>                      | <b>5</b>                      | <b>2</b>                      |
| <b>Social phobia</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 6. I feel scared when I have to take a test.   | 1                             | 1                             | 0                             | 3                             | 3                             | 0                             | 0                             | 2                             | 2                             | 3                             | 3                             | 0                             | 2                             | 2                             | 0                             |
| 7. I feel afraid if I have to use public toilets or bathrooms.   | 0                             | 2                             | 2                             | 1                             | 1                             | 0                             | 0                             | 0                             | 0                             | 0                             | 2                             | 2                             | 0                             | 1                             | 1                             |
| 9. I feel afraid that I will make a fool of myself in front of people.   | 0                             | 1                             | 1                             | 2                             | 1                             | -1                            | 2                             | 3                             | 1                             | 3                             | 3                             | 0                             | 1                             | 2                             | 1                             |
| 10. I worry that I will do badly at my school work.  | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            | 1                             | 2                             | 1                             | 3                             | 3                             | 0                             | 2                             | 3                             | 1                             |
| 29. I worry what other people think of me.   | 1                             | 2                             | 1                             | 3                             | 1                             | -2                            | 2                             | 3                             | 1                             | 3                             | 3                             | 0                             | 2                             | 2                             | 0                             |
| 35. I feel afraid if I have to talk in front of my class.  | 1                             | 2                             | 1                             | 2                             | 3                             | 1                             | 3                             | 3                             | 0                             | 3                             | 3                             | 0                             | 1                             | 2                             | 1                             |
| <b>TOTALS</b>  | <b>3</b>                      | <b>8</b>                      | <b>5</b>                      | <b>13</b>                     | <b>10</b>                     | <b>-3</b>                     | <b>8</b>                      | <b>13</b>                     | <b>5</b>                      | <b>15</b>                     | <b>17</b>                     | <b>2</b>                      | <b>8</b>                      | <b>12</b>                     | <b>4</b>                      |
| <b>Obsessive compulsive</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 14. I have to keep checking that I have done things right (I like to check).                                     | 2                             | 3                             | 1                             | 2                             | 0                             | -2                            | 0                             | 1                             | 1                             | 1                             | 0                             | -1                            | 0                             | 2                             | 2                             |
| 19. I can't seem to get bad or silly thoughts out of my head.  | 3                             | 0                             | -3                            | 3                             | 1                             | -2                            | 2                             | 2                             | 0                             | 3                             | 1                             | -2                            | 2                             | 1                             | -1                            |
| 27. I have to think of special thoughts to stop bad things from happening.                                       | 0                             | 0                             | 0                             | 0                             | 1                             | 1                             | 0                             | 0                             | 0                             | 2                             | 0                             | -2                            | 0                             | 0                             | 0                             |
| 40. I have to do some things over and over again (like washing my hands).  | 2                             | 2                             | 0                             | 1                             | 0                             | -1                            | 0                             | 0                             | 0                             | 1                             | 1                             | 0                             | 0                             | 1                             | 1                             |
| 41. I get bothered by bad or silly thoughts or pictures in my mind.  | 1                             | 0                             | -1                            | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             |
| 42. I have to do some things in just the right way to stop bad things from happening.                            | 0                             | 0                             | 0                             | 3                             | 0                             | -3                            | 0                             | 0                             | 0                             | 1                             | 3                             | 0                             | 0                             | 1                             | 1                             |
| <b>TOTALS</b>  | <b>8</b>                      | <b>5</b>                      | <b>-3</b>                     | <b>11</b>                     | <b>3</b>                      | <b>-8</b>                     | <b>3</b>                      | <b>4</b>                      | <b>1</b>                      | <b>8</b>                      | <b>4</b>                      | <b>-4</b>                     | <b>3</b>                      | <b>6</b>                      | <b>3</b>                      |
| <b>Generalized anxiety</b>   |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 1. I worry about things.   | 1                             | 2                             | 1                             | 3                             | 1                             | -2                            | 2                             | 2                             | 0                             | 2                             | 2                             | 0                             | 1                             | 1                             | 0                             |
| 3. When I have a problem, I get a funny feeling in my stomach.   | 0                             | 1                             | 1                             | 3                             | 1                             | -2                            | 3                             | 2                             | -1                            | 2                             | 1                             | -1                            | 0                             | 0                             | 0                             |
| 4. I feel afraid.  | 0                             | 2                             | 2                             | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 3                             | 2                             | -1                            | 0                             | 0                             | 0                             |
| 20. When I have a problem, my heart beats really fast.   | 1                             | 2                             | 1                             | 3                             | 1                             | -2                            | 1                             | 2                             | 1                             | 3                             | 1                             | -2                            | 1                             | 1                             | 0                             |
| 22. I worry that something bad will happen to me.  | 0                             | 1                             | 1                             | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             | 1                             | 1                             | 0                             |
| 24. When I have a problem, I feel shaky.   | 0                             | 1                             | 1                             | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 2                             | 2                             | 0                             | 0                             | 0                             | 0                             |
| <b>TOTALS</b>  | <b>2</b>                      | <b>9</b>                      | <b>7</b>                      | <b>15</b>                     | <b>6</b>                      | <b>-9</b>                     | <b>9</b>                      | <b>9</b>                      | <b>0</b>                      | <b>13</b>                     | <b>9</b>                      | <b>-4</b>                     | <b>3</b>                      | <b>3</b>                      | <b>0</b>                      |
| <b>Not Scored</b>  |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |                               |
| 11. I am popular amongst other kids my own age.  | 1                             | 1                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 0                             | 1                             | 1                             | 1                             | 1                             |
| 17. I am good at sports.   | 1                             | 1                             | 0                             | 2                             | 1                             | -1                            | 0                             | 0                             | 0                             | 0                             | 0                             | 3                             | 3                             | 3                             | 3                             |
| 26. I am a good person.  | 1                             | 1                             | 0                             | 1                             | 2                             | 1                             | 1                             | 2                             | 1                             | 2                             | 1                             | 1                             | 1                             | 2                             | 1                             |
| 31. I feel happy.  | 1                             | 0                             | 0                             | 2                             | 1                             | -1                            | 1                             | 1                             | 1                             | 1                             | 1                             | 1                             | 1                             | 1                             | 1                             |
| 38. I like myself.   | 0                             | 0                             | 0                             | 2                             | 1                             | -1                            | 1                             | 1                             | 0                             | 0                             | 0                             | 2                             | 2                             | 3                             | 3                             |
| 43. I am proud of my school work.  | 1                             | 1                             | 0                             | 1                             | 2                             | 1                             | 0                             | 0                             | 0                             | 0                             | 0                             | 1                             | 1                             | 1                             | 1                             |
| 45. Is there something else that you are really afraid of? Please describe it.                                   | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE | YES - BEING BULLIED BY PEOPLE |
| How often are you afraid of this thing?  | 3                             | 3                             | 0                             | 3                             | 0                             | -3                            | 0                             | 3                             | 3                             | 3                             | 1                             | 0                             | 0                             | 2                             | 2                             |

| Pre Test                     |                     |                       |  | Post Test                    |                    |                       |  |
|------------------------------|---------------------|-----------------------|--|------------------------------|--------------------|-----------------------|--|
| 1 SCAS Girls 12 - 15         |                     |                       |  | 1 SCAS Girls 12 - 15         |                    |                       |  |
| Score Results                | Score Range         | Sub Scale T-Score     |  | Score Results                | Score Range        | Sub Scale T-Score     |  |
| Panic Attack and Agoraphobia | 4 4 to 6            | 55                    |  | Panic Attack and Agoraphobia | 6 4 to 6           | 55                    |  |
| Separation Anxiety           | 4 4 to 5            | 55                    |  | Separation Anxiety           | 9 8 to 9           | 65                    |  |
| Physical Injury Fears        | 7 6 to 7            | 60                    |  | Physical Injury Fears        | 8 8 to 9           | 65                    |  |
| Social Phobia                | 3 0 to 3            | 40 or below           |  | Social Phobia                | 8 8 to 9           | 55                    |  |
| Obsessive Compulsive         | 8 7 to 9            | 60                    |  | Obsessive Compulsive         | 5 5 to 6           | 55                    |  |
| Generalised Anxiety Disorder | 2 0 to 3            | 40 or below           |  | Generalised Anxiety Disorder | 9 9 to 10          | 60                    |  |
| <b>Total SCAS Score</b>      | <b>28 27 to 29</b>  | <b>52</b>             |  | <b>Total SCAS Score</b>      | <b>45 45 to 46</b> | <b>62</b>             |  |
| <b>Total T-Score Range</b>   | <b>0-59</b>         | <b>Normal Range</b>   |  | <b>Total T-Score Range</b>   | <b>60-100</b>      | <b>Elevated Range</b> |  |
| 2 SCAS Girls 12 - 15         |                     |                       |  | 2 SCAS Girls 12 - 15         |                    |                       |  |
| Score Results                | Score Range         | Sub Scale T-Score     |  | Score Results                | Score Range        | Sub Scale T-Score     |  |
| Panic Attack and Agoraphobia | 19 14 to 27         | 70 or above           |  | Panic Attack and Agoraphobia | 9 7 to 9           | 60                    |  |
| Separation Anxiety           | 12 10 to 18         | 70 or above           |  | Separation Anxiety           | 2 2                | 45                    |  |
| Physical Injury Fears        | 3 3                 | 50                    |  | Physical Injury Fears        | 0 0 to 1           | 40 or below           |  |
| Social Phobia                | 13 12 to 14         | 65                    |  | Social Phobia                | 10 10 to 11        | 60                    |  |
| Obsessive Compulsive         | 11 10 to 12         | 65                    |  | Obsessive Compulsive         | 3 2 to 3           | 45                    |  |
| Generalised Anxiety Disorder | 15 15 to 18         | 70 or above           |  | Generalised Anxiety Disorder | 6 6                | 50                    |  |
| <b>Total SCAS Score</b>      | <b>73 67 to 114</b> | <b>70 or above</b>    |  | <b>Total SCAS Score</b>      | <b>30 30</b>       | <b>53</b>             |  |
| <b>Total T-Score Range</b>   | <b>60-100</b>       | <b>Elevated Range</b> |  | <b>Total T-Score Range</b>   | <b>0-59</b>        | <b>Normal Range</b>   |  |
| 3 SCAS Girls 12 - 15         |                     |                       |  | 3 SCAS Girls 12 - 15         |                    |                       |  |
| Score Results                | Score Range         | Sub Scale T-Score     |  | Score Results                | Score Range        | Sub Scale T-Score     |  |
| Panic Attack and Agoraphobia | 10 10 to 13         | 65                    |  | Panic Attack and Agoraphobia | 8 7 to 9           | 60                    |  |
| Separation Anxiety           | 4 4 to 5            | 55                    |  | Separation Anxiety           | 6 6 to 7           | 60                    |  |
| Physical Injury Fears        | 1 0 to 1            | 40 or below           |  | Physical Injury Fears        | 1 0 to 1           | 40 or below           |  |
| Social Phobia                | 8 8 to 9            | 55                    |  | Social Phobia                | 13 12 to 14        | 65                    |  |
| Obsessive Compulsive         | 3 2 to 3            | 45                    |  | Obsessive Compulsive         | 5 5 to 6           | 55                    |  |
| Generalised Anxiety Disorder | 9 9 to 10           | 60                    |  | Generalised Anxiety Disorder | 9 9 to 10          | 60                    |  |
| <b>Total SCAS Score</b>      | <b>35 35 to 36</b>  | <b>57</b>             |  | <b>Total SCAS Score</b>      | <b>42 40 to 42</b> | <b>60</b>             |  |
| <b>Total T-Score Range</b>   | <b>0-59</b>         | <b>Normal Range</b>   |  | <b>Total T-Score Range</b>   | <b>60-100</b>      | <b>Elevated Range</b> |  |
| 4 SCAS Girls 12 - 15         |                     |                       |  | 4 SCAS Girls 12 - 15         |                    |                       |  |
| Score Results                | Score Range         | Sub Scale T-Score     |  | Score Results                | Score Range        | Sub Scale T-Score     |  |
| Panic Attack and Agoraphobia | 11 10 to 13         | 65                    |  | Panic Attack and Agoraphobia | 14 14 to 27        | 70 or above           |  |
| Separation Anxiety           | 3 3                 | 50                    |  | Separation Anxiety           | 4 4 to 5           | 55                    |  |
| Physical Injury Fears        | 4 4 to 5            | 55                    |  | Physical Injury Fears        | 9 8 to 9           | 65                    |  |
| Social Phobia                | 15 15 to 18         | 70 or above           |  | Social Phobia                | 17 15 to 18        | 70 or above           |  |
| Obsessive Compulsive         | 8 7 to 9            | 60                    |  | Obsessive Compulsive         | 4 4                | 50                    |  |
| Generalised Anxiety Disorder | 13 11 to 14         | 65                    |  | Generalised Anxiety Disorder | 9 9 to 10          | 60                    |  |
| <b>Total SCAS Score</b>      | <b>54 53 to 54</b>  | <b>65</b>             |  | <b>Total SCAS Score</b>      | <b>57 56 to 57</b> | <b>67</b>             |  |
| <b>Total T-Score Range</b>   | <b>60-100</b>       | <b>Elevated Range</b> |  | <b>Total T-Score Range</b>   | <b>60-100</b>      | <b>Elevated Range</b> |  |
| 5 SCAS Boys 12 - 15          |                     |                       |  | 5 SCAS Boys 12 - 15          |                    |                       |  |
| Score Results                | Score Range         | Sub Scale T-Score     |  | Score Results                | Score Range        | Sub Scale T-Score     |  |
| Panic Attack and Agoraphobia | 5 4 to 7            | 60                    |  | Panic Attack and Agoraphobia | 8 8 to 12          | 65                    |  |
| Separation Anxiety           | 3 3                 | 55                    |  | Separation Anxiety           | 4 4 to 5           | 60                    |  |
| Physical Injury Fears        | 3 3                 | 55                    |  | Physical Injury Fears        | 5 4 to 5           | 60                    |  |
| Social Phobia                | 8 8 to 10           | 60                    |  | Social Phobia                | 12 11 to 12        | 65                    |  |
| Obsessive Compulsive         | 3 3 to 4            | 50                    |  | Obsessive Compulsive         | 6 5 to 6           | 55                    |  |
| Generalised Anxiety Disorder | 3 3 to 4            | 45                    |  | Generalised Anxiety Disorder | 3 3 to 4           | 45                    |  |
| <b>Total SCAS Score</b>      | <b>25 25 to 26</b>  | <b>56</b>             |  | <b>Total SCAS Score</b>      | <b>38 37 to 38</b> | <b>62</b>             |  |
| <b>Total T-Score Range</b>   | <b>0-59</b>         | <b>Normal Range</b>   |  | <b>Total T-Score Range</b>   | <b>60-100</b>      | <b>Elevated Range</b> |  |



## Appendix 4

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| <p>Week 1 – Bush Craft</p> <p>It was particularly interesting to see the contrast in behaviour and language between when we picked the students up from school to the language used at LC. Lots of ‘it’s triggering me’ at the school which once we got to the bush craft area wasn’t mentioned again. (C1) was a little bit cautious to get involved and was quite happy to watch (C2) light a fire and try to keep it alight, but eventually decided that they wanted to give it a go themselves and once they did (C1) was quite happy to sit on the floor and experiment with different types of fuel i.e. leaves, grass, size of sticks. (C1) said that she wouldn’t normally be so happy to sit on the ground and was curious about different insects that she found. (C3) and (C4) were quite happy to give things a go such as lighting a fire but also then seemed quite content to watch the rest of the group contribute to the large group fire. They were given the opportunity to toast marshmallows but declined but were happy to laugh along when others burnt theirs. It was interesting to see a difference in (C3) throughout the session, from no eye contact or verbal communication at the start, then started to come out of themselves a little more toward the end (C5) wasn’t too interested in lighting a fire as had done it before, so I got (C5) to use a saw and a knife to chop some dry wood. (C2) was really impressed that she had managed to light a small fire and keep it going and a particular phrase she used was ‘I’ve never been this good at something, are you proud?’ (C5) also had a go at chopping some wood and needed some encouragement when they struggled with this but ultimately enjoyed the challenge. I also noticed that was very quick to keep the others in line about inappropriate/offensive jokes and trains of thought- kidnap/rape</p> |
| <p>Week 2 - Zip Line and Archery</p> <p>(C1) wasn’t keen on the zip wire and was adamant that didn’t want to try it. (C1) came up to the zip wire area and was very encouraging towards the others, in particular (C3) and (C4) who were a little apprehensive. (C1) was a little reluctant to start archery saying and thinking that they wouldn’t be any good but was more than happy to get involved once saw the others have a go and saw what they were capable of. (C1) didn’t get it at first but slowly through coaching she better and got some good scores. Seemed much more relaxed and chilled out. (C2) was a little unsure, knew they wanted to give it a go but waited until a few others had gone a few times before doing it. Was a little hesitant but said was really happy they did it. Didn’t want to have another go. (C2) was keen for archery and one of the first to give it a go. (C2) also tried the larger bow as well with mixed results. (C2) had had enough half way through the session when felt she wasn’t improving so she went and sat down. I had a long chat with (C2) about her home circumstance and where they were currently staying. We then started to chat through what (C2) wanted to do in the future. (C2) seemed a bit more reserved this week but possibly to do with not staying at home. (C3) had several goes and was chattier to me and the rest of the group than the previous week. I think (C3) is very conscious of what others think and doesn’t want to do anything that might have a negative reaction. It is particularly noticeable towards the end of sessions when I have asked the group if they want to continue- I get the feeling (C3) may want to but says no because the others have. I think (C3) enjoyed archery as it was more independent</p>   |

and they could pick up and stop as they wished but again was influenced I think by the others in the group and wanted to stop when they did.

(C5) was really keen for both activities and was first up for the zip line and had several goes and got to the point where I was able to supervise setting themselves up at the top of the zip wire. Also really keen for archery and spent the longest doing the activity- tried both small and large bow and progressively got better during the session and was particularly impressed when scored 10.

#### Week 3 - Canoeing

I knew (C1) wasn't keen to get on the water, encouraged them to come in my boat or in the more stable rafted boats but as with zip wire was adamant wasn't going to. Eventually towards the end of the session (C1) did get in the water and started to enjoy it but was happy could get out when wanted. (C2) - chose to partner up with (C3) which I was slightly surprised at. Started off well but (C2) got wound up with (C3) as she struggled with manoeuvring the boat. Eventually (C2) swapped and partnered up with (C5). They were quite happy to entertain themselves on the lake for an hour or so before wanted to get in the water. I was quite happy to let them, but they were concerned were going to get told off. (C3) struggled a little to manoeuvre the boat but when swapped and was partnered with (C6) started to get to grips with it a bit more as (C6) was much more laid back. Again I got the impression when (C6) asked to try canoeing solo that (C3) felt they couldn't make a decision quickly about what they wanted to do and decided to get out of the canoe to please everyone. (C3) was the only one that didn't go in the lake.

I was really impressed with (C6) and the way they took a coaching approach to helping (C3) canoe better. (C6) was really calm and I think helped her understand how to move the boat. (C6) is the one individual in the group that seems a bit separate- (C1), (C2) and (C5) are all quite strong characters, but look after (C3) in a way that I don't see them looking after (C6). They find (C6) irritating at times. However, seems to brush this off and I have been careful to give some individual attention to try and counteract behaviour by the others. (C5) again was really keen for canoeing and got stuck in. Worked better with (C2) than with (C6). I think got persuaded in to going in the water as didn't stay in for very long once got cold. Generally it was interesting to see the difference in the way they talk to each other at LC and on the bus and at school. They seem much more relaxed and open to discussions with each other, whereas when we pick them up there is a lot of talking at each other and shouting over the top of each other to be heard. (C1) and (C5) seemed particularly receptive to information and knowledge particularly around how the lake and site is managed and around research into cold water immersion therapy.

#### Week 5 - SUP and Bush craft

All very tired this morning, some were keen to get on the water. (C1) and (C4) sat on the bank and had paper and pens. (C2) and (C5) took to SUP really well. (C3) was a bit nervous but I think had a good time. There was some disagreement in the changing rooms afterwards with (C2) and (C3) and lots of shouting at each other. They seemed ok soon after. We went down to the bushcraft area for 40 mins afterwards. (C5) and (C2) were particularly keen to chop wood and the others were quite happy drawing and chatting. (C2) mentioned again that hadn't been staying at home since we last saw them. The small changes between them at school and when they get to lakeside are noticeable. They still snap at each other but their bodies are **visibly more relaxed and open**.

Week 5 – Bush Craft and Archery

Again, really tired this morning. Late going to sleep from some (C1) in particular. None of them were keen to get on the water so we wandered down to the bushcraft area and chopped some wood and made a small fire.

(C5) and (C1) asked if we could go and do archery, it was available so we did for an hour.

They seemed quite happy to keep doing archery. (C2), (C4) and (C3) weren't keen and either played on their phone, ipad etc while (C1) and (C5) shot arrows.

(C2) mentioned had since gone back to staying at home and that things were a little bit better than previously had been

(C5) seemed particularly keen to have conversations with me rather than the others. Was telling me had been to the bear grylls experience and had clearly really enjoyed it.

Week 6 - Bush Craft

All very tired today, not really wanting to particularly do anything. (C2) and (C1) regularly arriving saying they didn't get to sleep until 4/5/6am. Eventually (C2) said wanted to do fire lighting and (C5) was keen to use knives and the axe

(C4) was a little quiet, Something has obviously happened as twice she started crying on session. She didn't elaborate but (C2) and (C1) were concerned and they all tried to cheer her up by distraction methods.

(C3) was very quiet and half way through the session took themselves off to sit at the other end of the forest school area. I went to check and said just needed some time to themselves.

(C2) and (C1) had real success at fire lighting. They showed a fair amount of concern over (C3) when wandered off and then again when (C4) started crying.

(C5) and I played noughts and crosses for a while and he seemed quite happy to do this. They have all appreciated some 1:1 attention at some point over the 6 weeks