The Effects of a Positive Psychology Intervention on the Self-Concept of Students with Learning Disabilities

by

Stacey Short
B.Ed., McGill University, 1994
M.Ed., Framingham State College, 2002

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Dr. Brian Harvey, Supervisor
(Department of Educational Psychology and Leadership Studies)

Dr. John Anderson, Departmental Member
(Department of Educational Psychology and Leadership Studies)

Dr. Gina Harrison, Departmental Member
(Department of Educational Psychology and Leadership Studies)

Dr. Robert Anthony, Outside Member
(Department of Curriculum and Instruction)

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ABSTRACT

Identifying and developing strengths may serve as an intervention to improve self-concept. The power of positive psychology is the foundation for recent studies in strengths-development research. Positive psychology is based on the premise that, if people are taught to capitalize on their strengths and to be resilient and optimistic, they will lead happier, more productive lives. The purpose of this research was to measure the effects of a positive psychology intervention on students' self-concept. Based on positive psychology principles, the intervention was designed to help students learn both about positive psychology and about their personal strengths. This intervention was designed to serve a population of children, ages 10 to 15 years old, in Victoria, Canada. A sample size of 26 students diagnosed with learning disabilities were randomly assigned to either the experimental or control group. The intervention group participated in a 3-week intervention course about positive psychology, and they completed the VIA (Values in Action Inventory of Strengths – Youth)(Park& Peterson, 2003) to identify their individual strengths. Before and after the intervention program, students were assessed using the Self Description Questionnaire (SDQ-1; Marsh, 1992). Using a pre and post test design, t-tests indicated there was no statistically significant difference between the groups gains. There was, however, a small effect for the intervention group in the self-concept domains of Math (*d=0.30*), Reading (*d=0.22*), and Total Academic Self-Concept (*d=0.20*) following the positive psychology intervention.

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Chapter One: Introduction

Overview

My research interest focuses on teaching positive psychology principles to children in order to improve their self-concept. I believe it is an area of learning, education, and psychology that would benefit from future research. In the year 2000 the American Psychological Association (APA) began focusing on preventing some problems (trends) that were tending to occur within children, including depression, schizophrenia, substance abuse, and school yard violence. This shift in thinking led to the beginning of a movement that concentrated on the positive potential of psychology. Students with learning disabilities are often characterized as having a low self-concept (the opinions that one holds about oneself). Applying positive psychology principles could enhance self-concept and promote resiliency. One assumption of positive psychology is that knowing one's strengths and exercising them in one's everyday life (school, work, and personal life) will lead to a more fulfilled life. Helping students identify their signature strengths will change their focus from their difficulties to their abilities. This change, because it will be accompanied with strategies, may result in a long term solution. A measure was created, entitled the Values in Action Inventory (VIA) that identifies culturally accepted/tested strengths (Peterson & Seligman, 2004). This measure has been recently adapted for children.

Presently there is an ongoing research project at the Positive Psychology center - University of Pennsylvania, where they are teaching resiliency skills to school children in order to study if they can prevent depression (Gillham et al., 2007). Programs, such as this one, could be modified and paired with work on signature strengths to benefit

children with learning disabilities. Interest in positive psychology continues to increase with the realization of the potential application to many different fields. (a) The University of Pennsylvania, in September of 2005, began offering a Master of Applied Positive Psychology, (b) The Gallup Organization (USA), the oldest and biggest management consulting, polling and market research company, sponsors a yearly International Positive Psychology Summit.

The New York Times (Maxx, 2007) featured an article entitled "Happiness 101" that included a discussion about schools in the United States and Australia that are adopting curriculum based on Positive psychology. Most recently, the keynote address at the Canadian Psychological Association annual conference (June 2007) was on the topic of positive psychology and presented by Dr. Christopher Peterson. It is my belief, in the time I have spent working with children who have learning disabilities, that caring and believing in a child can make a difference. Many students with learning disabilities have low self-concept and they appear to focus on their disabilities instead of their abilities. The implementation of a program based on positive psychology may help these students change their focus to the positive. The introduction of a positive psychology intervention program may make students more aware of their strengths and may benefit them in the future. This research has practical application for parents, school psychologists, counselors, teachers, and students. In a research study these questions could be investigated using the VIA and adapting current researched programs that encourage cognitive strategies in students. This may increase their self-concept thus increasing their resiliency. Martin Seligman is the leading researcher at the center of the Positive Psychology movement. I emailed him (25/11/2005) and asked if he knew of any

researchers currently studying the use of positive psychology strategies with children who have learning disabilities. He answered, "I have not written about this, but translating the interventions for LD is a good thing to do." (Personal email). This was an encouraging statement for my research interests.

Statement of the Problem

Students with LD often have low self-concept and tend to focus on their weaknesses rather then their strengths (Brooks, 2002). In the study of LD, a gap in knowledge exists concerning interventions to improve the self-concept of children as well as concerning the use of positive psychology as an intervention with children.

Research Question

Does a positive psychology intervention, focused on identifying character strengths, improve the self-concept of students with and without learning disabilities?

Purpose of the Study

The purpose of this pre-test post-test experimental study is to examine the effectiveness of a positive psychology intervention on students' self-concept. Specifically, this study examines whether a positive psychology intervention (including the VIA – Inventory of Strengths) improves the self-concept of children, aged 10 – 15, with and without LD.

Hypothesis

The hypothesis of the present study is that using the VIA-Youth Inventory of Strengths and 3 class lectures about Positive Psychology will result in an increase from pre-test to post-test of elementary and middle school students self-concept scores on the Self Description Questionnaire (SDQ-1, Marsh,1992).

Definition of Terms

The following definitions are offered to ensure proper interpretation of the terminology used in the study:

1. Positive Psychology – "Positive psychology is the study of the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions" (Gable & Haidt, 2005, p.103). As a goal, positive psychology attempts to understand positive emotions, positive strengths and virtues, and positive institutions (Seligman & Csikszentmihalyi, 2000).

2. Learning Disability (LD) – "refer to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiencies. Learning disabilities are due to genetic and/or neurobiological factors or injury that alters brain functioning in a manner which affects one or more processes related to learning. These disorders are not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching, although these factors may further complicate the challenges faced by individuals with learning disabilities. Learning disabilities may co-exist with various conditions including attentional, behavioural and emotional disorders, sensory impairments or other medical conditions" (Learning Disability Association of Canada, 2003, ¶ 1&6). This definition has been adopted by the BC Ministry of Education.

3. Self-concept – Self-concept is the cognitive or thinking aspect of self (related to one's self-image). Generally it includes the beliefs, attitudes and opinions that one holds about oneself. Self-esteem is the affective or emotional aspect of self and generally refers to how we feel about or how we value ourselves (one's self-worth). Self-concept can also refer to the general idea we have of ourselves, and self-esteem can refer to particular measures about components of self-concept (Huitt, 2004). Often the two terms are used interchangeably. Harter (1999) defines self-concept as a term "reserved for evaluative judgments of attributes within discrete domains such as cognitive competence, social acceptance, physical appearance…" (p.5).

Assumptions

The following assumption was expected to be present in the study: Children who participated in the study will provide accurate information when completing the SDQ questionnaires.

Summary of Chapter One

This chapter introduced the notion that an intervention program based on positive psychology could increase students' self-concept. The need to develop interventions to increase the self-concept of a student with LD was also outlined. In the next chapter, existing literature on positive psychology and self-concept is presented. Research on the self-concept of students with LD will also be reviewed. In chapter three, the research design, sampling, instrumentation, procedure, ethics, and timeline will be discussed in detail.

Chapter Two: Literature Review

Overview

Low self-concept is a concern for students with LD (Brooks, 2002). The need to identify effective interventions to increase self-concept is documented in both educational psychology and special education literature. This chapter reviews previous studies conducted on positive psychology, self-concept, and learning disabilities as well as the theory behind them. Prior to reviewing the studies, it is first necessary to provide some background information on the history of positive psychology. A review of positive psychology and strengths and their relation to self- concept and students with LD is also included. The development of self-concept in children as well as issues with self-reports are reviewed. Finally, studies involving positive psychology and their potential application to children with LD are discussed.

Review of Literature

A Brief History of Positive Psychology

Although the term positive psychology is relatively new, the study of the positive effects of psychology has existed for many years. In the early 1900's, James wrote about "healthy mindedness" and domains of importance (Harter, 1999). In 1958 Allport was interested in positive human characteristics. In 1968 Maslow advocated for the study of healthy people as opposed to the study of sick people. In addition to the above mentioned theorists, Aristotle, Dewey, Rogers, Thorndike, Piaget, and Bandura are considered as other contributors to the theory behind the current positive psychology movement (Rashid, 2004). Positive psychology is defined as "the study of the conditions and

processes that contribute to the flourishing or optimal functioning of people, groups, and institutions" (Gable & Haidt, 2005, p. 103).

Positive psychology emerged as a term within the field of psychology in the last six years following being featured in the journal *American Psychologist* in the year 2000. Much of the credit for the positive psychology [r]evolution is attributed to Dr. Martin Seligman. Many critics have proposed that positive psychology is not a new concept and should not be attributed to Seligman. In journal articles and his books, Seligman clearly states that, among others, Aristotle, Maslow and Rogers all contributed theories to the current movement (Seligman & Csikszentmihalyi, 2000; Seligman, 2002).

Eudaimonia: Aristotle (384 – 322 BCE)

Aristotle's works have had a great influence on philosophy and psychology. His naturalistic perspective on human functioning and his analysis of psychological problems are still applicable today. Aristotle is credited with coining the term eudaimonia. It is often translated into common English as "happiness", but Hughes (2001) states that Aristotle's explanation is more associated with "achieving one's full potential" [(X, 7, 1177a11)(p. 22)]. Hughes furthers his interpretation to state that Aristotle was referring to "living a worthwhile life" (p. 23). People are motivated by eudaimonia but for each person the exact result is not the same (e.g. eudaimonia means different things to different people). Aristotle stated that living the fulfilled life would be a reward in itself. "A fulfilled life will indeed be enjoyable, and well regarded by good people; but its point consists in the living of it, and doing precisely because it is worthwhile" (Hughes, p.26). Aristotle stated that individuals who achieve eudaimonia do not need further pleasure as their life will contain pleasure (as cited in Hughes, 2001).

Self-Actualization: Abraham Maslow (1908-1970)

Seligman and Csikszentmihalyi (2000) mentioned Abraham Maslow as one of the early investigators who explored creativity and peak experiences. Maslow's theories focused on the self, and unfortunately were originally neglected by psychologists. Similar to Aristotle, he revived the naturalistic/descriptive inquiry. Maslow's background in abnormal psychology closely parallels Seligman's early work in psychopathology. In 1943 Maslow published *A Theory of Human Motivation* which included his famous "hierarchy of needs". Maslow posited that, when basic survival needs are met, other higher order needs evolve. He further stated that satisfaction of needs is essential for normal development and leads towards self-actualization (Maslow, 1970). Maximum psychological health and growth arise only from attempts to satisfy higher needs. Self-actualization is the pull on people to achieve their actual full potential. "What humans can be they must be. They must be true to their own nature. This need we may call self-actualization" (Maslow, 1987, p. 22).

Maslow's hierarchical needs theory was criticized as it was difficult to test. Others, such as Seligman, have found in his theories a basis for their work today in positive psychology. Self-actualization is very relevant to the positive psychology movement (Snyder, Rand, & Sigmon, 2005).

The Good Life: Carl Rogers (1902 – 1987)

Seligman and Csikszentmihalyi (2000) discussed Carl Rogers as one of the theorists who, for his time, held enormous promise and offered a different, humanistic perspective. Rogers may be most famous for his practice guidelines for person-centred therapy. Although the guidelines were simple, they were practical, and they positively

influenced generations of therapists. Considering the individual, Rogers believed that continuing awareness of ones' authentic desires is essential for healthy development and self-actualization. He theorized that the organism has a single motivating force, the drive to self-actualization. This orientation towards growth, self-actualization and fulfillment is similar to both Maslow and Aristotle's theories, mentioned earlier. Rogers summarizes his feelings on the good life,

> I believe it will have become evident why, for me, adjectives such as happy contented, blissful, enjoyable, do not seem quite appropriate to any general description of this process I have called the good life, even though the person in this process would experience each one of these feelings at appropriate times. But the adjectives which seem more generally fitting are adjectives such as enriching, exciting, rewarding, challenging, meaningful. This process of the good life is not, I am convinced, a life for the faint-hearted. It involves the courage to be. It means launching oneself fully into the stream of life. Yet the deeply exciting thing about human beings is that when the individual is inwardly free, he chooses as the good life the process of becoming (Rogers, 1961, p. 198-9).

Rogers has been criticized for his therapeutic goals of complete awareness and self direction as well as his client-centred therapy. The current positive psychology movement has built upon his ideas of the good life as an aim for the individual.

Positive Psychology in the 21st century: Martin Seligman

Seligman's early research in learned helplessness lead to work on explanatory style and depression. His involvement in researching psychopathology influenced his eventual transition to positive psychology (Maier, Peterson, & Schwartz, 2000). Many

psychologists would mark the beginning of the positive psychology movement, with the beginning of Martin Seligman's tenure as American Psychological Association (APA) president in 1998 and in the year 2000 with the special edition of the *American Psychologist* devoted to positive psychology. Seligman and Csikszentmihalyi (2000) found that **t**here are certain human strengths that act as buffers against mental illness (e.g. courage, future mindedness, optimism, interpersonal skill, faith, work ethic, hope, honesty, perseverance, and the capacity for flow and insight). Psychologists have good reason to believe those techniques that build positive traits and positive subjective experiences work, both in therapy, and perhaps more importantly, in prevention. Building optimism, for example, seems to prevent depression (Seligman, Schulman, DeRubeis, & Hollon, 1999).

The early theorists of the concepts involved in positive psychology, such as Aristotle, Maslow and Rogers, had a strong effect on the culture during their time. Unfortunately their research did not accrue an empirical base. “Future debate will determine whether this came about because Maslow and Rogers were ahead of their times, because these flaws were inherent in their original vision, or because of overly enthusiastic followers” (Seligman & Csikszentmihalyi, 2000, p. 7).

Positive Psychology and Character Strengths

One of the assumptions of positive psychology is that identifying an individual’s strengths and exercising them regularly will lead to a happier and more meaningful life (Seligman, 2002). Seligman stated that strengths are special traits that meet additional criteria setting them apart from talents and more general personality traits and adding

moral worth to them. Researchers are studying how strengths naturally develop, how they are maintained, and how they can be nurtured to improve people's lives (Seligman, 2002).

Among these criteria, strengths are valued for their own sake, not simply for the consequences they produce. Strengths are traits that most parents wish for in their children and that are supported by cultural institutions. Peterson and Seligman (2004) reported that strengths are the building blocks of higher order qualities or virtues. People will be happier and live more meaningful lives if they can learn to identify, build upon, and deploy their current strengths and virtues on a regular basis. This emphasizes the need for using positive psychology as prevention and an intervention with children who have learning disabilities. The aim of positive psychology is to change the focus of psychology from a concern with rehabilitating the negative aspects of life to fostering positive qualities (Seligman & Csikszentmihalyi, 2000).

Values in Actions (VIA) Inventory

The Values In Action (VIA) measurement tool was developed by Peterson and Seligman to classify and define character traits (strengths) and virtues. In international trials empirical findings showed that adults around the world endorsed the 24 character strengths. Please see *Appendix A* for a list of the 24 character strengths and their definitions. The research was conducted in 40 countries where individuals ranked the strengths. Correlations in rankings among nations were .80. There have been consistent results, in terms of validity and reliability, of the VIA-Youth tool, but it needs to be developed further with a larger sample to allow further analyses (Peterson & Seligman, 2004). More recently in 2003, a version of the inventory has been adapted for children (VIA-Youth) (Park & Peterson, 2003). Seligman and Csikszentmihalyi's (2000) research

findings indicated that knowing your strengths and using them to your advantage will make your life more meaningful. My thesis research involves adapting their previous research for students with LD. Positive psychology research has not yet been adapted for students with LD. Identifying strengths may increase self-concept and may shift the focus from student's disabilities to their abilities.

Rashid (2004) used a systematic intervention that assessed 24 strengths from the VIA including an experiential class in Positive Psychology. In his dissertation he attempted to test the VIA classification and the idea that these strengths can be enhanced systematically and intentionally. Rashid presented the VIA strengths to university aged participants of the study using cognitive and behavioural techniques (e.g., readings, films, writing, class room discussions and group exercises). Rashid's hypothesis was that participants would then know, appreciate, and possibly improve their VIA strengths. The intervention attempted to guide participants towards positive thinking and behaviour so that they would be able to recognize their own strengths, build on them and use them more often. Rashid (2004) reported that the results so far indicate that optimism can be taught. Learned optimism may be helpful in improving and preventing some of the problems encountered in childhood.

Seligman, Steen, Park, and Peterson (2005) created the Steen Happiness Index (SHI) as a measure of happiness intervention. Interestingly, they used the Beck Depression Inventory as a model for the development of the tool. Seligman et al. then designed happiness exercises to be used in an online 'happiness intervention' study. There were 577 participants between the ages of 35 and 54. Their intervention was comprised of four main activities. For the first activity, "gratitude visit", participants

were asked to write and deliver a letter of gratitude to someone who has been kind to them and who they feel they have not properly thanked. Participants were given one week to complete the exercise. The second activity, "three good things in life", asked the participants to write down three good things, each day for a week, including a causal explanation for each good thing. The third activity entitled "You at your best" was designed so that participants write about a time that they were at their best. Participants were instructed to reflect on their personal strength that was reflected in their story every day for a week. The fourth activity, "using signature strengths in a new way", had participants complete the VIA inventory of strengths and to use one of their top strengths in a new way each day for a week. The results showed a significant effect. Participants were happier six months post-test when compared to their pre-test scores. This was found to be most highly related to the "three good things" and the "using signature strengths in a new way" activities. The present study will use these two activities ("three good things" and "using signature strengths in a new way") as the basis of the intervention. The results of the Seligman, Steen, Park, and Peterson (2005) interventions are encouraging for future research into the application of positive psychology exercises with children who have learning disabilities.

For this study, I received special permission to use the VIA-Youth, from Drs. Peterson and Park, as they are currently conducting research to further validate the measure. The VIA Youth can be viewed online at www.viastrengths.org.

Positive Psychology and Children

Rashid (2004) reported that the Mayerson Foundation, an American foundation which provides grants for projects that create communities, has funded a three-year

project known as *The Values in Action Classification* to define and classify human strengths. This project has several strands, two of which are directly related to youth development and the effects of intervention:

a. "Coordination with youth development groups in the United States to encourage the evaluation of programs using this classification system in order to determine how strengths and virtues are linked to such positive outcomes among young people;
b. The primary purpose of this exploratory study is to evaluate the effectiveness of a Positive Psychology intervention" (Rashid, 2004, p.46).

Presently the Positive Psychology Center at the University of Pennsylvania is piloting curriculum designed to build resilience, promote adaptive coping skills, and teach effective problem-solving (Peterson & Seligman, 2004; Gillham et al., 2007). This longitudinal study began in 1994. The hypothesis behind the Penn Resiliency Project research is that the program will build resiliency in children so they will be less susceptible to depression and better able to deal with stress.

According to Peterson and Seligman (2004) the VIA classification recognizes that trait like strengths and virtues are stable and general, but they are also shaped by the individual's environment and thus capable of change. Additional important questions to ask in order to further research the application with children are: (a) How are strengths and virtues developed; (b) Can virtues be taught/learned; (c) Who might be the most effective teacher; (d) What might be the most effective processes which might facilitate enhancement of strengths? Increasing the resiliency of children may increase their self-concept and improve their ability to cope with their difficulties.

Self-Concept

Self-concept refers to domain-specific self-perceptions, and self-esteem pertains to one's overall sense of self-worth (Cosden, Brown & Elliot, 2002). For the purpose of this paper. I will adopt the Cosden, Brown and Elliot (2002) definition.

In terms of persistence, people with high self-concept have a self-enhancing orientation, and they seek to capitalize on their good traits and pursue successes. People with low self-concept have a self protective orientation, and they seek both to remedy their shortcomings and to avoid failure and other set backs (Baumeister, 1999). Individuals with low self-concept are generally less persistent when confronted with possible failure. These individuals are discouraged by failure. Is the low self-concept causing the lack of persistence or is the lack of persistence causing the low self-concept (Baumeister, 1998)? Initial failure may cause individuals with low self-concept to lower their expectations.

Positive views about self are an affective resource to aid with coping. Self-concept and self-esteem issues play a significant role in a variety of disorders, as indicated in the DSM-IV. There is a negative correlation between self-esteem and depression. Increases in self-esteem lead to decreases in anxiety (Pittman, 1998). In general risk factors increase the likelihood that a child experiences difficulties later in life. However, protective factors, including a positive self-concept, can alleviate the risks (Cosden, Brown & Elliot, 2003).

The Development of Self-Concept in Children

From a developmental perspective, in middle childhood (ages 8 – 11), children begin to be able to differentiate between their personal areas of strength and weakness

(Harter, 1999; Stone & Lemanek, 1999). Stone and Lemanek (1990) report that children are not able to provide accurate reports of their emotions until the age of 8 or 9. As children become more aware of their sense of self, self-reports become more meaningful. This raises the importance of using an age appropriate self-evaluation in research.

These trends in social cognitive functioning allow the child to increasingly differentiate the self as they move into adolescence (Harter, 1999). Increased differentiation acts as a cognitive buffer, and it allows the adolescent to prevent negative evaluations in one area from affecting another area (Higgins, 1991). As children are developmentally able to differentiate they are also able to complete self-reports. Greca (1990) comments on the importance of obtaining child's perceptions of themselves. Parent and teacher reports of internalizing problems have been found to have a low correlation with child self-reports, thus underlying the importance of obtaining self-reports from children (Achenbach, McConaughy & Howell, 1987).

Developmentally self-evaluations become less positive as children move into middle childhood. Harter (1999) reports a decline in self-evaluations in early adolescence. Between 6th and 7th grade individuals show the greatest decline in scores, and then after 8th grade the scores gradually increase. The change in the school environment (transition from elementary school to middle school/high school) is hypothesized to be a reason that this decline occurs. During this transition, children are more vulnerable to losses in self-concept. Assuming self-evaluations are more malleable during these times, these may be the age(s)/grade(s) where researchers should focus (Harter, 1999). For these reasons, and for the purpose of my research, I chose a target sample of 10-15 year olds.

Self-Concept Interventions

The impact an intervention has on an individual is related to the cognitive developmental level at which the individual is operating (Harter, 1999). The way a child has been raised, as well as their general socialization, will affect their self-evaluations, indicating that environmental factors influence self-concept change (Harter, 1999). Greca (1990) notes that children's perceptions influence their behavior and, therefore, mediate the effects of treatment. Harter (1999) confirmed the potential for self- concept scores to change.

Harter (1999) reports on two separate approaches to self-enhancement intervention. One approach is that intervention should focus on self-concept and self-esteem directly (e.g. giving students exercises to make them feel good about themselves). A second approach is that intervention efforts should focus on enhancing specific academic skills, based on the belief that attitudes about the self are consequences of successful achievement (Caslyn & Kenny,1977; Hattie & Marsh, 1996).

Similarly, Harter (1999) reported that an intervention where cognitive and verbal reframing strategies are taught in an attempt to shift perceptions to emphasize desirable qualities (e.g. kindness, fairness, empathy, and intelligence) may be appropriate. This is the belief that the approval of one's inner self which will lead to the acceptance of one's outer self. It is directed at helping the individuals highlight the importance of areas in which they are skillful and discount those areas in which they are unsuccessful. This approach is very similar to the theory behind signature strengths and positive psychology proposed for the present research study.

Harter (1999) stated that a goal of intervention would be to introduce strategies that would guide older children and adolescents both to adopt realistic perceptions and to bring their self-evaluations in line with their abilities. Many of these strategies are appropriate in middle childhood, as younger children do not have the cognitive skills to compare their aspirations to their actual capability (Harter, 1999).

Massimini and Della Fave (2000) discussed the implications for using positive psychology strategies with persons with disabilities, "At the psychological level, this [behavioural] flexibility enables the individual to pursue developmental goals despite biological constraints" (p.29). Increasing the resiliency of children with disabilities would increase their self-concept and improve their ability to cope with their difficulties.

More recently, Hay (2005) reported on a research study evaluating an intervention program he created, "Enhancing Self-Concept", for elementary age students. The ten week intervention program based on Marsh's (1988) eight domains of self-concept. For each domain, structured activities were created on the following topics: physical abilities, physical appearance, peer relations, parent relations, reading, mathematics, general school and general self. Each lesson was approximately 60 minutes long. The children's self-concept scores were assessed pre-intervention and post-intervention with the SDQ-1 (Marsh, 1992). The results indicated that students made significant improvements (effect sizes between $d=0.58-1.23$) in: physical appearance, general school, total nonacademic and total self-concept as well as moderate improvements (effect sizes between $d=0.27-0.52$) in general self, peer relationships and reading self-concept. These results are encouraging for self-concept intervention research, however, Hay's study did not include

a control group, and detailed information about the intervention activities were not provided.

Learning Disabilities

Learning Disabilities and Self-Concept

The self is one of the most studied and most important aspects of social psychology (Baumeister, 1998). The issue of self is also a frequently researched topic in educational psychology research, specifically regarding students with LD (Elbaum & Vaughn, 2003). According to Erikson, "during the first years of school, every child must resolve the conflicts between a positive self-image and feelings of inferiority. If children succeed in school, they will develop positive feelings about themselves and believe that they can succeed" (as cited in Ryan, 1994, ¶27). Brooks (2002) emphasized the importance of a positive self-concept in all aspects of a child's life. Self-concept can have an impact on learning, school performance, and relationships. Research has shown that a low self-concept is especially common in children with learning difficulties. "Given the failure situations that many children with learning and attention difficulties have experienced, these youngsters are especially vulnerable to low self-esteem" (Brooks, 2002, p.1).

Vaughn and Elbaum (1999) state that difficulties in the academic and social aspects of school influence the already lowered self-concepts' and self-perceptions' of students with disabilities (as cited in Mather & Ofiesh, 2005). Brown (1986) stated that positive feelings about the self affect how one sees one's attributes (as cited in Trautwein et al., 2006). Brooks (2002) comments,

> …research indicates that children with high self-esteem believe their success is determined in great part by their own efforts and ability. In contrast, children with low self-esteem (many children with learning disabilities fall into this group) are more apt to believe their success is based on luck or chance or factors outside their control (p.3).

A critical factor for overcoming risk appears to be a feeling of control over one's life, self-understanding, and acceptance. The difficulty is often not the disability but the capability to meet the challenges that one faces in living and triumphing over them (Mather & Ofiesh, 2005).

There has been an increased interest in educational psychology research for individuals with LD. "Academic success or failure is as deeply rooted in self-concept as it is in measured academic ability" (Musholt, 1974, p.46 as cited in Moss & Skelton, 1978). Research has found that, for students with LD, their perceptions of academic competence were highly correlated with their self-concept (Elbaum & Vaughn, 2003). For students with LD, how they feel about themselves academically can have a prevailing effect on how they feel about themselves globally, and this could have an effect on future goals.

Individuals with LD often feel as though they cannot perform or overcome obstacles. To alleviate fear of failure, Baumeister (1999) recommend goal setting. Research comparing the self-concept of students with LD to those without LD found a .71 - .81 of a standard deviation difference in self-concept scores (Elbaum & Vaughn, 2003).

Harter (1990) stated that, for students with LD, their global self-worth is more closely linked to their general intellectual ability. Harter (1990) reported that the LD population was better able to differentiate different domains of self-concept (e.g. academic and physical abilities) than individuals without LD. Further, children with LD were able to differentiate their self-concept in different school subjects. Harter (1990) attributes this ability to parents and teachers effectively communicating to children with LD the differentiation between general intelligence and areas of difficulty.

Mather and Ofiesh (2005) stated that difficulties in the academic and social aspects of school influence the already lowered self-concepts and self-perceptions of students with disabilities. In their overview of research on self-concept and students with LD, Elbaum and Vaughn (2003) suggested that a teacher's understanding/acceptance of students with LD may influence how the child with LD feels about themselves.

The Potential of Using Positive Psychology with Children who have Learning Disabilities

Brooks' (2002) research shows that many children with LD not only demonstrate anxiety and lack of confidence, but also they feel doubtful that their situations will improve. In order to improve the lives of children with learning problems, Brooks suggests teachers help their students develop "islands of competence," or areas of strength that must be identified, reinforced and then displayed by educators. This is in agreement with the strengths–based approach in the positive psychology movement where the emphasis should be on strengths and not on 'fixing' what is wrong with a child. Their strongest qualities should be identified and nurtured. Children should be

guided to find areas where they can best use their strengths (Seligman & Csikszentmihalyi, 2000).

Cowen (1991) suggested a "social strategy focused on the promotion and implementation of wellness-enhancement as early as possible in the developmental course is likely to be a more effective approach than are strategies designed to repair existing deficits and …disorders" (as cited in Cicchetti, Toth, & Rogosch, 2000, p.371). Elbaum and Vaughn (2001), in a meta-analysis, found that school based interventions categorized as counseling were the most effective in promoting self-concept for middle and high school students with LD. Elbaum and Vaughn (2003) defined a counselling intervention as one that "focused explicitly on enhancing students self-perceptions and in many cases base on therapeutic models" (p.102). Berndt and Burgy (1996) found that the central component in successful intervention programs to increase self-concept is forming cohesive groups of peers who learn about each other and begin to care about one another. Participants begin to feel more positively about their peer acceptance because they become part of a group and feel valued.

McGuire and McGuire (2006) researched the theory of cognitive positivity bias whereas an individual's "stimulus evaluation is affected more by characteristics that the stimulus possesses than by ones it lacks" (p.1117). Positive instead of negative information about a stimulus refers to characteristics the stimulus possesses (affirmational information) versus those that it lacks (negational information) (McGuire & McGuire, 1996). Their research included three experiments with a sample of introductory psychology students (groups of 28 -112 individuals). Individuals in experiment one were administered a self-esteem measure (created by the researcher), and

then they were given a final sheet that asked them to list all of the desirable/undesirable traits they possess/do not possess. These lists were then assessed based on the number of traits individuals generated for each category. The results indicated that self-esteem can be raised by directing an individual to think of their positive (favourable) characteristics. Low self-esteem appears to develop by thinking of undesirable (negative) characteristics that one possesses. In the case of a child with LD, their negative characteristics may be their disability. This can be easily transferred to one of the theories behind positive psychology where individuals are encouraged to identify and use their signature strengths.“We propose developing interventions that can help children with LD identify and build on their strengths, especially their strengths in non-academic areas” (Cosden, Brown & Elliot, 2002, p.46).

Limitations and Implications for Future Research

Simonton and Baumeister (2005) stated that, despite the remarkable progress made in positive psychology's first decade, much remains to be learned and done. “Unfortunately, psychologists still know relatively little about human thriving and how to encourage it not only because they have not given this questions the resources it deserves but, more important, because they have work blinders that have prevented them from even recognizing the value of the questions” (Sheldon & King, 2001, p.216). Rich (2003) further suggested that positive psychology must deal with the issue of appropriate methods for inquiry, integrating and incorporating previous research from psychology and other relevant fields into the movement, and avoiding prescribing a “good life” based on the values or morals of a specific culture. There is a need for more quantitative and qualitative research.

As a follow up to their happiness intervention research, Seligman et al. (2005) stated that further research on the effectiveness of these intervention exercises could reveal limits on the generality of positive exercises. They are currently researching these questions, "in collaboration with disability counselors, whose primary task is to help individuals with disabilities achieve high-quality employment and a high quality of life" (p.420). Results of this further research could influence the use of positive intervention with children who have learning disabilities.

There have been consistent results, in terms of validity and reliability, of the VIA-Youth tool, but it needs to be developed further with a larger sample to allow further analyses (Peterson & Seligman, 2004). There is a limited amount of research available that has tested the application of positive psychology with children and/or specifically about the use of positive psychology interventions with children who have learning disabilities.

"In the second half of the 20th century, psychology was said to be learning how to bring people up from negative eight to zero but [this is] not as good at understanding how people rise from zero to positive eight" (Gable & Haidt, 2005, p.103). Positive psychology continues to search for ways both to bridge that gap and to help people rise up above zero (average). In the time I have spent working with children who have learning disabilities, many of my students lacked self-esteem and appeared to focus on their disabilities instead of their abilities. Implementing a program based on positive psychology could change these children's focus to the positive and they may experience more success. The introduction of a positive psychology intervention program would make all students more aware of their strengths. "If positive psychology can reliably

teach people how to become and remain happier, it will have made an immense contribution to human life" (Simonton & Baumeister, 2005, p.102). The purpose of this quantitative study, therefore, is to examine the effectiveness of a positive psychology intervention on students' self-concept. Specifically, this study examines whether a positive psychology intervention (including the VIA – Inventory of Strengths for Youth) will improve the self-concept of children, aged 10 – 12, with and without LD.

Summary of Chapter Two

The study of positive human traits may lend itself to providing suggestions for preventing mental, as well as physical illnesses. Psychologists are learning how to build the qualities that help individuals to flourish. The task of prevention in the future will be both to understand and to learn how to foster strengths and virtues in young people (Seligman & Csikszentmihalyi, 2000). "Positive psychology as an organized area of study is clearly in its infancy. Nevertheless, it is an infant that is growing fast" (Bacon, 2005, p.181).

Harter (1999) reported that an intervention where cognitive and verbal reframing strategies are taught in an attempt to shift perceptions to emphasize desirable qualities (e.g. kindness, fairness, empathy, and intelligence) may be appropriate. This approach is very similar to the theory behind signature strengths and positive psychology proposed for the present research study.

Harter (1999) stated that a goal of intervention would be to introduce strategies that would guide older children and adolescents both to adopt realistic perceptions and to bring their self-evaluations in line with their abilities. Research has found that, for

students with LD, their perceptions of academic competence were highly correlated to their self-concept (Elbaum & Vaughn, 2003).

This chapter explored research regarding positive psychology and self-concept. The benefits of an intervention to increase the self-concept of children with LD was discussed. Several factors thought to contribute to low self-concept were outlined. Limitations and implications for future research were reviewed. The next chapter will outline research methodology.

Chapter Three: Methodology

Overview

This chapter describes the research design selected for this study. Sampling procedures and instrumentation are outlined in detail along with the procedures for the intervention used in the study. The chapter concludes with an overview of ethics.

Research Design

A true experimental pre-test post-test comparison/control group design was used for this study. Campbell and Stanley (1963) state that this design controls for eight threats to internal validity: history, maturation, testing, instrumentation, statistical regression, selection bias, experimental mortality, and selection-maturation interaction. The study will employ random assignment as it is considered the best technique for confirming initial equality between different treatment groups (Gall, Borg & Gall, 1996). The data analysis included descriptive statistics, t-tests and mean comparison for interaction.

The Independent Variable. The independent variables for this study were the positive psychology intervention activities including the VIA-Inventory of Strengths – Youth Survey (Park & Peterson, 2003). The proposed study was to have two levels including the control group versus the intervention groups as well as the LD group versus the non learning disabled group. The resulting study has one level, the control group of students with LD versus the intervention group of students with LD.

The Dependent Variables. The dependent variables for this study were the self-concept scores as measured (pre-test and post-test) by the Self Description Questionnaire (SDQ-1; Marsh,1992).

Sample and Sampling Procedures

Purposive convenience sampling was used for this study (Creswell, 2005). Specific schools were targeted, based on location, willingness of the principal to participate, ethical approval, and an LD population. The target sample was proposed to be 80 children (40 with LD). The initial sample (received consent forms) was 31 children (31 with LD). The target sample size was calculated with the G*POWER Power Analysis Program (Erdfelder, Faul & Buchner,1996). A sample size of N= 80, is according to a Power of .80, an effect size of 0.3, and alpha of 0.05. In the proposed study there was to be 40 students in the control group and 40 students in the intervention group. In the current study there were 15 students in the intervention group and 16 students in the control group. The proposed study included ~40 students with LD (n=20 experimental). The current study began with 31 students with LD. An equal representation of male and female students was sought. For the current study, initially there were 8 female and 22 male students.

Participants were recruited from a local school in Victoria, British Columbia. For the present study the participants were from a local private school for students with LD. The participants included both females and males, and children from different ethnic, racial, and social backgrounds. No one ethnic, racial, or social class was targeted. Students were in grades 4 and above, and were between 9 and 15 years old. In order to have a sufficient number of students, the researcher targeted more than one school for the sample size (according to power and effect size). Four schools were targeted in order to solicit sufficient participation. The researcher visited school principals and once permission was received from the principals arranged to meet with classroom teachers.

Once permission was received from the school district (board) the researcher visited classes, explained the research study and distributed consent letters. When consent letters were returned, students were randomly assigned to a group (experimental or control) in each school. The pre and post tests as well as the intervention were conducted at the school.

Instrumentation

Self-Description Questionnaire (SDQ-1)

The Self Description Questionnaire (SDQ; Marsh, 1992) is designed to measure academic, non-academic and global aspects of self-concept The SDQ-1 is intended for children in grades 4 and above. The scale consists of 76 items that participants respond to on a five point Likert scale (true, mostly true, sometimes true, sometimes false, mostly false, false)(see *Appendix B*). Total scores range from 66 to 330. Cronbach α values range from .80 to .92. Six-month subscale test-retest coefficients range from .27 to .74 (most scores are .50-.70) (Blascovich & Tomaka, 1991). Harter (1999) recommends the SDQ-1 and reports that reliability is 0.80-0.90. There is negligible cross-loading on construct validity and the instrument provides multidimensional distinctions not found in other measures. Factor analytic studies have justified a multidimensional approach to the assessment of self-concept (Harter, 1999). The measure takes roughly 20 minutes to administer (Marsh, 1988). Scores are grouped into 8 domains; physical abilities, physical appearance, peer relations, parent relations, reading, mathematics, general school and general self. These 8 domains are then grouped into 2 scores: Total Nonacademic and Total Academic. A final score entitled Total Self is the combination of all scores (Total Nonacademic + Total Academic).

Ethics

Ethical approval was obtained from the Behavioural Research Ethics Board at the University of Victoria, from School District 61 and from School A. Meetings with the principals of each school were part of the process. A letter of explanation about the study was provided to the schools. All potential study participants were given a consent letter. Participant's parents had the opportunity both to read the information letter and to inform the researcher if they were interested in their child participating in the study. Several parents contacted the researcher in order to gain more information. One parent contacted the Ethics office at UVic. In order to confirm that they wanted to participate, parents signed the consent form prior to the commencement of the intervention. Confidentiality of all participants and their contributions in this study was ensured and maintained. The data collected were identified by individual code numbers and stored in a locked filing cabinet.

Ethics Application to School Board 61(SD61)

I sent a letter to the school board outlining my study and asking for an application package. I received the package in October, 2006, and it included forms to be completed. The forms were signed by two school principals and returned to the board following UVic ethics application approval (January, 2007).

Mr. Jim Henderson was my 'gatekeeper' and helped with the contact of schools through the school board. I worked with Mr. Henderson, and he provided me with a list of target schools where he was familiar with the school composition and the principals. This, initially, facilitated the process. I met with the staff at three schools within the

school board and following ethical approval from the school board (March, 2007) distributed consent forms at one school.

Ethics Application to School A

School A is a private school for students with LD in Victoria, British Columbia. I met with the principal and wrote a letter to the board of directors requesting permission to conduct research at the school. I was given approval to conduct research by the board of directors in November, 2006. In order to complete research at the school I completed a Police Background Check.

Procedure and Data Collection

The procedure for the study was as follows:

1. Application was made to The University of Victoria for ethical approval for the study.
2. Following receipt of ethical approval from the University, permission was sought from School Districts # 61 and School A, in order to conduct research in the school setting. Permission was obtained from schools principals and teachers as part of this process.
3. Following receipt of permission to conduct research within School District #61 and School A, the researcher visited classes and presented an overview of the study to the students. Consent letters explaining the study and criteria for participation were sent home with children. The consent letter invited parents/guardians and their children to participate in the study. If interested in participating, parents/guardians were

asked to sign and return the letter to their child's school (see *Appendix C* for Parent Consent Letter).

4. Once consent was obtained from parents/guardians, at the first meeting children were given a verbal explanation of the study and asked to give verbal consent prior to the commencement of the study. Ongoing consent was outlined during each session.
5. From the received consent forms participants were randomly divided into two groups (a) intervention and (b) control.

* A more detailed description of the intervention is provided following this section.

6. During the first session, the *SDQ-1* was completed by all participants as a pre-test measure. The questions were read aloud.
7. All *SDQ-1* assessments were scored by the researcher.
8. The intervention group participated in 3 class sessions of positive psychology activities including completing the VIA – Inventory of Strengths Survey for Youth (Park & Peterson, 2003).
9. The *SDQ-1* was completed by all participants as a post-test measure.
10. The research was scored and the data analysis was completed by the researcher.

Overview of Intervention

For the intervention sessions groups met in classrooms at School A Thursday afternoons at 1:30pm for 5 weeks. Table 1 provides an overview of the research study sessions.

Table 1.

Overview of the Intervention Study

Group	Intervention Sessions				
	Week 1 (pre-test)	Week 2	Week 3	Week 4	Week 5 (post-test)
Intervention	X	X	X	X	X
Control	X				X

Session 1: Both the intervention and the control group participated. At the principal's request the participants were divided into two groups, in order to have enough space for the participants to complete the pre-test. I met and greeted participants and took attendance. Consent forms were explained to the participants, and students were given the opportunity to give verbal consent. I explained an outline of the activities involved in the study. Students completed the self-concept pre-intervention inventory the SDQ-1 (Marsh, 1992). This took between 25 minutes - 35 minutes per class. I read the questions aloud. Before leaving, participants were given a handout outlining which group they have been randomly assigned to and when their next session was.

Session 2: The intervention group met. I met and greeted participants and took attendance. Ongoing consent was outlined for the participants. This session focused on an introduction to positive psychology and of the VIA-Youth. Participants were put into groups and discussed definitions for the 24 character strengths. Participants shared their group results with the class. Students were then instructed to complete the "three good things" activity, modeled after the research by Seligman et al. (2005), for homework. The session was approximately 45 minutes long.

Session 3: The intervention group met in smaller groups this week, in order to have access to computers. The school had 5 laptops. I met and greeted participants and took attendance. Ongoing consent was outlined for the participants. Participants completed the VIA-Youth Online. Myself and two assistants worked with students in order to read the questions to the participants that required assistance. The session lasted approximately one hour per group.

Session 4: The intervention group met in two groups at the request of the principal. I met and greeted participants and took attendance. Ongoing consent was outlined for the participants. We reviewed the VIA-Youth inventory results and discussed goal setting based on signature strengths. Students completed an activity based on their VIA results and the "using signature strengths in a new way" exercise, modeled after the research by Seligman et al. (2005). The lesson lasted approximately 45 minutes.

Session 5: Both the intervention group and the control group participated. The participants were divided into two groups, in order to have enough space for the participants to complete the post-test. I met and greeted participants and took attendance. Ongoing consent was outlined for the participants. Participants completed the self-concept post-intervention inventory [SDQ (Marsh, 1992)]. I read the questions aloud. After the participants in both groups completed the SDQ-1, they completed a qualitative evaluation of the study. Then all of the students gathered in one room. I drew names for two gift certificates to a local bookstore. This session lasted approximately 40 minutes.

Please see *Appendix D* for the script of the intervention as submitted for ethical approval with the University of Victoria.

Data Analysis

The proposed study was to include a two-way ANOVA (2 x 2 factorial design). The current study included t-tests. The main effect for the intervention (independent variable A) was tested. The "main effect for each independent variable means that there is a significant difference between the levels of this independent variable across levels of the other independent variable" (Psych Connections, no year). The data were combined to determine if there was a difference between pre and post test. The proposed data were to be analyzed separately by school and then with all schools combined. The current study included one school. Additionally male and female data were separated for analysis, as well as grade/class data.

Summary of Chapter Three

This chapter outlined the rationale for employing a pretest-posttest research design to investigate the effectiveness of a positive psychology intervention for improving self- concept of children with and without LD. Details of the research methodology were described, including sampling of participants, procedures, and choice of instrumentation. An overview of the ethics procedures was included.

Chapter 4: Results

Overview of Chapter Four

This chapter reviews the characteristics of the sample, the data gathering process and the statistical analyses conducted in this study. First, preliminary analyses are described to demonstrate that the control and intervention groups were equivalent prior to intervention. Second, primary analyses are presented in relation to the hypothesis of the study. The chapter concludes with secondary analyses that explore the findings in more depth.

Preliminary Analyses

What was the composition of the sample?

Before beginning the study in October of 2006, I approached several public schools in the local school district. I contacted five school principals, and two agreed to have their school participate in the study. I met several times with each principal. In January of 2007 I received ethics approval from the University of Victoria and subsequently applied for permission to conduct research within the school district. In January of 2007, I received feedback from the school district regarding concerns with questions in the VIA Questionnaire. After numerous contacts with the school board and the principals of the two schools, one school principal withdrew. The second school principal agreed to participate. Final permission was obtained from the school district in March of 2007. I visited a school on two occasions both to distribute consent letters and to explain the study to students and school staff. On the occasion of the first visit ~75 consent letters were distributed. One week later, one consent form was returned. The researcher was encouraged by the principal to come to the school again, re-explain the

research and distribute consent forms to students who expressed interest. On the second visit the researcher distributed ~10 consent forms. One week later, one consent form was returned. Due both to the low return rate of consent forms and to the six months of discussion with the school staff and school board personnel, it was decided that the possibility of research within the school (and school board) would not be pursued any further.

In November, 2006 I approached a local private school for students with LD. The school will be identified as School A. I met with the principal and wrote a letter explaining my study to the Board of Directors. The research study was approved by the Board of Directors in January, 2007, and research at School A began at the end of January. Forty-two parent consent forms were distributed, and 31 were returned (74% return rate). The returned consent forms were comprised of 70% boys (n=22) and 30% girls (n=9).

School A has 4 classrooms, organized by grade. The classes are as follows, Grade 4/5, Grade 6/7, Grade 8, and Grade 9. From the returned consent forms, 8 participants were in Grade 4/5, Grade 6/7 (n=6), Grade 8 (n=8), and grade 9 (n=9). The mean grade level was *M=7.10*. The ages of the participants were; age 9 (n=3), 10 (n=6), 11 (n=1), 12 (n=4), 13 (n=6), 14 (n=7), and 15 (n=4). The mean age was *M=12.29*. All participants were from the same school (School A), which identifies itself as a school for students with LD.

Thirty participants began the study (one student was ill for the first session). At the first meeting one student did not want to participate after completing part of the pre-test, and the researcher contacted the parents. The parents spoke with the child, and felt

the research would be a good experience for the child. The child re-entered the study for the second session. During the second meeting, the child again expressed not wanting to be part of the study. The researcher called the parents and informed them that their child would be withdrawn from the study. Three children from the same family participated in the first three sessions of the intervention and then withdrew. One participant, who wrote the pre-test, was sick the day of the first intervention session and was moved from the intervention group to the control group. In addition, one family returned the consent form after the sessions had begun, and they were told that their child could not participate as the research had begun.

Data were gathered on two occasions. Initially, the SDQ-1 was administered as a pre-test on the first session (meeting) of both the control group and intervention group. The intervention group then participated in three sessions (sessions 2,3,4). During the third session the intervention group completed the VIA-Youth online survey to identify their character strengths. Descriptive data of these results are included in the secondary analysis section. The fifth session included the post-test administration of the SDQ-1 by both the control and intervention groups.

The data for the students who withdrew from the study were not included in the analysis. Following preliminary analysis of the data, one student's scores (from the control group) were removed from the data set as the control scores were irregular, thus indicating noncontingent responding and/or positivity biases (Marsh, 1988). The control scores of this participant indicated uncorrelated item pairs (pre & post-test), non-contingent bias (pre-test), and positivity bias (pre-test), and, therefore, they were removed

from the data set. For the purpose of this study the data from 12 students (intervention group) and 13 students (control group) were included in the statistical analysis.

Were the groups equivalent prior to the start of intervention?

Analyses were carried out to verify that the two randomly assigned groups were equivalent prior to the start of intervention. Item analysis was completed on individual items from the SDQ-1 (n=76). The majority of the results were statistically non-significant (75/76 questions). For question number 13, which reads, "Work in math is easy for me", the t-score results were statistically significant. The intervention group's (Group 1) pre-test scores were significantly lower (*M=2.50, SD=0.91*) than were the control group's (Group 2) scores (*M=3.54, SD=1.20*), *t(25)=-2.46, p=0.02*. On question number 74, which reads, "I am as good as most other people", the results were exactly the same for both groups. The intervention group (*M=4.00, SD=0.85*) were similar to the control group (*M=4.00, SD=1.00), t(25)=0.00, p=1.00*. These results are included in *Appendix E*.

For interpretation of the results for the SDQ-1, raw scores are combined and reported for eight dimensions of self-concept. As illustrated in Table 1, Physical Abilities pre-test raw scores for Group 1 (Intervention; *M= 29.59, SD=7.44*) were slightly lower than Group 2 (Control; *M=31.00, SD=8.09*), *t(25)= -0.50, p.07(n.s)***,** a difference that was not statistically significant.

In summary, the results of all preliminary analyses indicated that there were no significant differences between the randomly assigned intervention and control groups prior to intervention.

Table 2.

Descriptive Statistics and T-tests for Intervention and Control Group Sample Pre-Test Raw Scores on Eight Dimensions of Self-Concept as measured by the SDQ-1

Self-concept Domain	Mean (Raw Score)		Standard Deviation		T-Test	
	Intervention	Control	Intervention	Control	*t*	*p*
Physical Abilities	29.58	31.00	7.44	8.09	-0.46	0.65
Physical Appearance	29.00	30.30	5.78	4.73	-0.61	0.55
Peer Relations	29.33	27.69	5.76	6.93	0.65	0.53
Parent Relations	32.08	31.31	4.21	5.94	0.38	0.71
Reading	31.08	27.92	5.73	7.37	1.20	0.24
Mathematics	23.33	26.08	5.14	9.03	-0.94	0.36
General-School	24.25	23.26	3.11	5.47	0.56	0.58
General-Self	31.17	31.46	4.00	3.57	-0.19	0.85

Primary Analyses

For primary analysis, the means and standard deviations of the difference scores (post-test minus pre-test), by self-concept domain, are listed in Table 2. The Total Non Academic raw score is the average of the raw scores from the dimensions of Physical Abilities, Physical Appearance, Peer Relations and Parent Relations. The Total Academic raw score is the average of the Reading, Mathematics, and General School dimension raw scores. The Total Self score is the average of the Total Non Academic and the Total Academic raw scores. A copy of the Score Calculation and Summary Sheet is provided in *Appendix F*.

Table 3.

Comparison of Differences (Post test-Pre test) SDQ-1 Scores

Self-concept Domain	Mean (Post - Pre)		Standard Deviation			
	Intervention	Control	Intervention	Control	*T*	*p*
Physical Ability	-1.58	0.31	4.66	2.69	-1.23	0.24
Physical Appearance	-0.63	0.47	4.63	3.68	-0.66	0.52
Peer relationships	-0.17	1.39	3.10	4.27	-1.05	0.31
Parent Relationships	-2.00	-1.39	4.51	2.02	-0.43	0.67
Reading	1.16	0.39	3.49	3.57	0.55	0.59
Mathematics	1.92	0.77	4.68	2.77	0.74	0.47
General school	2.17	2.32	4.20	3.48	-0.10	0.92
General self	-0.17	0.54	-3.93	4.91	0.21	0.84
Total Non Academic	-0.90	0.41	2.68	1.68	-1.46	0.16
Total Academic	1.58	1.07	3.01	2.16	0.49	0.63
Total Self-concept	0.35	0.72	2.30	1.67	-0.46	0.65

A t-test was used to compare the differences in raw scores (e.g. gains/losses) between the control group and the intervention group. On three dimensions (Reading, Math and Total Academic) the Intervention group's raw scores (post-test minus pre-test) showed larger improvements (Reading: *M=1.16*, Math *M=1.92* and Total Academic *M=1.58*) than the Control group. Below, Figure's 1, 2 and 3 (boxplots) of the difference (post-test minus pre-test), Group 1 (Intervention) and Group 2 (Control). This difference, however, was not statistically significant with *t* scores ranging from *t(25)=0.49 - 0.74* and *p* scores ranging from *0.47 - 0.63 (n.s).*

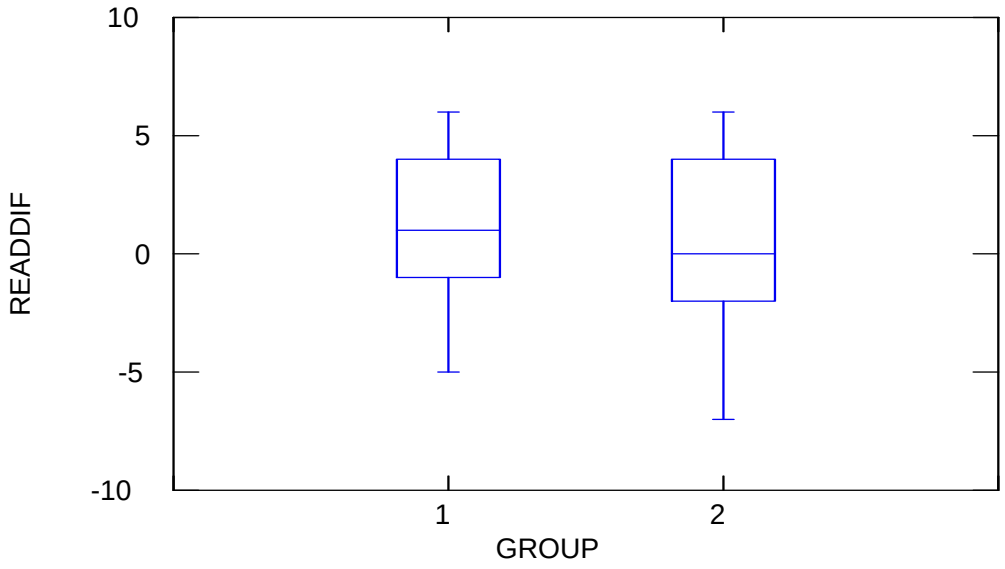

Figure 1.

Boxplots of the Difference of the Domain Self-concept Reading Scores by Group

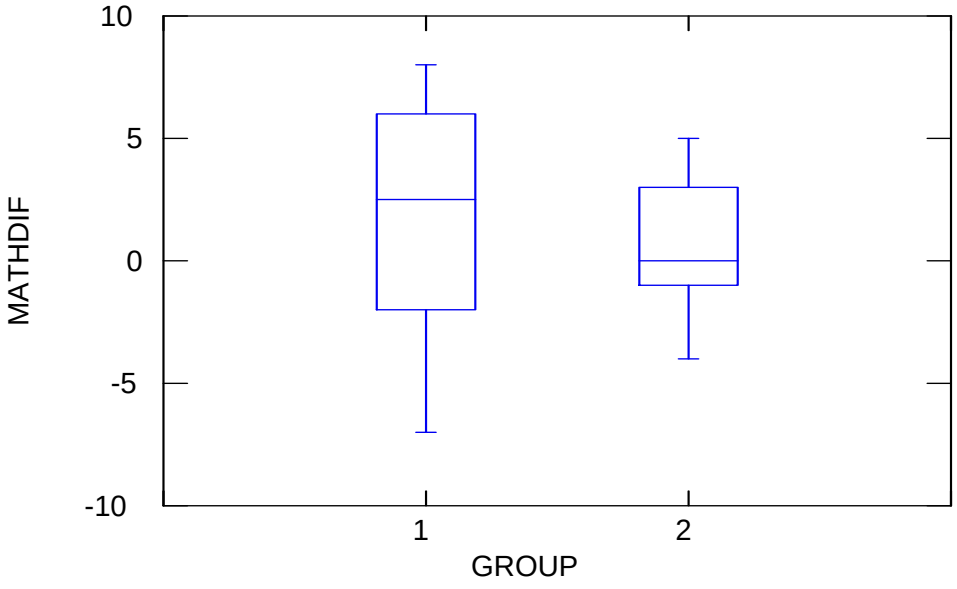

Figure 2.

Boxplots of the Difference of the Domain Self-concept Math Scores by Group

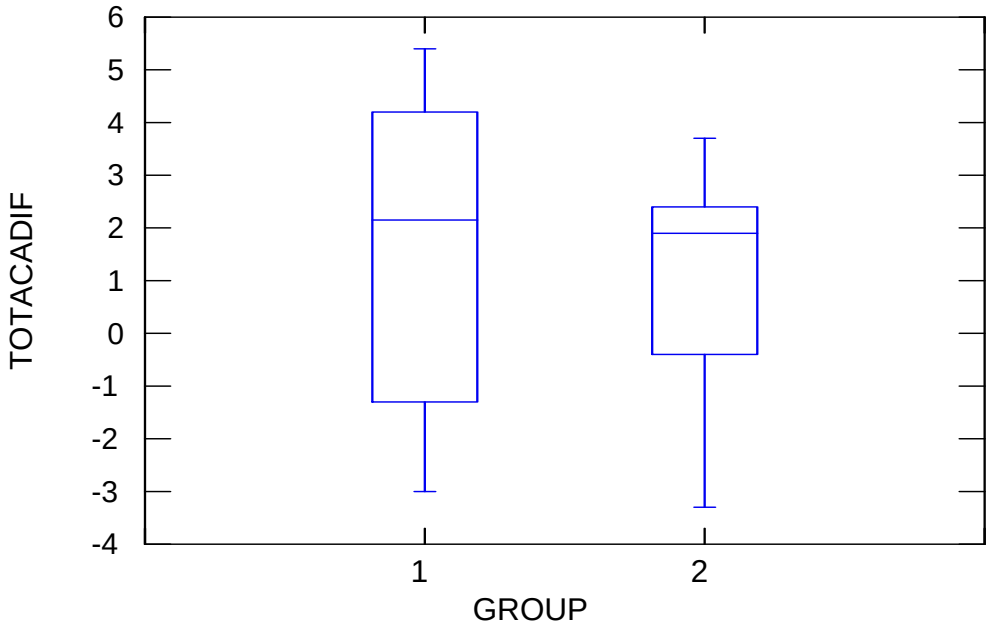

Figure 3.

Boxplots of the Difference of the Total Academic Score by Group

Hypothesis

The hypothesis that there would be a statistically significant improvement in the self-concept scores (as measured by the Self Description Questionnaire, SDQ-1; Marsh, 1992) of children who receive class lectures on Positive Psychology and who complete the VIA-Youth inventory (Values in Action Institute, 2003) compared to the children who receive no intervention was not supported. As presented in Table 2, t-scores indicate that there was no statistically significant difference between the two groups. Effect size is a measure of strength of the relationship between two variables. It is often used in experiments to determine if an intervention has a statistically significant effect and the size of the effect. According to Cohen (1988) an effect size *d=0.2* means that the intervention group performed better than 58% of the control group (*d= 0.3* is equal to 62%). The effect size, however, between the intervention group and the control group

suggests the intervention was having a small effect on the domains of self-concept Math (*d=0.30*), self-concept Reading (*d = 0.22*) and Total Academic self-concept (*d= 0.20*) (Cohen, 1988; Devilly, 2005). Similarly, in their meta-analysis of self-concept interventions, Elbaum and Vaughn (2003) reported that academic self-concept had the largest effect size (*d=.28*) as compared to social self-concept (*d=.18*), and general self-concept (*d=.15*). These result are in contrast to previously reported research by Marsh (1992) that stated that academic interventions have substantial effects on the academic components of the self-concept but little effect on non-academic components and vice versa.

Secondary Analyses

Several additional analyses were carried out both to examine the data in more depth and to answer four additional questions: are there potential gender differences; do the performance of students in different grades/classes vary; is there a difference in the number of children whose SDQ-1 scores increase and/or decrease; and how do the research group's pre-test scores compare to the SDQ-1 normed sample pre-test scores? *Was there a statistically significant difference in the self-concept scores of boys versus girls in intervention versus control group conditions?*

The sample sizes of the male and female groups were not equal (male n=21, female n= 5), listed in Table 3. The difference (post-test minus pre-test) results were statistically significant within 2 of 8 domains for the intervention group and within 2 of 8 domains for the control group.

Table 4.

Distribution of Participants by Gender

Male		Female	
Intervention	Control	Intervention	Control
9	12	3	2

Gender was a statistically significant factor in the pre-test Physical Abilities scores for the intervention group. Males scored (*M= 32.00*) and females scored (*M=22.33*), *p=0.01*. Interestingly, male and female scores were exactly the same (*p=1.00*) for the intervention groups pre-test scores for Physical Appearance. Within the intervention group, gender was statistically significant for the difference (post-test minus pre-test) score of Peer Relations where males scores increased (*M=1.11*) and female scores decreased (*M=4.00*), *p=0.01*.

Gender was a statistically significantly factor within the Control group's pre-test self-concept Reading scores. Female scores (*M=39.00*) were significantly higher than male scores (*M=25.90*), *p=0.00*. For post-test self-concept Reading scores the control group, similarly, female scores remained the same, (*M=39.00*), and higher than the self-concept scores of males (*M=26.34*), *p=0.00*.

Was there a statistically significant difference in how children in different grades/classes responded to the intervention?

Students of different ages and grades were grouped together for the purpose of this study. Students were in grades 4 through 9. For interpretation, the data were divided by 4 classes, grouping together the students that are in classes together (e.g. 4/5. 6/7, 8 and 9), listed in Table 4. Using an ANOVA, the four classes were compared, and class

was a statistically significant factor in 1 of 8 domains for the intervention group and in 3 of 8 domains for the control groups' scores.

For the intervention group, pre-test math scores were significantly different, *p=0.03*. The 9th grade/class (*M=25.40*) and 8th (*M=25.25*) scores were higher than the 4/5 class (*M=23.00*), followed by the 6/7 class (*M=14.50*), which was significantly lower.

Table 5.

Distribution of Participants by Grade/Class

Class							
Grade 4/5		Grade 6/7		Grade 8		Grade 9	
Int.	Control	Int.	Control	Int.	Control	Int.	Control
1	4	2	4	4	3	5	3

The control group's post test Physical Appearance scores were affected by grade/class, *p=0.04*. Mean scores ranged from 4/5 grade/class (*M=36.25*), 6/7 (*M=31.50*), 8 (*M=27.00*), and the 9th grade/class was the lowest (*M=24.00*). Two sets of scores within the domain of General Self-Concept were affected by grade level, post-test *p=0.04* and the difference scores (post-test minus pre-test), *p=0.01*. The post test scores for General Self-concept were, in descending order, 4/5 (M=34.00), 6/7 (M=32.50), 8 (M= 29.67), and 9 (M= 23.50). The General Self-Concept domain scores were, in descending order, 4/5 (*M=-1.25*), 6/7 (*M=0.00*), 8 (*M= -2.33*), and 9 (*M= -9.50*). Finally, the post-test Total Self-concept scores (which is a composite of all domain scores) were significantly different depending on the class a participant was in, *p=0.01*. In descending order, these average scores were 4/5 (*M=31.55*), 6/7 (*M=30.55*), then 9 (*M=26.25*), and 8 (*M= 24.90*).

Was there a difference in the number of children whose self-concept scores improved versus the number of children whose scores declined between pre and post test?

On average 41-67% of participants in the intervention group improved their scores per domain. For the control group, on average, 15-70% of students improved their scores per domain. 15-46% participants in the control groups scores remained the same, depending on the domain.

Was there a difference between the average pre-test scores for the research sample and the SDQ-1 norm sample?

The SDQ-1 was normed on 3,562 children from a variety of schools across Australia. Marsh (1988) stated that the norms may not be appropriate for children in other parts of the world. However, a random sample (N=303) of students in the United Kingdom and found that the factor structure underlying responses from the Australian and English students was the similar. In the present study the mean normed sample scores were available for 28 of the 64 questions. 44 % of the sample group mean scores were significantly different than the norm sample mean scores. 2 of the 28 scores were above the average SDQ-1 normed sample score (Q8 & Q22 – Physical Appearance). The remaining 26 were significantly below the SDQ-1 normed mean. The average pre-test SDQ-1 scores of the participants who withdrew from the study were lower than the average pre-test scores of participants who completed the study. The question number, mean score, t-score and domain are reported in *G*.

Summary of Chapter Four

Descriptive statistics, analyses of variance, and graphical representations of the data were presented in this chapter. In short, there were no statistically significant

differences between groups either before or after intervention. Additional analyses, however, identified subtle differences between the intervention group and control group. The interpretation of these results and implications of the findings is the subject of the following chapter.

Chapter 5: Discussion

Overview of Chapter Five

This chapter summarizes the findings, integrates the results with past literature, and offers an explanation of the findings. Theoretical and practical implications are discussed, followed by limitations of the study. The chapter concludes with directions for future research.

Summary of Research Findings

The hypothesis was that both by employing the VIA-Inventory of Strengths for Youth (Park & Peterson, 2003) and by using class lectures on Positive Psychology will result in a statistically significant increase from pre-test to post-test of students' self-concept scores on the Self-Description Questionnaire (SDQ-1, Marsh, 1992) compared to students who received no intervention. There was sufficient evidence in the literature to suggest that an intervention would result in gains in self-concept (Harter, 1999; Vaughn & Elbaum, 2003).

Results from the present study, however, did not support the hypothesis, as there was no statistically significant difference in improvement of SDQ-1 scores. The results do provide a basis for concluding that an intervention based on positive psychology principles, specifically designed to influence the self-concept of students with LD, produced higher scores in academic domains (Math, Reading and Total Academic) on the SDQ-1. The effect size of these findings suggest that the intervention has practical significance.

The present study was designed to address a gap in knowledge concerning successful interventions to improve the self-concept of children with LD, more

specifically, an intervention based on positive psychology principles was employed. Research supporting the present study includes the Sridhar and Vaughn (2002) study which reported that academic achievement had an effect on self-concept, an issue for students with LD. Trautwein, Ludtke, Koller and Baumert (2006) found a considerable effect of academic self-concept on achievement, indicating that how one feels about one's performance will affect achievement. Seligman and Csikszentmihalyi (2000) recommended that students should be guided to find areas where they can best use their strengths. Similarly, Cosden, Brown and Elliot (2002) proposed developing interventions that help students with LD identify and build their strengths.

Contributing to the intervention design of the present study, Harter (1999) recommended using both cognitive and verbal reframing in order to shift perceptions to emphasize desirable qualities. Previous positive psychology research by Seligman, Steen, Park, and Peterson (2005) served as a model for the intervention used in the present research study. Cowen and Kilmer (2000) recommended that positive psychology research shift its emphasis from adults to children, so that the skills and competencies that lead to positive outcomes are acquired early so other positive skills can develop. Berndt and Burgy (1996) suggested that interventions be conducted in groups of peers, and this was incorporated into the design of the study.

Integration of findings with past literature

In the primary analysis small effects for the intervention group were found for the domains of Self-Concept Math and Reading as well as Total Academic Self-Concept. The results of the present study are similar to findings by Elbaum and Vaughn (2003). In

their meta-analysis of self-concept interventions, they found that overall the strongest gains were in the area of academic self-concept.

The results of the present study are in contrast to previous research by Marsh (1992) that stated that non-academic interventions (as incorporated in the present study) had significant effects on non-academic components of self-concept. These results are also in contrast to Hay's (2005) research where the intervention program addressed the specific domains of the SDQ and the greatest gains were found in physical appearance, general school and total non-academic and total self-concept. Harter (1990) reported that the impact an intervention will have on an individual depends on the cognitive developmental level of the individual. As the intervention group was made up of students from age 9 through 15, the developmental age of the participants could have affected the results. The results from the present study, however, are relevant as they both substantiate present research as well as raise questions for further research.

Marsh, Ellis, Parada, Richards and Heubeck (2005) reported that gender and age are two of the most studied variables in self-concept research. Through the secondary data analysis, both gender and age/grade were found to be statistically significant factors within different domains of self-concept. The intervention groups pre-test Physical Abilities scores were statistically significant with males scoring higher. Gender was a statistically significant factor in the difference in peer relations scores with male scores increasing and female scores decreasing. This could be due both to specific events that could have happened within the school and to the fact that there are fewer females than male within the school. Cross and Madson (1997) reported that females develop a self-concept that is dependent on how they feel others' perceive them (interdependent or

relational self-construal), whereas males are more likely to develop an independent self-construal. These results are consistent with previous research where Marsh, Ellis, Parada, Richards and Heubeck (2005) who reported that boys have more positive self-concepts for appearance, math and other physical factors. Harter (1999) found that in early and late adolescence physical abilities and physical appearance and social self-concept become more important.

The grade the students were in was a significant factor with some of the SDQ-I domain scores. Within the Intervention group the pre-test self-concept Math domain scores were highest for grade 8 then in descending order for grade 9 then 4/5 then 6/7 was the lowest. Within the Control group post-test Physical Appearance scores were highest in grades 4/5, and then in descending order 6/7, 8, and 9 with the lowest scores. The Control group general self-concept post-test scores and general self-concept score difference decreased as the students grade (and age) increased. Finally, Control group post-test total self-concept score difference was highest for grade 4/5 and then decreased for grades 6/7 then 9 and were the lowest for grade 8. The Control groups results are consistent with previous research by Harter (1999) indicating that younger children have higher self-concept scores and tend to overestimate their abilities.

For this study, due to the school composition, students of various ages (9-15) from various classes were included in the study (grade 4-10). Students in these grades are at different levels of development. As previously reported, Harter (1999) stated that, beginning at the age of 8 years of age, children are developmentally ready to make meaningful judgements about themselves. Interestingly, self-evaluations become less positive as children move into middle childhood (Harter, 1999; Velasco-Barraza &

Muller, 1982). The present results are in contrast to Harter's (1999) research, who found that between grade 6 and 7, students showed the greatest decline in self-evaluations, and then after 8th grade scores increase. Elbaum and Vaughn (2003), found that grade level was significantly associated with effect size in self-concept interventions with students with LD. Middle school students had a higher mean effect size (*d=.42*) than did elementary students (*d=.12*) or high school students (*d=.17*).

Similar to previous research, in the secondary analysis, there was a significant difference between the average pre-test scores for the research sample and the SDQ-1 norm sample. Overall, the students with LD (present study) scored lower than the average scores recorded in the administration manual (Marsh, 1988). Consistent with previous research by both Elbaum and Vaughn (2001) and Harter (1999), the self- concept scores of students with LD were lower than the scores of students without LD.

This is the first study both testing an intervention based on Positive Psychology (created by the researcher) with an LD population and incorporating the VIA strengths. This, I believe, contributes to knowledge, particularly regarding the use of positive psychology with children, as well as the effects of learning about positive psychology on self-concept of an LD population. This is the first study to integrate self-concept, LD, positive psychology and VIA strengths. The implications of the results are that there is a place both for further self-concept research with positive psychology and for attempting to augment the self-concept in students with LD,

Following a recommendation from an Elbaum and Vaughn (2003) article, I asked students for feedback on the self-concept interventions in which they participated. A qualitative questionnaire was distributed to students following the research (refer to

Appendix H). The results indicated that, overall, students who participate in the intervention group (83%) enjoyed participating in the study. From the control group 63% of students said they would like to learn more about the intervention groups' activities. The intervention group (n=12) was asked "If you could suggest any changes to the intervention activities, what would they be?". From the written responses, 33% recommended "more classes". In terms of the grouping of the students (different ages/grades together), 25% recommended using the same groups, and 25% recommended using different groups. One student wrote, "I think older kids and younger kids should be in different groups". These findings contribute to the literature, and, indeed, they may provide qualitative recommendations for future research. Please see *Appendix H*, for more details regarding the students' responses.

Implications of Findings

Theoretical Implications.

The intervention used in this study was designed from different theoretical foundations reported in the literature. Research by Harter (1999), Marsh (1988), Peterson and Seligman (2004) and Elbaum and Vaughn (2003) reported the possibility of cognitively based intervention that helps individuals highlight the importance of knowing one's strengths and using them to one's advantage, may increase self-concept. The present study was based on the above mentioned theories as identifying strengths may increase self-concept, and it may shift the focus from student's disabilities to their abilities.

Practical Implications

There are several practical implications for these findings, particularly for teachers, special educators, psychologists and parents**.** Although the study had a small sample and limited sessions, there was a small but nonsignificant effect on the students who participated in the intervention group. The students who participated in the intervention reported an increase in their academic self-concept, although the intervention did not focus on this. Students who feel better about themselves are more likely to feel that they can perform better academically (Brooks, 2002). Teachers can help to develop skills that enhance resilience in student with LD (Miller, 2002).

Parents and teachers play an important role in students' lives. A supportive home and school environment is essential for a child's success. Bear, Minke and Manning (2002) state that the instructional environment, social comparison cues, praise, and teachers interactions with students can all affect self-perceptions. "Teachers should show that they are interested in students' well being, not just academically but also psychologically. In addition, they should give a listening ear to what students have to say, and provide extra help and advice when necessary" (Goh, 2006, p.78). Similarly, Elbaum and Vaughn (2003) stated that a teacher's understanding/acceptance of students with LD may influence how the child with LD feels about themselves. In terms of parenting, Harter (1999) reported that both child rearing and socialization practices will affect how students evaluate their self-concept.

Limitations

There are several limitations to this study. The control group participants did not receive the same type of attention as the intervention groups. The control group was in

class at the time of the intervention. Gersten et al. (2005) recommend that "the nature of services provided in comparison conditions are described and documented" (p.158) as a desirable quality indicator. It is possible that the attention the researcher provided to the students contributed to changes in their self-concept.

Why was the hypothesis of the study not supported?

One reason the hypothesis may not have been supported is the size of the sample. Although the researcher sought a much larger sample size, due to complications with conducting research within the local school board, the resulting sample (N=26) was not large enough to influence the power of the intervention as calculated for this research proposal in Chapter 3 (Erdfelder, Faul & Buchner,1996).

The composition of the sample was different from the sample composition sought. The sample was composed of students identified as having LD, not students with and without LD. Students with LD are a heterogeneous group (e.g. there are many types of learning disabilities). Bear, Minke and Manning (2002) report that the heterogeneity of the LD population, difficulties with the reliability of LD eligibility process, and as the difficulty defining LD affect results and interpretation. Gersten et al. (2005) recommend that the "salient characteristics" of the samples be comparable as a quality indicator for group experimental research. Ethically, in order to maintain the confidentiality of the participants, the researcher was not informed of the individual students' diagnoses. Within each group the differences in diagnoses as well as possible comorbid social-emotional and/or behavioural difficulties may have affected the results of the study. Ideally the study would have incorporated both students with and without LD as well as more specific groups of students with similar diagnosis (Gersten, 2005).

Several schools were targeted for the intervention. One school, however, participated in the research study. Although the students were randomly assigned to the control and intervention groups, the selection was limited to the one school. In addition School A is considered a private school, and class sizes are quite small compared to regular class sizes. This creates an environment where the students are grouped with other students identified as having LD and offered more individual support (smaller class size and student to teacher ratio). This could result in a different experience for individuals with LD in a mainstreamed classroom. Harter (1999) reported that mainstreamed LD students have been found to have a lower self-concept regarding their scholastic competence than those in self-contained classrooms. However, Elbaum (2002) reported, however, that class placement did not affect effect size.

Elbaum and Vaughn (2003) reported the SDQ-1 to be a reliable and valid instrument and recommend using it with an LD population. As it employs a Likert scale (5 point) it may, however, not have been sensitive enough to detect subtle changes in self-concept. The assessment should be considered a snap-shot of the students' behaviour as it was conducted on two separate dates for roughly 30 – 45 minutes. This is subject to variability in performance. The study did not include other measures of self-concept, such as the teacher or parent ratings of their perception of the children's self-concept (Gersten et al., 2005).

This study is limited, in that the intervention to improve self-concept was conducted at school and based solely on positive psychology (character strengths). The study did not explore other factors that could contribute to self-concept scores (e.g.

family, friendships and academic performance). Background information about the participants' academic and or psychological history was not collected.

Control over extraneous variables is an important aspect of any research. Student illness during the research and the timing of mid-term exams (week of post-test assessment) both may have influenced the final results (Creswell, 2005). The intensity or frequency of intervention may have affected the results. It is likely that the intervention was not of sufficient intensity to produce dramatic results. Participants in the intervention group met once weekly for 45 minutes over 3 weeks and additionally for the pre-test and post-test. The control group met twice, for the pre-test and post-test. The length of the intervention was short. This was modified primarily in order to cater to the school and parents; and to reduce the amount of time they were willing to release students from class for the study. Elbaum and Vaughn (2003) reported that the duration of the intervention was not reliably associated with effect size. In their meta-analysis the length of intervention for the 82 studies varies between 2 – 32 weeks, with one study lasting one year. Creswell (2005) reported additional factors that may affect research including; the novelty of intervention, diffusion of treatment, and compensatory rivalry.

Future Directions

In terms of self-concept research, further research is needed to explore the long term effects of interventions. Linking self-concept research to academic performance, as well as creating and validating measures that are normed on a LD population, would also improve upon current self-concept research. Omizo and Omizo (1988) recommended further research into the use of alternative measures of self-concept in addition to self reports.

Alvord and Grados (2005) suggest including parents in the intervention process. Trialing universal as well as targeted interventions in order to study a larger population (Reivich, Gillham, Chaplin and Seligman, 2005). Dahlsgaard, Peterson and Seligman (2005) conducted preliminary research on cultural and religious interpretations of signature strengths. They recommend that further research be conducted on cultural interpretations of valued strengths. Future research is needed, including a large sample, to allow for further analyses of the VIA (Peterson & Seligman, 2004).

Future research in applied positive psychology is recommended. Although statistically significant results were not found, there were, upon further analysis, improvements in self-concept scores in academic areas (areas not addressed in the intervention). This is an interesting finding. The theory behind positive psychology provides a foundation upon which to build further studies. As this study was limited to group (n=12) intervention sessions, it is recommended that future studies explore the effectiveness of smaller groups within the intervention sample as well as individual intervention. Additionally exploring change over time, within a pre-post test experimental design, may provide interesting information about how students respond to self-concept measures.

Elbaum and Vaughn (2001) found that the correlation between sample size and effect size was not significant in the 82 studies they reviewed for their meta-analysis. However, the mean sample size was (N=42) and the intervention group average (n=20) and control group (n=21), which are larger than the sample from this study. Due to the sensitivity of some students to discussing (revealing) how they feel about themselves, this may be a more effective model of intervention (Elbaum & Vaughn, 2003). It also would

be worthwhile to explore grouping students according to age or, at least, similar ages developmentally. For this study, 9 year olds were in the same group as 15 year olds, and developmentally this is a diverse group who are dealing with social/emotional issues at different levels (Harter, 1999). Elbaum and Vaughn (2003) suggested that specific students with LD be targeted based on their need for intervention. They offered three criteria to assess whether or not "there is a critical need for intervention: (1) individual assessment of the student by a school psychologist, using a valid, reliable self-concept measure; (2) student self-report of low self esteem or symptoms of depression; and (3) teacher or parent referral" (p.107).

Further self-concept intervention research, similar to Hay's (2005) study, where specific areas for improvement are targeted. Both Marsh as well as Harter (1999) suggested that further research on interventions directed at impacting particular domains and that are assessed at the domain level will be most successful.

Further self-concept intervention research may be best conducted by a psychologist, learning support teacher or counsellor who is familiar to the students. It is my opinion that this may, in fact, facilitate the discussion of personal matters. Had the participants been familiar with the researcher, this may also result in reducing any anxiety regarding the topic of self-concept, which may have prevented individuals from dropping out of the study (Elbaum & Vaughn, 2003).

The future of positive psychology research may lie in recent interest in resilience. Many of the concepts underlying the present research study are similar to those that form the basis of resilience interventions. This includes giving children the cognitive skills and strategies to change their thinking patterns. As a result this may make them more resilient

to future difficulties. Incorporating positive psychology, such as the longitudinal research study at the University of Pennsylvania, The Penn Resiliency project, mentioned earlier (Gillham et al., 2007). Masten (2001) reports on resilience and positive psychology and states that the two fields of research lead well into each other as they influence each other. Positive psychology is the study of optimal human functioning and this is a fundamental component of resilience research. From a medical perspective, Frederickson (2001) is conducting ongoing research into positive emotions and how they lead to positive health.

Summary of Chapter Five

Although this study did not produce any statistically significant results, the findings contribute information to theory, to research, and to the practice of self-concept and positive psychology interventions. In a review of literature and through consultation with experts in the field of positive psychology, this is the first study to explore the application of positive psychology principles to children and to an LD population in order to affect self-concept. The intervention program, for this study, was created by the researcher, and based on research from the fields of; Positive psychology, self-concept, and LD. Further research is needed to determine both what elements of interventions contribute to changes in self-concept and which children benefit from intervention.

References

Achenbach, T.M., McConaughy, S.H., & Howell, C.T. (1987). Child/Adolescent behavioural and emotional problems: Implications of cross-informant correlations for situational specificity. *Psychological Bulletin, 101*, 213-232.

Alvord, M.K. & Grados, J.J.(2005).Enhancing resilience in children: A proactice approach. *Professional Psychology: Research and Practice. 36,* 238-245.

Bachman, J.G. & O'Malley, P.M. (1986). Self-Concept, self-esteem and educational experiences: The frog pond revisited (again). *Journal of Personality and Social Psychology, 50,* 35-46.

Bacon, S. F. (2005). Positive psychology's two cultures. *Review of General Psychology, 9*(2), 181-192.

Baumeister, R.F. (1998). The self. In D.T. Gilbert, S.T. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (pp. 680-740). Toronto: McGraw Hill.

Baumeister, R.F. (1999). *The Self in Social Psychology*, Pennsylvania: Psychology Press.

Bear, G.G., Minke, K.M., & Manning, M.A. (2002). Self-concept of students with learning disabilities: A meta-analysis. *School Psychology Review, 31*, 405-427.

Berndt, T.J. & Burgy, L. (1996). The social self-concept. In B.A. Bracken (Ed.), *Handbook of self-concept* (pp.171-209). New York: Wiley.

Blascovich, J. & Tomaka, J. (1991). Measures of self-esteem. In J.P. Robinson, P.R. Shaver & L.S. Wrightsman (Eds.) *Measures of personality and social psychological attitudes* (pp.115-160), San Diego, California, Academic Press.

Brooks, R. (2002). *Dr.Robert Brooks on self-esteem and resilience.* Retrieved October 18, 2005, from http://www.schwablearning.org/pdfs/expert_brooks.pdf?date=4-01-02

Campbell D.T., & Stanley, J.C. (1963). *Experimental and quasi-experimental designs for research*. Boston, MA: Houghton Mifflin.

Caslyn, R.J. & Kenny, D.A. (1977). Self-concept of ability and perceived evaluation of others: Cause or effect of academic achievement. *Journal of Educational Psychology, 69*, 136-145.

Cicchetti, D., Toth, S. L., & Rogosch, F. A. (2000). The development of psychological wellness in maltreated children. In D. Cicchetti, J. Rappaport, I. Sandler, & R. P. Weissberg (Eds.), *The promotion of wellness in children and adolescents* (pp. 371). USA: Child Welfare League of America.

Cosden, M., Brown, C. & Elliot, K. (2002). Development of self-understanding and self-esteem in children and adults with learning disabilities. In B.Wong & M.Donahue (Eds.) *The social dimensions of learning disabilities; Essays in honor of Tanis Bryan* (pp.33-51). New Jersey: Lawrence Erlbaum Associates.

Creswell, J.W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research.* Upper Saddle River, NJ: Pearson-Merrill Prentice Hall.

Cross, S. E., & Madson, L. (1997). Models of the self: Self-construals and gender. *Psychological Bulletin, 122,* 5–37.

Dahlsgaard, K., Peterson, C. & Seligman, M.E.P. (2005).Shared value: The convergence of valued human strengths across culture and history. *Review of General Psychology. 9*, 203-213.

Devilly, G.J. (2005). *ClinTools Software for Windows: Version 4 (computer programme)*. www.clintools.com, Psytek Ltd.

Elbaum, B. (2002). The self-concept of students with learning disabilities: A meta-analysis of comparisons across different placements. *Learning Disabilities Research & Practice*, 17, 216-226.

Elbaum, B., & Vaughn, S. (2001). School-based interventions to enhance the self-concept of students with learning disabilities: A meta-analysis. *Elementary School Journal, 101*(3), 303-329.

Elbaum, B., & Vaughn, S. (2003). For which students with learning disabilities are self-concept interventions effective? *Journal of Learning Disabilities, 36*(2), 101-108.

Elbaum, B., & Vaughn, S. (2003). Self-concept and students with learning disabilities. In H. L. Swanson, K. R. Harris & S. Graham (Eds.), *Handbook of learning disabilities* (pp. 229-241), USA, Guilford Press.

Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers*, *28*, 1-11.

Flanery, R.C. (1990). Methodological and psychometric considerations in child reports. In A.M. Greca (Ed.), *Through the eyes of the child: Obtaining self-reports from children and adolescents* (p. 57-82). Massachusetts: Allyn & Bacon.

Frederickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist. 56*, 218-226.

Friesen, B.J. & Brennan, E. (2005). Strengthening families and communities: System building for resilience. In M.Ungar (Ed.), *Handbook for working with children and youth; Pathways to resilience across cultures and contexts* (p. 295-312). USA: Sage Publications.

Gable, S. L., & Haidt, J. (2005). What (and why) is positive psychology? *Review of General Psychology, 9*(2), 103-110.

Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction* (6th ed.). New York: Longman

Gersten, R., Fuchs, L.S., Compton, D., Coyne, M., Greenwood, C., & Innocenti, M.S. (2005). Quality indicators for group experimental and quasi-experimental research in special education. *Exceptional Children, 71*, 149-164.

Gillham, J.E., Reivich, K.J., Freres, D.R., Chaplin, T.M., Shatte, A.J., Samuels, B., et al. (2007). School-Based prevention of depressive symptoms: A randomized controlled study of the effectiveness and specificity of the Penn Resiliency Program. *Journal of Consulting and Clinical Psychology, 75*, 9–19.

Goh, M. (2006). *A multilevel analysis of mathematics literacy: The effects of intrinsic motivation, teacher support, and student-teacher relations.* Unpublished masters thesis, University of Victoria. Victoria, B.C. Canada.

Greca, A.M. (1990). Issues and perspectives on the child assessment process. In A.M. Greca (Ed.), *Through the eyes of the child: Obtaining self-reports from children and adolescents* (p. 3-17). Massachusetts: Allyn & Bacon.

Harter, S. (1985). *Self-Perception Profile for Children*. Denver, Colorado: University of Denver.

Harter, S. (1990). Issues in the assessment of the self-concept of children and adolescents. In A.M. Greca (Ed.), *Through the eyes of the child: Obtaining self-reports from children and adolescents* (p. 292-325). Massachusetts: Allyn & Bacon.

Harter, S. (1996). Historical roots of contemporary issues involving self-concept. In B. Bracken. (Ed.), *Handbook of Self-Concept: Developmental, Social, and Clinical Considerations.* (pp.1-37). New York: John Wiley & Sons.

Harter, S. (1999). *The Construction of the Self: A Developmental Perspective*. New York: Guilford Press.

Hattie, J. & Marsh, H.W. (1996). Theoretical perspectives on the structure of self-concept. In B.A. Bracken (Ed.), *Handbook of self-concept* (pp.38-90). New York: Wiley.

Hay, I. (2005). Facilitating children's self-concept: A rationale and evaluative study. *Australian Journal of Guidance & Counselling, 15*, 60-67.

Higgins, E.T.(1991). Development of self-regulatory and self-evaluative processes; Costs, benefits, and tradeoffs. In M.R.Gunnar & L.A. Sroufe (Eds.), *Self processes and development; The Minnesota Symposia on Child Development* (Vol.23, pp. 125-166). Hillsdale, NJ: Erlbaum.

Huebner, E.S., Suldo, S.M., & Valois, R.E. (2005). Children's life satisfaction. In K. Anderson Moore & L.H. Lippman (Eds.), *What do children need to flourish? Conceptualizing and measuring indicators of positive development* (pp.41-59). New York, USA, Springer.

Hughes, G. J. (2001). *Aristotle on ethics*. London: Routledge.

Huitt, W. (2004). Self-concept and self-esteem. *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University. Retrieved April 12, 2006 from http://chiron.valdosta.edu/whuitt/col/regsys/self.html

Kauffman, J. M., Davis, C. P., Jakubecy, J. J., & Lundgren, K. A. (2001). Self-concept, higher-order thinking, and teaching: Commentary on the findings of two meta-analyses. *Elementary School Journal, 101*(3), 355-357.

Learning Disabilities Association of America (2005). *Learning disabilities: Signs, symptoms and strategies*. Retrieved April 11, 2006 from http://www.ldaamerica.org/aboutld/parents/ld_basics/ld.asp

Learning Disabilities Association of Canada (2003). *Official definition of learning disabilities*. Retrieved April 11, 2006 from http://www.ldac-taac.ca/Defined/defined_new-e.asp

Maier, S.F., Peterson, C., & Schwartz, B. (2000). From helplessness to hope: The seminal career of Martin Seligman. In J.E. Gillham (Ed.), *The science of optimism & hope: Research essays in honour of Martin E. P. Seligman* (pp. 11-37). Philadelphia: Templeton Foundation Press.

Marsh, H.W. (1988). *Self-Description Questionnaire-1(SDQ) Manual and Research Monograph*. The Psychological Corporation.

Marsh, H.W. (1990). *Self-Description Questionnaire*. Australia: University of Western Sydney.

Marsh, H. W. (1992). *Self Description Questionnaire (SDQ) I: A theoretical and empirical basis for the measurement of multiple dimensions of preadolescent self-concept. An interim test manual and research monograph.* Macarthur, New South Wales, Australia: University of Western Sydney, Faculty of Education.

Marsh, H.W., Ellis, L.A., Parada, R.H., Richards, G., and Heubeck, B.G. (2005). A short version of the Self Description Questionnaire II: Operationalizing criteria for short-form evaluation with new applications of confirmatory factor analyses. *Psychological Assessment*. *17*, 81–102.

Maslow, A.H. (1970). *Motivation and personality*. New York: Harper & Rob Publishers.

Maslow, A. H. (1971). *Farther reaches of human nature.* New York: The Viking Press.

Maslow, A.H. (1987). *Motivation and personality* (3rd Ed.). New York: Harper Collins.

Massimini, F. & Delle Fave, A. (2000). Individual development in a bio-cultural perspective. *American Psychologist*, *55(1),* 24-33.

Masten, A.S. (2001). Ordinary magic: Resilience processed in development. *American Psychologist. 56*, 227-238.

Mather, N., & Ofiesh, N. (2005). Resilience and the child with learning disabilities. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of resilience in children.* (pp. 239-255). New York, USA: Kluwer Academic/Plenum Publishers.

Maxx, D.T. (January 7, 2007). Happiness 101. *New York Times*. Retrieved January 7, 2007, from http://www.nytimes.com

McGuire, W.J. & McGuire, C.V. (2006). Enhancing self-esteem by directed-thinking tasks: Cognitive and affective positivity asymmetries. *Journal of Personality and Social Psychology, 70*, 1117-1125.

Miller, M. (20020 Resilience and students with learning disabilities. *Journal of Clinical Psychology, 58*, 291-298.

Moss, J.B., & Skelton, L. (1978). *Developing Self-concept for Exceptional Learners: A Handbook*, Oklahoma: Partners in Publishing.

Omizo, M.M. & Omizo, S.A. (1988). The effects of participation in group counseling sessions on self-esteem and locus of control among adolescents from divorced families. *The School Counselor. 36*, 54-60.

Park, N. & Peterson, C. (2003). *Values in Action (VIA) Strengths Survey for Young People,* USA: Values in Action Institute.

Park, N. & Peterson, C. (2005). The values in action inventory of character strengths for youth. In K. Anderson Moore & L.H. Lippman (Eds.), *What do children need to flourish? Conceptualizing and measuring indicators of positive development* (pp.13-23). New York: Springer.

Peterson, C. & Chang, E.C. (2003). Optimism and flourishing. In C.L. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived (*pp. 55-79). Washington: American Psychological Association.

Peterson, C., & Seligman, M. E. P. (2004). *Character strengths and virtues: A handbook and classification*. United States of America: American Psychological Association & Oxford University Press.

Pittman, T.S., (1998). Motivation. In D.T. Gilbert, S.T. Fiske & G. Lindzey (Eds.), *The Handbook of Social Psychology* (pp549-590). Toronto: McGraw Hill.

Pollard, E. L., & Rosenberg, M. L. (2003). The strength-based approach to child well-being: Let's begin with the end in mind. In M. H. Bornstein, L. Davidson, C. L. M. Keyes & K. A. Moore (Eds.), *Well-being: Positive development across the life course.* (pp. 13-21). USA: Lawrence Erlbaum Associates, Publishers.

Psych Connections (no year). *2 x 2 between subject factorial design*. Retrieved April 12, 2006 from http://web.umr.edu/~psyworld/experimental/2x2between_subjectsdesign.html

Rashid, T. (2004). *Enhancing strengths through the teaching of positive psychology,* Unpublished doctoral dissertation, Farleigh Dickinson University. New Jersey, USA.

Reivich, Gillham, Chaplin, & Seligman, M.E.P. (2005). From helplessness to optimism: The role of resilience in treating and preventing depression in youth. In S. Goldstein & R. B. Brooks (Eds.), *Handbook of resilience in children.* (pp. 223-237). New York, USA: Kluwer Academic/Plenum Publishers.

Rich, G. J. (2003). The positive psychology of youth and adolescence. *Journal of Youth and Adolescence, 32*(1), 1-3.

Rogers, C. R. (1951). *Client-centered therapy: Its Current practice, implications, and theory.* Boston: Houghton Mifflin.

Rogers, C. R. (1961). *On becoming a person: A therapists view of psychotherapy*. Boston: Houghton Mifflin.

Rosenberg, M. (1989). *Society and the adolescent self-image*. Revised edition, Middletown, CT, Wesleyan University Press.

Ryan, M. P. D. (1994). *Social and emotional problems related to dyslexia.* Retrieved October 16, 2005, from http://www.interdys.org/servlet/compose?section_id=5&page_id=58

Seligman, M. E. P. (2002). *Authentic happiness.* USA: Free Press.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55*(1), 5-14.

Seligman, M.E.P. & Peterson, C. (2003). Positive clinical psychology. In L.G. Aspinwall & U.M. Staudinger (Eds.), *A Psychology of Human Strengths: Fundamental Questions and Future Directions for Positive Psychology* (pp. 305-317). Washington: American Psychological Association.

Seligman, M.E.P., Schulman, P., DeRubeis, R.J. & Hollon, S.D. (1999). The prevention of depression and anxiety. *Prevention & Treatment. 2*(1). No pagination specified.

Seligman, M.E.P., Steen T.A., Park, N. & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist. 60*. 410-421.

Sheldon, K. M. & King, L. (2001). Why positive psychology is necessary. *American Psychologist, 56*(3), 216-217.

Simonton, D. K., & Baumeister, R. F. (2005). Positive psychology at the summit. *Review of General Psychology, 9*(2), 99-102.

Snyder, C.R. (2005) Measuring hope in children. In K. Anderson Moore & L.H. Lippman (Eds.), *What do children need to flourish? Conceptualizing and measuring indicators of positive development* (pp.61-73). New York: Springer.

Snyder, C.R. & Lopez, S.J. (2005). The future of positive psychology: A declaration of independence. In C.R.Snyder & S.J. Lopez (Eds.), *Handbook of positive psychology* (pp. 751-767*)*. USA: Oxford University Press.

Snyder, C.R., Rand, K.L., & Sigmon, D.R. (2005). Hope theory. In C.R. Snyder & S.J. Lopez (Eds.), *Handbook of Positive Psychology* (pp. 257-276). New York: Oxford University Press.

SPSS Inc. (2001). *SPSS for Windows, Rel. 11.0.1.* Chicago: SPSS Inc.

Sridhar, D. & Vaughn, S. (2002). Bibliotherapy: Practices for improving self-concept and reading comprehension. In B.Wong & M.Donahue (Eds.), *The social dimensions of learning disabilities; Essays in honor of Tanis Bryan* (pp 161-187). New Jersey: Lawrence Erlbaum Associates.

Stone, W.L. & Lemanek, K.L. (1990). Developmental issues in children's self-reports. In A.M. Greca (Eds.), *Through the eyes of the child: Obtaining self-reports from children and adolescents* (p. 18-56). Massachusetts: Allyn & Bacon.

SYSTAT Software Inc. (2002). *SYSTAT for Windows, Version 10.2*. California: SYSTAT Software Inc.

Trautwein, U., Ludtke, O., Koller, O., & Baumert, J. (2006). Self-esteem, academic self-concept, and achievement: How the learning environment moderates the dynamics of self-concept. *Journal of Personality and Social Psychology. 90*, 334-349.

Values in Action Institute. (2003) VIA strengths survey for young people. Retrieved April 10, 2005, from http://www.viastrengths.org

Velasco-Barraza, C.R. & Muller, D. (1982) Development of self-concept in Chilean, Mexican and United States School children, *The Journal of Psychology. 110,* 21-30.

Appendix A.
Classification of 24 Signature Strengths (Peterson & Seligman, 2004)

Signature Strength	Research Group "Brainstorm" Examples	Definition (Peterson & Seligman, 2004)
Creativity (originality, ingenuity)	Imagination	Thinking of novel and productive ways to conceptualize and do things.
Curiosity (interest, novelty-seeking, openness to experience)	Wanting to figure things out.	Taking an interest in ongoing experience for its own sake; exploring and discovering.
Open-mindedness (judgment, critical thinking)	Say what you think, act what you feel, trying new things	Thinking things through and examining them from all sides; weighing all evidence fairly.
Love of learning	Enjoying learning about new things (does not have to be in school!).	Mastering new skills, topics, and bodies of knowledge, whether on one's own or formally.
Perspective (wisdom)	Your thoughts or ideas	Being able to provide wise counsel to others; having ways of looking at the world that make sense to oneself and to other people.
Bravery (valor)	To do something even when you are scared to do it.	Not shrinking from threat, challenge, difficulty, or pain; acting on convictions even if unpopular.
Persistence (perseverance, industriousness)	Keep on trying. *Ex:* he kept on trying to climb the rope until you succeed.	Finishing what one starts; persisting in a course of action in spite of obstacles.
Integrity (authenticity, honesty)	Telling the truth, sincerity, honesty. *Ex:* Telling your friend the truth even if it may not be what he wants to hear..	Presenting oneself in a genuine way; taking responsibility for one's feeling and actions.

Signature Strength	Research Group "Brainstorm" Examples	Definition (Peterson & Seligman, 2004)
Vitality (zest, enthusiasm, vigor, energy)	The ability to sustain life	Approaching life with excitement and energy; feeling alive and activated.
Love	*Ex:* Your friend is sick and you go to their house to help them.	Valuing close relations with others, in particular those in which sharing and caring are reciprocated.
Kindness (generosity, nurturance, care, compassion, altruistic love, "niceness")	Being nice	Doing favors and good deeds for others.
Social intelligence (emotional intelligence, personal intelligence)	Understanding other people	Being aware of the motives and feelings of other people and oneself.
Fairness	What you do is what you get. *Ex:* Karma	Treating all people the same according to notions of fairness and justice; not letting personal feelings bias decisions about others.
Citizenship (social responsibility, loyalty, teamwork)	Helping out your community. *Ex:* A person rakes the leaves for their neighbours	Working well as a member of a group or team; being loyal to the group.
Leadership		Organizing group activities and seeing that they happen.
Forgiveness and mercy	*Ex:* If someone did something you did not like and you asked them not to do it again but were still their friend.	Forgiving those who have done wrong; accepting the shortcomings of others; giving people a second chance; not being vengeful.
Hope (optimism, future-mindedness, future orientation)	You have faith in some things or a person. *Ex:* I have faith in you	Expecting the best in the future and working to achieve it.

Signature Strength	Research Group "Brainstorm" Examples	Definition (Peterson & Seligman, 2004)
Humility / Modesty	The ability to laugh at yourself, the quality of being modest. *Ex:* A clown throws water on you and you can laugh at yourself, You are able to do things the plain way instead of the expensive way	Letting one's accomplishments speak for themselves; not regarding oneself as more special than one is.
Prudence	Common sense	Being careful about one's choices; not taking undue risks; not saying or doing things that might later be regretted.
Self-regulation (self-control)	Knowing your limits. Being able to control yourself.	Regulating what one feels and does; being disciplined; controlling one's appetites and emotions.
Appreciation of beauty and excellence (awe, wonder, elevation)	You like to look at art and listen to music, watch famous athletes	Noticing and appreciating beauty, excellence, and/or skilled performance in various domains of life.
Gratitude	Praise, a type of thanks, you give it to someone. *Ex:* A person says 'Thank you'	Being aware of and thankful of the good things that happen; taking time to express thanks.
Humor (playfulness)	A person can have a good sense of humour, a funny attitude	Liking to laugh and tease; bringing smiles to other people; seeing the light side.
Spirituality (religiousness, faith, purpose)	Having to do with the human spirit or religion which supports it.	Having coherent beliefs about the higher purpose, the meaning of life, and the meaning of the universe

SDQI©

INSTRUMENT

All information supplied will be kept strictly confidential								

Your Name_____ **Circle one: Boy Girl**

School_____ **Grade**_____ **Age**_____

Teacher_____ **Date:**_____

PLEASE READ THESE INSTRUCTIONS FIRST

This is not a test - there are no right or wrong answers.

This is a chance to look at yourself. **It is not a test.** There are no right answers and everyone will have different answers. Be sure that your answers show how you feel about yourself. **PLEASE DO NOT TALK ABOUT YOUR ANSWERS WITH ANYONE ELSE.** We will keep your answers private and not show them to anyone.

When you are ready to begin, please read each sentence and decide your answer (You may read quietly to yourself as I read aloud). There are five possible answers for each question - "True", "False", and three answers in between. The numbers 1 to 5 are next to each sentence, for each of the answers. The answers are written at the top of the page, above the numbers. Choose your answer to a sentence and circle the number of the answer you choose. You may only choose one answer. **DO NOT** say your answer out loud or talk about it with anyone else. Before you start there are three examples below. A student named Bob has already answered the first two examples to show you how to do it. In the third example you must choose your own answer by circling the number.

1 False	2 Mostly False	3 Sometimes false, sometimes true	4 Mostly True	5 True

SOME EXAMPLES

A. I like to read comic books. 1 2 3 4 (5)

(Bob circled the number 5, which was the answer "TRUE". This means that he really likes to read comic books. If Bob did not like to read comic books very much, he would have answered "FALSE" or "MOSTLY FALSE").

B. In general, I am neat and tidy. 1 2 (3) 4 5

(Bob answered "SOMETIMES FALSE, SOMETIMES TRUE" because he is not very neat, but he is not very messy either).

C. I like to watch T.V. 1 2 3 4 5

For this sentence you have to choose the answer that is best for you. First you must decide if the sentence is "TRUE" or "FALSE" or somewhere in between. If you really like to watch T.V. a lot you would answer "TRUE" by circling the number 5. If you hate watching T.V. you would answer "FALSE" by circling the number 1. If your answer is somewhere in between then you would choose one of the other three boxes.

Please do not leave any statements blank. If unsure, please ASK FOR HELP.

Please **circle the number** which is the **most correct** statement about you.

	Statement	False	Mostly False	Sometimes false, sometimes true	Mostly True	True
01.	I am good looking……..	1	2	3	4	5
02.	I am good at all **SCHOOL SUBJECTS**……	1	2	3	4	5
03.	I can run fast……..	1	2	3	4	5
04.	I get good marks in **READING**…….	1	2	3	4	5
05.	My parents understand me……..	1	2	3	4	5
06.	I hate **MATHEMATICS**……..	1	2	3	4	5
07.	I have lots of friends……..	1	2	3	4	5
08.	I like the way I look……	1	2	3	4	5
09.	I enjoy doing work in all **SCHOOL SUBJECTS**.	1	2	3	4	5
10.	I like to run and play hard……..	1	2	3	4	5
11.	I like **READING**……	1	2	3	4	5
12.	My parents are usually unhappy or disappointed with what I do……	1	2	3	4	5
13.	Work in **MATHEMATICS** is easy for me……	1	2	3	4	5
14.	I make friends easily……...	1	2	3	4	5
15.	I have a pleasant looking face…….	1	2	3	4	5
16.	I get good marks in all **SCHOOL SUBJECTS**….	1	2	3	4	5
17.	I hate sports and games……..	1	2	3	4	5
18.	I am good at **READING**……	1	2	3	4	5
19.	I like my parents……	1	2	3	4	5
20.	I look forward to **MATHEMATICS**……	1	2	3	4	5
21.	Most kids have more friends than I do……..	1	2	3	4	5
22.	I am a nice looking person…….	1	2	3	4	5
23.	I hate all **SCHOOL SUBJECTS**……...	1	2	3	4	5
24.	I enjoy sports and games……	1	2	3	4	5
25.	I am interested in **READING**…….	1	2	3	4	5
26.	My parents like me…….	1	2	3	4	5
27.	I get good marks in **MATHEMATICS**…….	1	2	3	4	5
28.	I get along with kids easily…….	1	2	3	4	5
29.	I do lots of important things……	1	2	3	4	5
30.	I am ugly……	1	2	3	4	5

	Statement	False	Mostly False	Sometimes false, sometimes true	Mostly True	True
31.	I learn things quickly in all **SCHOOL SUBJECTS**……	1	2	3	4	5
32.	I have good muscles……	1	2	3	4	5
33.	I am dumb at **READING**……...	1	2	3	4	5
34.	If I have children of my own, I want to bring them up like my parents raised me……	1	2	3	4	5
35.	I am interested in **MATHEMATICS**……	1	2	3	4	5
36.	I am easy to like…….	1	2	3	4	5
37.	Overall, I am no good…….	1	2	3	4	5
38.	Other kids think I am good looking……	1	2	3	4	5
39.	I am interested in all **SCHOOL SUBJECTS**……	1	2	3	4	5
40.	I am good at sports…….	1	2	3	4	5
41.	I enjoy doing work in **READING**…….	1	2	3	4	5
42.	My parents and I spend a lot of time together……	1	2	3	4	5
43.	I learn things quickly in **MATHEMATICS**…….	1	2	3	4	5
44.	Other kids want me to be their friend…….	1	2	3	4	5
45.	In general, I like being the way I am…….	1	2	3	4	5
46.	I have a good looking body……	1	2	3	4	5
47.	I am dumb in all **SCHOOL SUBJECTS**……..	1	2	3	4	5
48.	I can run a long way without stopping……	1	2	3	4	5
49.	Work in **READING** is easy for me……	1	2	3	4	5
50.	My parents are easy to talk to…….	1	2	3	4	5
51.	I like **MATHEMATICS**……	1	2	3	4	5
52.	I have more friends than most other kids……	1	2	3	4	5
53.	Overall, I have a lot to be proud of…….	1	2	3	4	5
54.	I am better looking than most of my friends……..	1	2	3	4	5
55.	I look forward to all **SCHOOL SUBJECTS**…….	1	2	3	4	5
56.	I am a good athlete……..	1	2	3	4	5
57.	I look forward to **READING**…….	1	2	3	4	5
58.	I get along well with my parents…….	1	2	3	4	5
59.	I am good at **MATHEMATICS**……	1	2	3	4	5
60.	I am popular with kids of my own age……..	1	2	3	4	5

	Statement	False	Mostly False	Sometimes false, sometimes true	Mostly True	True
61.	I can't do anything right…….	1	2	3	4	5
62.	I have nice features like nose, and eyes, and hair..	1	2	3	4	5
63.	Work in all **SCHOOL SUBJECTS** is easy for me…….	1	2	3	4	5
64.	I am good at throwing a ball……	1	2	3	4	5
65.	I hate **READING**…….	1	2	3	4	5
66.	My parents and I have a lot of fun together……	1	2	3	4	5
67.	I can do things as well as most other people……	1	2	3	4	5
68.	I enjoy doing work in **MATHEMATICS**…..……	1	2	3	4	5
69.	Most other kids like me……	1	2	3	4	5
70.	Other people think I am a good person……	1	2	3	4	5
71.	I like all **SCHOOL SUBJECTS**……..……	1	2	3	4	5
72.	A lot of things about me are good……	1	2	3	4	5
73.	I learn things quickly in **READING**……	1	2	3	4	5
74.	I am as good as most other people……	1	2	3	4	5
75.	I am dumb at **MATHEMATICS**…..……	1	2	3	4	5
76.	When I do something, I do it well……	1	2	3	4	5

Thank you

Appendix C.

University of Victoria | Faculty of Education

Educational Psychology & Leadership Studies
PO Box 3010 Stn CSC
Victoria, British Columbia V8W 3N4 Canada
Tel (250) 721-7799, Fax (250) 721-6190

The Effects of a Positive Psychology Intervention on Students' Self-Concept

Your child is invited to participate in a study entitled The Effects of a Positive Psychology Intervention on Students' Self-Concept that is being conducted by Stacey Short.

I am a graduate student in the department of Educational Psychology and Leadership Studies at the University of Victoria and you may contact me if you have further questions by email: sshort@uvic.ca

As a graduate student, I am required to conduct research as part of the requirements for a Masters of Arts Degree in Learning and Development. It is being conducted under the supervision of Dr. Brian Harvey. You may contact my supervisor at (250) 721-7856.

Purpose and Objectives
The purpose of this research project is to examine the effectiveness of a positive psychology intervention on students' self-concept. Specifically, this study examines whether a series of three classes on the topic of positive psychology improves the self-concept of children with and without learning disabilities. Positive Psychology is the scientific study of the strengths and virtues that enable individuals and communities to thrive. Self-concept is the idea that a person has of themselves (strengths and weaknesses).

Importance of this Research
Research of this type is important because a strengths based positive psychology intervention has not been adapted and applied before to a population of students with and without learning disabilities. The results of this research may benefit both students and their teachers in helping students feel better about themselves.

Participants Selection
You are being asked to give consent for your child to participate in this study as the research has been approved by the school district and the principals of the individual schools. Participants being recruited are 10-15 years old and may or may not have a designated learning disability.

What is involved
If you agree for your child to voluntarily participate in this research, their participation will include two to five intervention sessions, during school time, of 45-60 minutes.

Students will be randomly assigned to either a control group, that will meet on two occasions (1.5-2hours), or the intervention group, that will meet for five intervention sessions (~5 hours). The intervention sessions will include opportunities for the students to learn about positive psychology, self-concept, and identifying their strengths. The scheduling of these sessions has been coordinated with the school principal in order to assure a minimal disruption to the students schedules. If your child is assigned to the control group, following the research they will be given an opportunity to complete the intervention activities.

School A - Dates and Times:
Parents will be informed following the first meeting on January 25th which group their child has been randomly assigned to.

For students randomly assigned to the CONTROL group: Thursdays 1:30-2:30pm (January 25 & February 22)

For students randomly assigned to the INTERVENTION group: Thursdays 1:30-2:30pm (January 25, February 1, February 8, February 15, February 22).

Inconvenience and Risks
The amount of time involved in the intervention may be perceived as an inconvenience. The anticipated inconveniences or risks to your child by participating in this research are considered minimal.

Benefits
The potential benefits of your child's participation in this research include an increase to your child's self-concept and an increased knowledge about their strengths.

Compensation
All participants who complete the research study will have their names entered into a draw for a gift certificate (two per school) to a local bookstore. If you agree for your child to participate in this study, this form of compensation to you must not be coercive. If you would not participate if the compensation was not offered, then you should decline.

Voluntary Participation
Your participation in this research must be completely voluntary. If you do decide to participate, you and your child may withdraw at any time without any consequences or any explanation. If you do withdraw from the study your data will be used only if the you give permission. Due to the nature of the study only the data from participants who complete the pre and post assessment will be used.

On-going Consent
To make sure that there is on-going consent to participate in this research, I will review the conditions of consent at the beginning of each session with the participants.

Anonymity, Confidentiality and Disposal of Data
In terms of protecting your child's anonymity all participants will be assigned a number and this number will be used on each of the measures (surveys). Confidentiality and the confidentiality of the data will be protected by assigning each participant an ID# that will be used on the surveys they complete. All files containing confidential information will be locked during the research. Following the completion of my thesis the consent forms will be shredded to protect anonymity and confidentiality.

Dissemination of Results
It is anticipated that the results of this study will be shared with others in the following ways; thesis, thesis defense, conference presentations as well as presentation for the school and school board, as requested. The research groups that have granted permission to use their surveys for my research have asked that I share the results with them for their research. This data will be anonymous.

Contacts
Please feel free to contact me, Stacey Short at sshort@uvic.ca or my supervisor Dr.Brian Harvey at bharvey@uvic.ca. or at (250) 721-7856 should you have any questions.

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice-President, Research at the University of Victoria (250-472-4545).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researchers. If you do provide consent the researcher will need your assistance in identifying the students with learning disabilities.

_____	_____	_____
Your Child's name	*School/Grade(Class)*	*Child's Birthdate (DD/MM/YY)*
_____	_____	_____
Does your child have a designated LD?	*Signature of Parent or Legal Guardian*	*Date*

Please return this form with your child to their classroom teacher.

☐ ***If you would like a copy of this consent form please check this box and a copy will be sent to you, and a copy will be kept by the researcher.***

Appendix D.

Overview of Intervention- Script for UVic Ethics Approval

Intervention Session 1:

Both the intervention and the control group will participate. I will meet and greet the students and take attendance. (Time: ~45 minutes).

Introduction (2 – 5 minutes)

The purpose and objectives: I will explain to the students that they will be starting a program, that is part of my thesis work. I will explain that there will be two or five sessions depending on which group the students are in. Consent forms will be explained to the participants, and the "Participant Consent Forms" will be handed out to the students. They will be given the opportunity to sign individual consent forms then I will collect them.

Pre-test Assessments (25-35 minutes)

Pass out the pretest and tell the students that this is not alike a math test it is a survey o how they feel in certain situations. Tell them that the pretest is top see how they feel about themselves at this point. When each student has a copy of the pretest, provide them with the appropriate instructions and allow them 25-35 minutes to complete the assessment.

Script: *First we are going to take a brief survey that will help me to know how each of you feel about yourselves. This is a chance to look at yourself. This is not a test - There are no right answers and everyone will have different answers. Be sure that your answers show how you feel about yourself. I will keep your answers private and not show them to anyone. It will take about 25 minutes. Do your best and answer all of the questions. I will read each question outloud so you can complete the questions on your own or follow along while I read. Raise your hand if you need help understanding any of the questions. There are five possible answers for each question - "True", "False", and three answers in between. The numbers 1 to 5 are next to each sentence, for each of the answers. The answers are written at the top of the page, above the numbers. Choose your answer to a sentence and circle the number of the answer you choose. You may only choose one answer. DO NOT say your answer out loud or talk about it with anyone else. Before you start we will practice with the three examples on the top of the sheet. A student named Bob has already answered the first two examples to show you how to do it. In the third example you must choose your own answer by circling the number.*

-When you are finished please raise your hand. I will then give you a sheet to take home to your parents that tells you when your next class with me will be.

Intervention Session 2:

The intervention group will participate. I will meet and greet the students and take attendance. Ongoing consent will be outlined for the participants. (Time: ~45 minutes).

Script: *Both you and your parents have signed a consent form (permission form) to allow you to participate in this research. If at any point you have any questions please let me or your parents know. If at any point you would like to withdraw from the study you are allowed to, please let me or your parents know.*

The purpose and objectives: This session will focus on an introduction to positive psychology and of the VIA-Youth. Participants will be instructed to complete the "three good things" activity (modeled after the research by Seligman et al. (2005). The session will last approximately 45 minutes.

Script: *During this 3 lesson program, we will be discussing positive psychology, self-concept, signature strengths and goals. In today's lessons, we will learning about Positive Psychology and Signature Strengths. We will also discuss next weeks lesson which will be a survey on the computer called the VIA (Values in Action) survey for children. The third lesson we will review your results from the online VIA survey and we will discuss "using your signature strengths in a new way". Finally, we will meet with the other students (control group) and complete the post-test which is the same as the survey we did last week.*

Defining Behavior Expectations (2 – 5 minutes)
I will explain to the students that they may be asked to share personal information with each other as they complete each lesson. Explain to your students that their participation is voluntary, and that they can choose to stop sharing their feelings or their story if they begin to feel uncomfortable. If students feel uncomfortable sharing in a large group, I will tell them that they may speak to me individually.

Script*: During this unit, you may be asked to share stories. You can raise your hand when you have a story to share. When someone is sharing a story, we will listen quietly and respectfully and remember that because stories might be personal they will just stay in the group. If you decide that you no longer want to share your story or if you begin to feel uncomfortable, you may stop at any time. You may also speak to me after the class if you have any questions.*

Introduce important group/class rules;
1) Respect others
2) Personal things stay in the group.

Script: *You are now a part of a group with some important rules.*
Here are the rules:
1) Respect others (Listen quietly when someone is speaking).
2) Personal things stay in the group (Be respectful and do not gossip).

Class Activities: The following **topics** will be discussed in today's class. I will write the concepts on the board and then will have a discussion with the students. Below are the concepts and the definitions.

Positive Psychology ***(What is…?)***
Positive Psychology is the scientific study of the strengths and virtues that enable individuals and communities to thrive.

Self-Concept *(What is…?)*
Self-concept is the idea that a person has of themselves (strengths and weaknesses).

Signature Strengths *(What are…?)*
Signature strengths are personal virtues that define us as individuals, and that are recognized worldwide as being desirable and good.

1. **Wisdom and Knowledge:** creativity, curiosity, open-mindedness, love of learning, perspective
2. **Courage:** bravery, persistence, integrity, vitality
3. **Humanity:** love, kindness, social intelligence
4. **Justice:** citizenship, fairness, leadership
5. **Temperance:** forgiveness and mercy, humility and modesty, prudence, self-regulation
6. **Transcendence:** appreciation of beauty and excellence, gratitude, hope, humor, spirituality

"Three Good Things" *(What are…?)*
I will ask the participants to write down three good things, each day for a week, including a causal explanation for each good thing. We will discuss some examples. I will ask the class for some ideas?

Closure (2 minutes)
Today we talked about Positive Psychology and Signature Strengths as well as "Three God Things". For the next few weeks we will be learning about Positive Psychology and Strengths. During this time, we need to remember our three rules:(1) Respect others and (2) Personal things stay in the group.

Intervention Session 3:

The intervention group will participate. I will meet and greet the students and take attendance. This lesson will take place in a classroom with computers. Ongoing consent will be outlined for the participants. (Time: ~45-60 minutes).

Script: *Both you and your parents have signed a consent form (permission form) to allow you to participate in this research. If at any point you have any questions please let me or your parents know. If at any point you would like to withdraw from the study you are allowed to, please let me or your parents know.*

VIA-Child Survey (30-45 minutes)
The students will need to log on to the webpage. I will instruct them to use their number and the first letter of the first and last names for confidentiality. Students will need to enter their birthdates. When the students are ready, I will provide them with the appropriate instructions, read the questions outloud and allow them 30-45 minutes to complete the survey.

Script: *Today we are going to take a survey online. This will help you identify what your signature strengths are. We discussed the signature strengths in the last class, can anyone name a signature strength? This is a chance to look at yourself. This is not a test - There are no right answers and everyone will have different answers. Be sure that your answers show how you feel about yourself. I will keep your answers private and not show them to anyone. It will take about 35 minutes. Do your best and answer all of the questions. I will read each question outloud so you can complete the questions on your own or follow along while I read. Raise your hand if you need help understanding any of the questions. There are five possible answers for each question –a) Very Much Like Me, b) Mostly Like Me, c) Somewhat Like Me, d) A Little Like Me, e) Not Like Me At All. Using the mouse you will click on one answer for each question. DO NOT say your answer out loud or talk about it with anyone else. When you are finished please raise your hand.*

Closure (2 minutes)
Today we completed the VIA-Youth survey. Next week we will learn more about setting goals and "using signature strengths in a new way". (I will remind them of the next date/time we will meet)

Intervention Session 4:

The intervention group will participate. I will meet and greet the students and take attendance. Ongoing consent will be outlined for the participants. (Time: ~45 minutes).

Script: *Both you and your parents have signed a consent form (permission form) to allow you to participate in this research. If at any point you have any questions please let me or your parents know. If at any point you would like to withdraw from the study you are allowed to, please let me or your parents know.*

We will review the VIA-Youth inventory results and will discuss goal setting based on signature strengths. Student will be instructed to complete an activity based on the and the "using signature strengths in a new way" exercise by Seligman et al. (2005). Lesson will last approximately 45 minutes. The following **topics** will be discussed in today's class. I will write the concepts on the board and then will have a discussion with the students. Below are the concepts and the definitions.

Signature Strengths *(What are…?)*
Signature strengths are personal virtues that define us as individuals, and that are recognized worldwide as being desirable and good.

1. **Wisdom and Knowledge:** creativity, curiosity, open-mindedness, love of learning, perspective
2. **Courage:** bravery, persistence, integrity, vitality
3. **Humanity:** love, kindness, social intelligence
4. **Justice:** citizenship, fairness, leadership
5. **Temperance:** forgiveness and mercy, humility and modesty, prudence, self-regulation
6. **Transcendence:** appreciation of beauty and excellence, gratitude, hope, humor, spirituality

Goals: *(What are…?)* Specific objective that you want to achieve (goals can be short and long term).

Goal setting *(What is…?)*
Introduce the concept of goal setting and creating an action plan to meet goals.

Goal setting: *(What is…?)*
The process of defining a goal and creating a plan of action that will help you achieve that goal.

Script: *Today we will learn how to set goals and accomplish them. We will learn how to use goals to change aspects of our lives that can be improved. Doing this successfully is called goal attainment. Together we will practice goal setting by creating goals for ourselves and an action plan to make them happen.*

You can use the goal setting attainment process to improve or change parts of your life. When you do this, you might have more time to do activities you enjoy. You can also use the goal attainment process to plan positive activities in your day. Many people who have positive activities in their routines are more likely to live healthy mental and physical lives. Part of the goal attainment process is having a plan and following through with your plan.

"Using Signature Strengths in a New Way"
The fourth activity, "using signature strengths in a new way", after participants have completed the VIA inventory of strengths and they will be instructed to use one of their top strengths in a new way each day for a week.

Ideas for Implementing your plan.
• Write out a calendar.
• Tell someone you trust about your plan of action.
• Examples: Home – Mom will rent me a movie every Sunday that I clean my room. School – My friend also wants to get at least a B on her quiz, we can study together, Free time – I will attend the next club meeting at lunchtime.

Closure (2 minutes)
Today we talked about Signature Strengths as well as "using signature strengths in a new way". Next week we will meet with the other group of students and you will complete the post-test (survey) that is the same survey you completed ~4 weeks ago.

Intervention Session 5:

Both the intervention and the control group will participate. I will meet and greet the students and take attendance. Ongoing consent will be outlined for the participants. (Time: ~45 minutes).

Script: *Both you and your parents have signed a consent form (permission form) to allow you to participate in this research. If at any point you have any questions please let me or your parents know. If at any point you would like to withdraw from the study you are allowed to, please let me or your parents know.*

Post-test Assessments (25-35 minutes)
Pass out the post-test and tell the students that this is the same survey they completed ~4 weeks earlier. It is a survey of how they feel in certain situations about themselves at this point. When each student has a copy of the pretest, provide them with the appropriate instructions and allow them 25-35 minutes to complete the assessment. I will read the questions aloud and will give the participants a break between inventories. After the participants have finished I will draw two winners (per school) for the gift certificates to Chapters.

Script: *Today we are going to take a brief survey that will help me to know how each of you feel about yourselves today. It is the same survey you completed ~ 4 weeks ago. This is a chance to look at yourself. This is not a test - There are no right answers and everyone will have different answers. Be sure that your answers show how you feel about yourself. I will keep your answers private and not show them to anyone. It will take about 25 minutes. Do your best and answer all of the questions. I will read each question outloud so you can complete the questions on your own or follow along while I read. Raise your hand if you need help understanding any of the questions. There are five possible answers for each question - "True", "False", and three answers in between. The numbers 1 to 5 are next to each sentence, for each of the answers. The answers are written at the top of the page, above the numbers. Choose your answer to a sentence and circle the number of the answer you choose. You may only choose one answer. DO NOT say your answer out loud or talk about it with anyone else. Before you start we will practice with one example on the top of the sheet. When you are finished please raise your hand. When everyone is finished we will have a draw for two gift certificates to a bookstore.*

After the draw, *thank you very much for your help with my research.*

*For information on the specific activities developed for the intervention by the researcher (Stacey Short), please contact the researcher via the University.

Appendix E.
SDQ-1 Pre-Test Raw Scores (Mean, SD, t)

SDQ-1	Mean		Standard Deviation		T-test	
Question	Intervention	Control	Intervention	Control	t	P
Q1	3.92	3.85	0.90	0.80	0.21	0.84
Q2	3.03	2.92	0.52	1.04	0.50	0.63
Q3	3.67	3.92	1.16	1.32	-0.52	0.61
Q4	4.25	3.77	0.75	1.24	1.19	0.25
Q5	4.00	4.23	0.74	1.01	-0.65	0.52
Q6	3.42	2.54	1.38	1.56	1.49	0.15
Q7	4.08	3.85	1.00	1.14	0.55	0.59
Q8	4.08	4.23	0.67	1.01	-0.43	0.67
Q9	2.75	2.77	0.97	0.93	-0.05	0.96
Q10	3.92	4.15	1.67	1.21	-0.50	0.62
Q11	3.92	3.46	1.00	1.33	0.97	0.34
Q12	1.25	1.61	0.45	0.77	-1.46	0.16
Q13	2.50	3.54	0.91	1.20	-2.46	0.02
Q14	3.92	3.54	1.00	1.13	0.89	0.38
Q15	3.83	3.77	0.94	1.09	0.16	0.88
Q16	3.25	3.62	0.62	0.87	-1.22	0.24
Q17	1.67	1.92	0.89	1.38	-0.56	0.58
Q18	4.42	3.69	0.90	1.18	1.73	0.10
Q19	4.58	4.54	0.52	0.66	0.19	0.85
Q20	2.50	2.25	1.00	1.33	-0.08	0.94
Q21	2.75	2.85	1.14	0.99	-0.23	0.82
Q22	3.67	4.15	0.89	0.99	-1.30	0.21
Q23	2.33	1.92	1.23	1.19	0.85	0.41
Q24	4.33	3.77	1.07	1.36	1.15	0.26
Q25	3.92	3.46	0.90	1.20	1.08	0.29
Q26	4.75	4.92	0.45	0.28	-1.14	0.27
Q27	3.59	3.77	0.67	1.09	-0.52	0.61
Q28	4.00	3.69	0.74	1.03	0.86	0.40
Q29	3.17	3.46	1.03	0.66	-0.85	0.41
Q30	1.25	1.31	0.45	0.63	-0.26	0.79
Q31	3.33	3.08	0.49	0.64	1.13	0.27
Q32	3.33	3.85	1.16	1.14	-1.12	0.28
Q33	1.50	1.77	0.91	1.24	-0.63	0.54
Q34	3.58	3.62	1.24	1.26	-0.06	0.95
Q35	2.92	3.23	1.17	1.48	-0.59	0.56
Q36	3.83	3.54	0.94	1.13	0.71	0.48
Q37	1.50	1.15	0.67	0.38	1.57	0.14
Q38	3.08	3.31	1.00	0.86	-0.60	0.55
Q39	3.08	2.92	0.79	1.26	0.39	0.71
Q40	3.67	3.92	1.07	1.50	-0.50	0.63
Q41	3.08	3.31	1.31	1.11	-0.46	0.65

SDQ-1	Mean		Standard Deviation		T-test	
Question	Intervention	Control	Intervention	Question	Intervention	Control
Q42	3.33	3.46	0.65	1.27	-0.32	0.75
Q43	3.08	3.08	0.90	1.50	-0.01	0.99
Q44	3.42	3.39	0.67	0.96	0.10	0.92
Q45	4.17	3.69	0.84	0.86	1.40	0.17
Q46	3.67	3.85	1.23	0.80	-0.43	0.67
Q48	3.33	3.39	1.30	1.50	-0.09	0.93
Q49	4.08	3.46	1.00	1.45	1.26	0.22
Q50	3.75	4.15	1.06	1.14	-0.92	0.37
Q51	2.67	3.08	0.99	1.44	-0.84	0.41
Q52	3.17	2.77	1.03	1.01	0.97	0.34
Q53	4.25	4.08	0.62	0.86	0.58	0.57
Q54	2.75	2.92	1.14	1.04	-0.40	0.70
Q55	2.58	2.69	0.52	1.18	-0.030	0.77
Q56	3.67	4.08	1.16	1.26	-0.85	0.40
Q57	3.59	3.54	1.13	0.97	0.10	0.92
Q58	4.17	3.69	.094	1.03	1.21	0.24
Q59	3.42	3.62	1.00	1.39	-0.41	0.68
Q60	3.50	3.39	1.17	1.26	0.24	0.81
Q61	1.25	1.77	0.45	1.17	-1.49	0.16
Q62	3.83	4.27	0.72	1.01	-1.19	0.25
Q63	3.08	2.92	0.52	0.86	0.57	0.58
Q64	3.67	3.85	1.30	1.28	-0.35	0.73
Q65	1.5	1.85	0.52	0.90	-1.19	0.25
Q66	3.92	3.46	0.90	1.45	0.95	0.35
Q67	3.67	3.69	0.99	0.95	-0.07	0.95
Q68	2.75	3.23	0.87	1.42	-1.03	0.32
Q69	3.50	3.54	0.91	0.97	-0.10	0.92
Q70	4.00	4.39	0.60	0.77	-1.40	0.18
Q71	2.92	2.54	0.79	1.05	1.02	0.32
Q72	4.00	3.85	0.60	0.69	0.60	0.56
Q73	3.92	4.00	1.00	1.16	-0.19	0.85
Q74	4.00	4.00	0.85	1.00	0.00	1.00
Q75	1.92	1.92	1.08	1.55	-0.01	0.99
Q76	3.83	3.62	0.58	1.04	0.65	0.52

Score Calculation and Summary

INDIVIDUAL SCALE SCORES: For each scale, write the scores for the items listed in the blanks beside the item numbers. Sum the item scores within each scale and write the total raw score in the blank provided below the item scores.

Physical Abilities		Physical Appearance		Peer Relations		Parent Relations		Reading		Mathematics		General School		General Self	
Item	(Mean)*	Item	(Mean)*	Item	(Mean)*	Item	(Mean)*	Item	(Mean)*	Item	(Mean)*	Item	(Mean)*	Item	(Mean)*
3	(3.84)	1	(3.53)	7	(4.46)	5	(4.38)	4	(3.78)	13	(3.52)	2	(3.35)	29	(3.74)
10	(4.14)	8	(3.64)	14	(4.01)	19	(4.60)	11	(3.96)	20	(3.23)	9	(3.56)	45	(4.35)
24	(4.66)	15	(3.39)	28	(4.10)	26	(4.79)	18	(3.95)	27	(3.75)	16	(3.42)	53	(4.22)
32	(3.71)	22	(3.43)	36	(3.73)	34	(4.30)	25	(3.96)	35	(3.64)	31	(3.77)	67	(4.22)
40	(4.28)	38	(3.23)	44	(3.98)	42	(4.10)	41	(3.87)	43	(3.76)	39	(3.79)	70	(4.06)
48	(3.82)	46	(3.42)	52	(3.35)	50	(4.27)	49	(3.94)	51	(3.62)	55	(3.64)	72	(4.05)
56	(3.89)	54	(3.15)	60	(3.98)	58	(4.53)	57	(3.82)	59	(3.76)	63	(3.40)	74	(4.16)
64	(4.36)	62	(3.70)	69	(4.02)	66	(4.34)	73	(4.04)	68	(3.51)	71	(3.63)	76	(4.19)

RAW SCALE TOTALS

_____ _____ _____ _____ _____ _____ _____

TOTAL NONACADEMIC: Copy the Raw Scale Totals for Physical Abilities, Physical Appearance, Peer Relations, and Parent Relations into the blanks provided below. Sum these scores and divide by 4 to get the Total Nonacademic raw score.

_____ (Physical Abilities) + _____ (Physical Appearance) + _____ (Peer Relations) + _____ (Parent Relations) = _____ (Total) – 4 = _____ TOTAL NONACADEMIC Raw Score

TOTAL ACADEMIC: Copy the Raw Scale Totals for Reading, Mathematics, and General-School into the blanks provided below. Sum these scores and divide by 3 to get the Total Academic raw score.

_____ (Reading) + _____ (Mathematics) + _____ (General-School) = _____ (Total) – 3 = _____ TOTAL ACADEMIC Raw Score

TOTAL SELF: Copy the Total Nonacademic and Total Academic raw scores into the blanks provided below. Sum these scores and divide by 2 to get the Total Self raw score.

_____ (Total Nonacademic) + _____ (Total Acadomic) = _____ (Total) – 2 = _____ TOTAL SELF Raw Score

CONTROL SCORES (See Appendix A of the Manual for instructions on calculating Control raw scores.)

Control Score 1	Control Score 2	Control Score 3	Control Score 4	Control Score 5	Control Score 6
_____	_____	_____	_____	_____	_____

*Substitute the item mean for missing responses only if three or fewer responses are left blank.

Control Score Calculation

Control Score 1
Inconsistency on
Correlated Item Pairs

Item3	Item48		
Item38	Item54		
Item44	Item69		
Item41	Item57		
Item43	Item59		
Item48	Item56		
Item22	Item46		
Item19	Item26		
Item18	Item49		
Item9	Item71		
Item3	Item56		
Item14	Item26		
Item50	Item11		
Item27	Item59		
Item55	Item71		
Item15	Item22		
Item60	Item69		
Item11	Item25		
Item35	Item51		
Item2	Item16		

CONTROL SCORE 1

Control Score 2
Consistency on
Uncorrelated Item Pairs

Item10	Item2	=
Item15	Item58	
Item5	Item16	
Item43	Item19	
Item16	Item5	
Item24	Item62	
Item7	Item20	
Item58	Item13	
Item68	Item7	
Item31	Item26	
Item54	Item19	
Item30	Item59	
Item66	Item2	
Item2	Item24	
Item35	Item7	
Item38	Item10	
Item52	Item24	
Item13	Item26	
Item9	Item64	
Item59	Item58	

CONTROL SCORE 2

Control Score 3 - Noncontingent Summary

Write the values of Control Score 2 and Control Score 1 in the appropriate blanks below. Subtract Control Score 1 from Control Score 2. Write the result in the blank labeled Control Score 3.

Control Score 2 − Control Score 1 = CONTROL SCORE 3

Control Scores 4 and 5: Before entering the item values, reverse the direction of the scores so that 1 = True, 2 = Mostly True, 3 = Sometimes False/Sometimes True, 4 = Mostly False, and 5 = False.

Item17	× 8 =		−	Physical
Item21	× 8 =		=	Peers
Item33	× 8 =		−	Read
Item6	× 8 =		=	Math
Item23	× 8 =		−	School
Item30	× 8 =		−	Appearance
Item12	× 8 =			Parents
Item65	× 8 =		−	Read
Item75	× 8 =		−	Math
Item47	× 8 =		−	School

Total Absolute Value _____ ÷ 8

CONTROL SCORE 4
Negativity Bias

Total Signed Value _____ ÷ 8

CONTROL SCORE 5
Positivity Bias

Control Score 6 - Individual Profile Variation

Calculate the standard deviation of the original seven scales (Physical Abilities, Physical Appearance, Peer Relations, Parent Relations, Reading, Math, and General School).

CONTROL SCORE 6

See Chapter 2 of the Manual for step-by-step directions for calculating Control Scores.

Appendix G.

Comparison of SDQ-1 Scores of Study Sample (pre-test) versus SDQ-1 Norm Sample

SDQ-1	Mean (Raw Score)		T-Test	SDQ-1
Question	Present Study Sample	SDQ-1 norm sample	*p*	Domain
Q24	4.04	4.66	0.02	Physical Abilities
Q64	3.76	4.36	0.03	Physical Abilities
Q8	4.16	3.64	0.01	Physical Appearance
Q22	3.92	3.43	0.02	Physical Appearance
Q7	3.96	4.46	0.03	Peer Relations
Q44	3.40	3.98	0.00	Peer Relations
Q60	3.44	3.98	0.03	Peer Relations
Q69	3.52	4.02	0.01	Peer Relations
Q42	3.40	4.10	0.00	Parent Relations
Q58	3.92	4.53	0.01	Parent Relations
Q66	3.68	4.34	0.01	Parent Relations
Q41	3.20	3.87	0.01	Reading
Q20	2.52	3.23	0.01	Mathematics
Q35	3.08	3.64	0.04	Mathematics
Q43	3.08	3.76	0.01	Mathematics
Q51	2.88	3.62	0.01	Mathematics
Q68	3.00	3.51	0.04	Mathematics
Q2	3.00	3.35	0.04	General School
Q9	2.76	3.56	0.00	General School

SDQ-1	Mean (Raw Score)		T-Test	SDQ-1
Question	Present Study Sample	SDQ-1 norm sample	*p*	Domain
Q31	3.20	3.77	0.00	General School
Q39	3.00	3.79	0.00	General School
Q55	2.64	3.64	0.00	General School
Q63	3.00	3.40	0.01	General School
Q71	2.72	3.63	0.00	General School
Q29	3.32	3.74	0.02	General Self
Q45	3.92	4.35	0.02	General Self
Q67	3.68	4.22	0.01	General Self
Q76	3.72	4.19	0.01	General Self

Appendix H.

Questionnaire Post-Study - Qualitative Feedback from Research Participants

Gender	Male: 19			Female: 5			
Grade	**4**	**5**	**6**	**7**	**8**	**9**	
	3	3	1	5	6	6	
Age	**9**	**10**	**11**	**12**	**13**	**14**	**15**
	1	4	1	4	6	6	2
What is your first language?	English 24			Other			
Do you speak a language other than English?	**Yes** 0			**No** 24			
Did you enjoy participating in the study?	**Yes** 18 **(Maybe/Sort of)** 2			**No** 5			
Control Group (n=13): Are you interested in learning more about the Intervention (other) group activities?	**Yes** 8			**No** 6			
Intervention Group (n=12) If you could suggest any changes to the intervention activities what would they be?	**More Classes** 4	**Less Classes** 2	**Longer Classes** 1	**Shorter Classes** 2	**Same Groups** 3	**Different Groups** 3	
Are you interested in receiving more information about Positive Psychology?	**Yes** 10			**No** 15			
Any additional comments about the study?	(1) I think older kids and younger kids should be in different groups and more activities should be outside (2) we could do sports outside (3) less writing and more talking (4) I quite liked it, You did a great job of explaining everything to a group of people (5) No homework (6) It was ok (7) I wish you the best of luck – I loved being your student (8) I liked marking things with circles and (questions) about friends not bullies,						