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ASSESSING THE RELATIONSHIP BETWEEN OPTIMISM AND
ACADEMIC SUCCESS

By

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Abstract:

Students in high school display many different attitudes including varying levels of optimism and pessimism. Students also have different degrees of academic success. This study sought to investigate the association between optimism and academic success as a variety of different studies on optimism and school achievement have resulted in conflicting results. The sample consisted of 48 high school students who returned consent forms and completed a questionnaire. The questionnaire was designed to assess the level of dispositional optimism via their perceptions of self efficacy. Data concerning Grade Point Averages (GPAs) was gathered from report card marks at the end of the semester. The results showed no significant associations between grade and optimism scores. The conflicting findings between this and other studies suggests that further research is needed to delineate all of the factors affecting the association between optimism and school achievement. Optimism measures also require more research so that results from studies using different conceptualizations of optimism can be compared.

Assessing the Relationship between Optimism and Academic Success

Do you view a four ounce cup of water as half empty or half full? Your answer to this question may offer a clue as to whether you have an optimistic or pessimistic outlook upon events in life. Optimism is defined in the Webster's English dictionary as "the belief that everything is ordered for the best; a disposition to take a hopeful view of things" (p. 255). The word disposition (defined in the same dictionary as a tendency) brings to mind traits which are widely considered to be stable unchangeable conditions of personality. The operational definition of optimism for the purpose of this study will consider optimism as an attitude of positive outcome expectations resulting from cognitive processing. How has optimism been viewed in the literature?

Optimism has been considered in a variety of ways within research frameworks. There appears to be no single definitive definition accepted by all researchers (Chang, D'Zurilla & Mayden-Olivares, 1994). Koizumi (1995) considers optimism a future expectancy of personal life success. However, Schweizer, Beck-Seyffer and Schneider (1999) do not limit optimism to a personal situation as they define it as a generalized expectation of a positive result and a "specific style of information processing" (p. 629). Rabięga and Cannon (2001) concur with the expectation of a positive outcome but expand the parameters of optimism to include future events. Carver and Scheier (2003) contend that optimism is a generalized and diffuse sense of confidence. Finally, Seligman (1991, 1995) and Vaughan (2000) consider optimism as a departure from reality or a positive illusory state. Hope is closely related to optimism. Bryant and Cvengros (2004) attempted to differentiate optimism from hope and they determined that hope refers to specific goal attainment while optimism is broader and focuses on more general future outcomes. According to Ey and colleagues (2005) the sheer variety of definitions has

hampered research because optimism has been studied from so many different perspectives. Research also describes several different ways to view the constructs of optimism. In order to fully understand optimism research, you must first examine which construct of optimism is being considered.

Optimism Constructs

Two main constructs of optimism are discussed in the literature: the explanatory or attributional style and the dispositional view. However, according to Rabiega and Cannon (2001), many studies do not specify which construct of optimism is being researched. They suggest lack of specification is a consequence of the incomplete yet evolving field of positive psychology. Chang et al. (1994) suggest that different optimism instruments measure different aspects and characteristics. Ey et al. (2005) contend that besides the lack of agreement about the definition and measurement of optimism and pessimism, the variety of constructs have made it difficult to compare findings and to further understandings in this area. A brief explanation of the two main constructs and their primary factors will be useful at this point.

Explanatory or Attributional Style

The explanatory style of optimism uses past experiences to predict future outcomes. There are three main factors which comprise the explanatory or attributional style. With the exception of clear differences in terminology, researchers seem to agree about the factors involved in this style. Seligman (1991) describes an explanatory style which has three facets: permanence, pervasiveness and personalization. Similarly, Higgins and Hay (2003) refer to an attributional style with the dimensions of locus of causality, stability (temporary or permanence) and globality (specific or global). Whereas, Vaughan (2000) suggests that “an inner sense of

autonomy, self reliance and integrated personhood” (p. 34) are necessary for optimism. What are the primary factors informing the explanatory style?

The first factor is permanence or stability. This refers to the belief that the reasons behind the negative events are permanent. Individuals displaying this factor think in terms of always and never when they consider the likelihood of bad events. For example, an individual may state ‘You always ignore me’ or ‘I never have any luck’. These are examples of permanent pessimistic thinking. A more optimistic individual would use less emphatic terms to explain negative events such as ‘You seem to be ignoring me tonight’ or ‘I don’t have any luck today’ (Seligman 1991). These interpretations of negative events as permanent or stable can result in feelings of hopelessness and helplessness. Individuals who are able to give the negative event a temporary status are more likely to develop resilience. Resilience is associated with better coping and can come into play when explaining good events. Pessimistic thinkers give a temporary status to good events while optimistic individuals give good events a permanent status (Seligman, 1991).

Pervasiveness or globality, the second factor, looks at whether the individual considers the negative or positive event as specific or universal. “The optimist believes that bad events have specific causes, while good events will enhance everything he does; the pessimist believes that bad events have universal causes and that good events are caused by specific factors” (Seligman, 1991, p. 47). Examples of negative global thinking are: ‘All books are useless’ or ‘I am repulsive’; while specific negative thinking examples are ‘This book is useless’ and ‘I am repulsive to him’ (Rabiega & Cannon, 2001). Global negative explanations result in helplessness across many situations while negative explanations, specific to a particular area, result in specific areas of helplessness. Obviously a generalized sense of helplessness has a

greater potential to negatively affect an individual's life than helplessness localized in just one or two troubled areas (Seligman, 1991).

The final factor informing the explanatory or attributional style is personalization or locus of causality. Events can be attributed to either internal or external causes. Individuals can blame themselves for the bad events (an internal cause); or can attribute other people or circumstances as the external causes of the bad event. According to Seligman (1991) this dimension has less personal impact than the other two factors, pervasiveness and permanence, because personalization only controls how you feel about yourself while the other two factors "control what you *do*: how long you are helpless and across how many situations" (p. 50). As will be shown, attributional optimism differs significantly from dispositional optimism.

Dispositional Optimism

The other primary construct of optimism, the dispositional view, considers the direct beliefs individuals have about future life events without taking into account past experiences. It evaluates disposition or temperament. This construct considers optimistic belief expectancies about future events while the attributional theory attempts to understand the reasons why people are optimistic or pessimistic by examining the explanations for past negative events. The dispositional measure of optimism is a more direct study of the optimistic trait than attributional optimism because it measures the amount of optimism or pessimism an individual presently possesses rather than considering explanations from past events (Rabiega & Cannon, 2001). Carver and Scheier (2003) concur stating: "One potential advantage of direct assessment is that it explicitly targets the precise construct of interest; expectancies. In contrast, attributions are always a step away in the logical sequence from the expectancies that are critical" (p. 81). Further, the direct measure of optimism permits researchers to consider optimism along with

other factors which promote physical and psychological health (Rabiega & Cannon, 2001). Besides attributional and dispositional optimism, there are a few other types of optimism described in research.

Other Types of Optimism

There are additional classifications of optimism described in the literature albeit less frequently than attributional and dispositional optimism. Schweitzer et al. (1999) describe personal and social optimism as types of optimism that act independently of one another. The existence of many different types of optimism provides support for the view that individuals are not exclusively optimistic or pessimistic but rather have different dispositions in different situations. For example, they may display optimism in their marriage relationships yet may be pessimistic regarding their career (Burke, Joyner, Czech & Wilson, 2000). Further, the belief that the levels of optimism can vary in different situations also supports the notion that optimism and pessimism are on a continuum. There are two views regarding optimism and pessimism continuums: “The bipolar view looks at optimism and pessimism lying on separate poles of a single bipolar continuum. The separate dimensional view states that optimism and pessimism can both exist within a person” (Burke et al., 2000, p. 132). There is considerable agreement amongst researchers to support the dual dimensional concept of optimism and pessimism (Chang et al., 1994; Hjelle, Belongia & Nesser, 1996; Hummer, Dember, Melton & Schefft, 1992; Schweitzer et al., 1999). Optimism is apparently complex and intricate and it is likely that the origins of the development of this trait are also complicated. The examination of the origins of optimism will enhance knowledge of the various constructs.

Optimism Underpinnings

Schulman, Keith and Seligman's (1993) study of twins tentatively suggests that optimism may have a substantial genetic component. They did not conclude that optimism was directly heritable but that "other heritable traits influence experiences with success and failure which in turn influence optimism" (p. 373). Ey et al. (2005) state that optimism and pessimism are thought to develop early in life but that it is unclear when and how these emerge in childhood. Vaughan (2000) contends that early experiences are vital: "Although we are born with little ability to influence our limbic systems, we quickly develop inner reins in the forms of loops between the cortex and limbic system that are forged in the context of early affective interactions with others to assist us with the task of mood modulation" (p. 88). It would appear that early life experiences in conjunction with heritable traits are important factors affecting optimism. Awareness of which early life experiences influence optimism would be useful for parents and educators.

According to Seligman (1991), there are three main factors that are involved in optimism or pessimism developing in children. The primary influence is hearing causal explanations from parents; particularly mothers. However, Seligman and colleagues (1984) contend that a cyclical pattern may exist whereby the child and the mother influence each other's optimism. Yet, Hjelle, Busch and Warren (1996) found the paternal influence upon optimism to be greater than maternal. Children appear to imitate or copy their parents as they explain the cause of negative events. Optimism appears to be partially learned from the children's environment (Seligman, 1991). While it is not conclusive which parent has the greater influence, there appears to be agreement that there is significant parental influence in the development of optimism.

The second major influence in the development of optimism and pessimism concerns the criticism children receive from their parents when they fail. However, certain determinants wield greater influence than others at different stages of the child's cognitive and emotional development (Seligman, 1991). Parenting styles and practices play a crucial role. Parental styles which are harsh and inconsistent are associated with children developing a pessimistic explanatory style. Adults who are optimistic are more likely to have had mothers who did not place restrictions on their play activities or pressure them to conform to social norms (Hjelle et al., 1996).

Seligman's (1991) final influential factor is the occurrence of certain traumatic life events. For example, the loss of a parent in the early years is related to the development of pessimism. The loss of a parent is permanent and pervasive; likely affecting all facets of a child's life and how future losses are interpreted. Other traumatic events can also lead to pessimism if the circumstances are not overcome. For example, children from the Great Depression who remained poor into adulthood are more pessimistic than adults from that time who improved their economic situation. The styles of optimism or pessimism developed in childhood are vital for interpreting positive and negative situations which are encountered throughout life. According to Harju and Bolen (1998) "as far as optimism goes, higher is better" (p. 11). Therefore, it would be useful to determine whether the pessimistic explanatory styles are static or whether they can be made more optimistic.

Increasing Optimism

Bood, Archer and Norlander (2004) consider negative tendencies as relatively stable. Higgins and Hay (2003) contend that optimistic and pessimistic viewpoints are situational to specific events rather than simply a "cognitive habit" (p. 268). However, Seligman (1991) and

Vaughan (2000) believe that pessimistic individuals can change how they view the world. Optimism and pessimism are closely related to the internal thoughts an individual has about a situation and pessimistic thoughts are changeable with effort and intent (Bennett-Goleman, 2001; Katie, 2002; Seligman, 1991; Seligman, 1995; Vaughan, 2000). When individuals change their pessimistic thoughts to be more optimistic, they are less in touch with the realities of the situation (Seligman, 1991; Seligman, 1995). Instead, they have positive illusions (Vaughan, 2000; Waller, 2003).

Seligman (1991, 1995) and Vaughan (2000) offer a variety of strategies and programs which increase optimism. Seligman (1991) suggests documenting ABC's of each event: adversity, the belief associated with it and the consequences. Next, the individual is guided to dispute the negative thought or belief, or engage in a distracting activity. Central to the concept of changing thoughts and beliefs is the idea that not all thoughts are true. Katie (2002) contends that thoughts can create beliefs which are not true. "A thought is harmless unless we believe it. It is not our thoughts, but the attachment to our thoughts, that causes suffering. Attaching to a thought means believing that it's true, without inquiring. A belief is a thought that we've been attaching to, often for years" (p. 4). Bennett- Goleman (2001) and Vaughan (2000) suggest that while distorted thoughts create unhappiness, mental afflictions and are the primary cause of emotional and psychological suffering, the negative distorted thoughts can be changed.

Bennett-Goleman (2001) attributes possible changes in thoughts to the "magic quarter second". She presents evidence via functional Magnetic Resonance Imaging (MRI) that the brain initiates motor activity a quarter second before an awareness of the intent for action occurs. After the awareness, there is also an additional quarter second interval before the brain initiated activity actually occurs. At this particular time, an individual could decide to change the

automatic response. The cognitive awareness of the negative thought allows for a possible overruling of habitual responses. Therefore, this fairly recent neuroscience discovery of the “magic quarter second” suggests that a thought can be intercepted before it becomes an emotional reaction. This discovery forms the basis for interrupting thoughts which may be detrimental to emotional health.

Individual awareness of negative thoughts leads to mindfulness which is simply a state of accepting awareness. Mindfulness, a technique taught at length by Bennett-Goleman, is central to changing both the reactions and ultimately the neural pathways of the brain. However, there are differing viewpoints regarding the constancy of the states of optimism and pessimism. Higgins and Hay (2003) contend that optimistic and pessimistic viewpoints are situational to specific events. The optimistic or pessimistic viewpoints result in benefits and drawbacks.

Benefits of Optimism

The positive effects of optimism are well documented. Wrosch and Scheier (2003) studied the importance of optimism and goal adjustment and found that optimistic individuals manage difficult situations better than do pessimists. Optimists were more likely than pessimists to use more problem focused coping strategies as well as additional methods such as positive reframing, acceptance and humour. There seems to be strong agreement that low scores on measures of optimism are highly correlated with depression (Dubow, Arnett, Smith & Ippolito, 2001; Jaycox, Reivich, Gillham & Seligman, 1994; Nolen-Hoeksema, Girgus & Seligman, 1986; Schweizer et al., 1999). O’Connor, Connery and Cheyne (2000) contend it is unclear which factors comprise impaired future positive thinking and depression: “We have yet to determine whether cognitive dysfunction is a cause or a consequence of depression” (p. 160). In other words, do persistent negative thoughts cause depression or does depression cause the individual

to have persistent negative thoughts? Seligman (1991) contends that persistent thoughts of loss and failure can result in the development of depression. Clearly, optimism affects mental health. Is optimism related to physical health?

In the physical health field, a variety of benefits have been noted in relation to optimism. Covey and Davies (2004) researched unrealistic optimism and showed that unrealistically optimistic individuals claim they are less likely to suffer from health problems than their peers. Covey and Davies (2004) did not investigate the accuracy of the unrealistic optimism and health problems, only the optimism that resulted from direct and indirect questioning. High optimism was associated with highest quality of life satisfaction in a study of over 200 college students (Harju & Bolen, 1998). In 2002, the Federal Drug Agency (FDA) Consumer reported on the Mayo Clinic's research on optimism and quality of life. This study verified that optimistic compared to pessimistic individuals reported a higher quality of life. While the results support the importance of assessing optimistic and pessimistic attitudes, there was no description of any practical use of the data for medical personnel. This 2002 study from the prestigious clinic also supports an earlier Mayo clinic study which found that optimists live longer than pessimists (FDA Consumer, 2002). Seligman (1991) describes research using blood counts and personal interviews which showed that optimistic individuals had better immune function than did pessimists. Evidently, there are a variety of physical benefits associated with having an optimistic outlook. However the question must be asked: is optimism exclusively positive?

Drawbacks of Optimism

Waller (2003) suggests that some negative effects result from high optimism. He contends that optimists are far less accurate in what they assess and expect to happen. He suggests that optimists frequently overestimate the probability of success and underestimate the

difficulties which may be encountered. However, he also notes that optimists work harder and are more successful than pessimists, although he provides no empirical evidence. He recommends that working groups be comprised of both optimists and pessimists because both are useful; the optimists provide a determined work ethic, while the presence of the pessimists ensure that truth and accuracy of the realities of the situation are considered.

Seligman (1991) also agrees that optimism has its limits: less clarity about reality lessens individuals' responsibility for a situation. In other words, individuals may be so optimistic that they do not take the appropriate action to ensure the desired outcome. This situation is called "unrealistic optimism". He promotes what he calls flexible optimism or "optimism with its eyes open. We must be able to use pessimism's keen sense of reality when we need it without having to dwell in its dark shadows" (p. 292). However, Scheier and Carver (1992) state that they have not seen conclusive evidence of unrealistic optimism and therefore, discount its existence.

Optimism and High School Achievement

What does the literature tell us specifically about optimism in relation to high school students and their achievement? According to Puskar and colleagues (1999) rural teenagers are less optimistic than their urban counterparts. Overall, adolescents are more realistic and less optimistic than adults (Cassidy, 2000). Several authors (Määttä, Stattin & Nurmi, 2002; Pajares 2001) mention that there has been a minimal amount of research directed at assessing relationships between optimism and academic motivation in adolescence. Of the research available, Määttä et al's (2002) findings showed that approximately one quarter of adolescents in their study used an optimistic achievement strategy. These students had less depression, better teacher relations, higher student achievement, less norm breaking behaviour, and higher self esteem than students who did not use an optimistic achievement strategy.

Hall, Spruill and Webster (2002) found higher Grade Point Averages (GPA's) in students who felt they had a greater sense of control over their future than in students who felt they had no control over their future. Students' belief that success was under their personal control resulted in greater effort applied towards goal achievement. The greater effort results in higher achievement. Self efficacy beliefs are closely related to optimism (Schwarzer & Jerusalem, 1995). In contrast, Harju and Bolen (1998) found that optimism was only slightly related to GPA's. Chang et al. (1994) take an even stronger stance on the frailty of the relationship between optimism and GPA's as they contend that no significant relationships exist between optimism and pessimism indices and academic performance. Chang et al's (1994) study involved almost 400 college students. While their study was not conducted on high school students, the mean age of the sample was 19.2 years. The inconclusive result between optimism and school achievement in the literature begs further investigation. Accordingly, the primary purpose of the present study is to examine the relationship between optimism and pessimism on school achievement in a sample of high school students.

Hypothesis

Just as individuals perceive a four ounce glass of water, in an eight ounce container, as either half full or half empty; individuals can have different responses or perspectives to the same stimulus. These responses may be observable as attitudes such as optimism or pessimism. It is a widely held belief that certain attitudes can influence satisfaction and success in life. In the teenage years, attitude appears to affect school achievement. High school teachers are very aware of this seeming connection as they have observed instances where individuals with lower intellectual abilities, but with great determination and positive attitudes succeed academically against all odds. On the other hand, students with high ability have been occasionally observed

to fail their courses because of an apparent lack of effort and negativity. However, it is possible that these examples are exceptional. These observations have fuelled a personal interest in studying how optimism and pessimism influence academic success. The research question to be answered is: what is the relationship between optimism and successful course completion at the high school level? It is expected that there will be a significant association between these variables in spite of the inconclusive results found in the literature. The measure of optimism used in this study is a dispositional measure of self-efficacy rather than an attributional or explanatory optimism construct.

Method

Sample

The participants included 48 students from a senior secondary high school, population 1384, in central British Columbia. Frequency statistics on grade, gender and age were calculated for the sample group. Almost one half (46%) of the participants were grade 12 students; 30% were grade 11 and the remaining 15% were grade 10. While overall two thirds of the participants were female; the grade 10 participants were almost exclusively female (see Table 1). The ages ranged from 15 to 18 years with 16.3 years being the mean age. One quarter of the students were 15 years old, just under one third (30%) were 16 years old, 35% were 17 years old and 10% were 18 years of age.

Table 1: Sample Population Breakdown

	Males	Females
Grade 10's	1	13
Grade 11's	5	7
Grade 12's	9	13
Total	15	33

The school draws students from all over the area owing to the extensive variety of unique courses offered. The sample participants were solicited from a variety of classes: junior and senior English, junior and senior Socials Studies, several grade 11 Science classes and a grade 10 Planning course.

Procedure

Letters were sent to the district's Superintendent of Special Services and to the school principal explaining the purpose of the study and asking permission to conduct the research at the school. Classes from the school were randomly selected and participation was then solicited from the teachers of the selected classes. The researcher attended the classes and explained the study to the students (see appendix 1) who were given parental and personal consent forms (see appendices 2 & 3). The final sample consisted of students who agreed to participate and whose parents also gave consent. An incentive was offered to the students: the first one hundred students returning signed consent forms and completing the survey were entered into a draw for two gift certificates. Each gift certificate was worth fifty dollars. Only forty eight students returned the forms and completed the survey by the end of the semester when the two gift certificates were awarded.

All participants completed the short self efficacy optimism measure (see appendix 4). The study was conducted late in the first semester, about one month before the end of the semester. This strategy was intended to minimize any positive affect from students having an awareness about the possible effects of optimism and pessimism upon school achievement. At the end of the semester, the report cards for the students were accessed in order to compare academic and elective grades with the measure of optimism.

Optimism-Pessimism Measure

Schwarzer and Jerusalem developed the General Self Efficacy Scale (GSE) in 1981. This scale was originally written in German but has since been translated into twenty-nine different languages and has been used with tens of thousands study participants. According to Schwarzer and Jerusalem (1995) the GSE has moderate positive associations with optimism and negative associations with pessimism. The reliability of the GSE is also well documented. Typical internal consistencies (alpha) have been shown to be between .76 and .90. In this study, the covariance matrix was used for the analysis of the reliability of the optimism scale data. Results showed the standardized item alpha score was .74. This is comparable to the alpha scores reported by the GSE authors (Schwarzer & Jerusalem, 1995).

The GSE is a direct measure of optimism (Rabiega & Cannon, 2001) and assesses optimistic self coping beliefs in a variety of difficult situations and demands in life. Typical items from the GSE are: ‘Thanks to my resourcefulness, I know how to handle unforeseen situations,’ and ‘When I am confronted with a problem, I can usually find several solutions.’ As this research project considers optimism and school achievement, the GSE was selected because it is a direct measure of optimism; it has been used worldwide and extensively with adolescents (Schwarzer & Scholz, 2000). Self efficacy and the GSE are also highly associated with academic performance (Schwarzer & Jerusalem, 1995; Schwarzer & Schmitz, 2004). Tabassam and Grainger (2002) concur that students with higher self-efficacy perform well in all situations regardless of ability.

Results:

Descriptive statistics for academic grades, elective grades and optimism

The following means were calculated: academic grade percentage = 72.7% (range 22.5 % to 91.7%), elective grade percentage = 77.6% (range 1% to 98.5%) and optimism score = 31.9

(range 21-38). An optimism score of 10 would mean that the student selected the least optimistic answer choice for each of the ten optimism survey questions. A score of 40 would result from the selection of the most optimistic response for all ten survey questions.

Relationships between academic grades, elective grades, optimism and gender

There were no noteworthy mean differences in optimism scores and academic grades by gender. The mean optimism score for males was 32.2 and was 31.7 for females. The mean academic grade score for males was 69.1 % and was 74.3 % for females. However, there was a slight difference noted in the mean scores for elective grades by gender. The mean elective grade score for males was 66.6 while it was 82.9 for females. See appendix 5 Table 1 for standard deviation information for the above scores.

Relationships between academic grades, elective grades, optimism and grade level

There were no remarkable mean differences in optimism, academic or elective grade by grade level. The optimism score mean for grade 10 students was 32.8 while the optimism score mean for grades 11 and 12 students were virtually identical at 31.4 and 31.5 respectively. See appendix 5 Table 2 for standard deviation information. The optimism scores were compared across grade levels using a Oneway Analysis of Variance (ANOVA). Findings confirmed no significant differences existed between grade level and optimism scores.

Relationships between academic grade, elective grades and optimism

The predicted positive association between optimism and school achievement was not supported. The correlation coefficient between academic grades and optimism scores was .15 ($p = .32$). Elective grade and optimism scores were negatively and insignificantly correlated ($r = -.08$, $p = .62$). However, there were some significant correlations between the other variables. Gender was significantly correlated with elective grades ($r = .37$, $p = .02$). Not surprisingly,

academic and relative grades were highly correlated at $r = .74$ ($p = .0001$). These results were not the primary focus of the study and will not be discussed further.

Discussion

The present study was motivated by the informal observation that optimistic attitudes of high school students and school achievement were related. While the literature predominately suggested that these factors are not associated, there were some researchers who found a significant relationship (Hall, Spruill & Webster, 2002; Määttä et al. 2002; Schwarzer & Jerusalem, 1995). It was thought that using the GSE, a direct measure of self efficacy, would show the expected results for this study. However, the data failed to support the expected association between optimism and school achievement in academic or elective courses.

There are many possible reasons why the association was not evident in this study. The first possibility is that all of the optimism survey questions were not answered accurately. Self report measures are prone to inaccuracy (Dubow et al., 2001). Curtis (2004) discusses the problematic features of assessing attitudes in some detail. He cites Weiss and Yoes (1991) assumptions of measures of attitudes. When completing questionnaires, it is assumed a respondent will answer honestly, will indicate the existence and strength of the underlying attitude trait accurately and will not be influenced by other items in the questionnaire. The alpha score indicates that participants are responding in a consistent manner. Test and retest over time would be another way of assessing the reliability of responses.

There are a variety of factors affecting the accuracy of responses to survey questions including “social desirability, acquiescence, self-awareness, irrationality, inadmissibility, self-recrimination and politeness” (Curtis, 2004, p. 129). Students may have answered the GSE survey questions based on what they wished they were capable of; or they may have

underestimated their self-efficacy as a show of modesty (Koizumi, 1992). Curtis (2004) also mentions carelessness of responding and language comprehension as additional factors which could skew results from attitude surveys.

The high mean scores found for optimism in this study do support an optimistic bias found in research of all ages: children, youth and adults (Dubow et al., 2001; Fischer & Leitenberg, 1986). The researcher of this study had a very difficult time acquiring participants and it is possible that students who are pessimistic may not have volunteered to participate. Avoidance is a well known pessimistic trait which may have been a factor in this and other studies (Harju & Bolen, 1998). This would naturally contribute to a higher overall optimism score, or the optimism bias. The impact of the optimism bias on the study of academic achievement is not readily apparent but it is likely that the bias could skew results.

There are additional possible reasons for the lack of relationship between optimism and school achievement. As optimists are sometimes known to underestimate difficulties and overestimate probabilities of success (Waller, 2003), it is also possible that they would overestimate their self-efficacy on the GSE. This could partially explain why some highly self-efficacious individuals had low achievement. 'Unrealistic optimism', mentioned in the literature review, could also be a factor. Seligman (1991) mentions the lack of effort some students apply towards goals is a feature of unrealistic optimism. These optimistic individuals have such strong assumptions about success that they do not take the appropriate actions to achieve the desired successful goal.

Other possible explanations for high optimistic students having low achievement could be the sudden influence of other factors such as family difficulties, problems with peer relationships, physical and mental health issues. For example, an optimistic student could be

successful partway through the semester then a variety of factors arise whereby the student is not able to complete the course requirements. This would explain both the high optimism and the low achievement for some students in this study. Learning disabled students also have overly optimistic self efficacy which may result in reduced academic achievement (Klassen, 2002). This study did not consider these factors in the sample participants.

A factor which could explain low optimism and high achievement could be the mirror opposite of unrealistic optimism: i.e. unrealistic pessimism. Perhaps this type of individual overestimates difficulties and consequently applies greater effort to overcome the inflated obstacles. The greater efforts could result in greater school achievement. However, there was no mention of this particular concept in the literature and it is contrary to known qualities of pessimists (Scheier & Carver, 1992). Yet, it would explain why some pessimistic individuals achieve beyond their expectations.

A particular type of pessimism was discovered in the literature as answers were sought to explain the unexpected results. There were numerous references in the literature to ‘defensive pessimists’ (Hummer et al., 1992; Koizumi, 1992; Määttä et.al, 2002; Scheier & Carver, 1992). These individuals have low expectations to guard themselves from a loss of self-esteem resulting from failure (Koizumi, 1992) in a particular sphere of life (Scheier & Carver, 1992). Nonetheless, evidence exists that defensive pessimists achieve academically as well as optimists (Koizumi, 1992; Määttä et.al, 2002; Scheier & Carver, 1992). This could explain why some pessimistic students in this study had high achievement.

Finally, there is the possibility that optimism and academic achievement are not related for the high school students in the current study. However, the sample size for this study was

minimally acceptable and further investigation with a greater number of participants would be necessary to confirm the absence of association.

Conclusion

Optimism is a broad concept with many possible behaviour pathways which are not yet fully understood (Scheier & Carver, 1992). A variety of different studies on optimism and school achievement have resulted in conflicting results. The current study has not shed any light on this complex issue. More research is necessary to clearly delineate all the components and constructs of optimism and their affects on school achievement. Careful analysis of the methodologies used in the many studies may provide answers. Chang et al. (1994) provide some very specific guidelines to follow:

Data from one optimism and pessimism instrument should not be integrated with the results obtained from another instrument until the relations among the different instruments (and their underlying constructs) are examined and clarified, especially when the items in the different instruments are not derived from the same specific definition or conceptualization of optimism and pessimism (p. 159).

According to Curtis (2004) simple random samples are necessary for traditional significance testing but are seldom found. Underestimation of variance and an overestimation of significance are possible results when using clustered samples. Examination of the conflicting studies along these lines would prove interesting and provide direction for more accurate research in the future. For example, it is possible that using percentages of successful course completions rather than GPA's would have given different results in the current study. This may be investigated further in a subsequent study.

Case studies using qualitative rather than quantitative data could perhaps provide additional insights into the relationship between optimism and school achievement which could then be validated with properly constructed quantitative studies. While optimism has been

shown to be associated with greater classroom and school involvement (Boman & Yates, 2001; Dubow et.al., 2001) the connection to school achievement is not yet fully evident. The enhanced feelings of personal agency which optimism offers (Boman & Yates, 2001) likely requires academic achievement motivation (Cassidy, 2000) and pre-existing academic skills (Honora & Rolle, 2002) in order to impact academic achievement. It is important to discover all the pertinent variables influencing student achievement because, without adequate academic preparedness, a highly optimistic student is more prone to maladaptive behaviours in school as their need to achieve (Cassidy, 2000) is frustrated by the shortfall in their skills (Honora & Rolle, 2002).

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Appendix 1 Recruitment Script

Good morning class. My name is Ms Schumacher and I am the Learning Assistance teacher here at this school. I am enrolled in a Masters of Arts degree program at Athabasca University. It is a wonderful institution as they have a wide selection of courses and programs which are all done by distance education or online. For my final course, I need to do a research project and I want to examine the relationship between optimism and school achievement. This class was selected in a random draw to participate. I am inviting each student from this class to participate in this study. Prior to participation, I need to have your written consent and your parent's written consent. I have the forms here. After I hand out the forms we will read through them and they will explain all about the study. (Read student consent form which explains everything).

As I cannot commence the study until I have the signed consent forms in, I have decided to offer an incentive. I need approximately 100 students for this study so the first 100 students who bring back both signed consent forms and complete the 5 minute survey will get their names in two draws for two gift certificates from XXXXX Mall worth \$50.00 each. You can hand in the completed forms directly to me. My classroom is located right beside the bookroom.

Once I have the survey data on optimism, I will eventually compare those results to the final grades from your classes. The summary results will be available to the participating students upon request at the end of the study.

Are there any questions? No, Thanks for your time!

Appendix 2
XXXXX Senior Secondary School
XXXXX, BC

STUDENT CONSENT FORM
For Participation in a Research Study

What is this study about?

You are invited to participate in a research study entitled: Assessing the Relationship between Optimism and Academic Success in High School Students. The purpose of the study is to compare how optimism is related to success in school. You are being asked to participate because your class was one of the classes randomly selected from the school.

This study is being conducted by Ms. Brenda Schumacher, Learning Assistant Teacher, XXXX Senior Secondary School, XXXXXXXXXXXX, BC, phone XXXXXXXX loc 7117; and is the final project for a Master of Arts degree from Athabasca University. The study is being conducted under the supervision of my instructor for the course: Dr. Lynda Ross, Associate Professor at Athabasca University, Athabasca, Alberta.

What will I be asked to do?

You will be asked to complete a paper-pencil survey designed to measure optimism. We estimate that it will take about five minutes of your time to complete the survey. These results will be compared to the final report card marks to determine the relationship between optimism and school achievement.

What are the risks and benefits of my participation?

The risks associated with participation are extremely minimal, and could only result in a possible lowered emotional state (i.e. disappointment or sadness) as a result of the personal self reflection of the survey. The benefits which may be reasonably expected to result from this study are related only to a possible awareness of optimism and pessimism and the possible effects on school achievement and a chance to win the incentive draw.

Your decision whether or not to participate in this study will not affect your grade in this class or any other class within the school.

Are there any costs? Will I be paid?

No, there are no costs or payment associated with this study. However, all student participants will be entered in two draws for two \$50.00 gift certificates from XXXXXXXXX Mall once both consent forms are returned and the survey is completed.

Subject's Rights and Confidentiality:

If you agree to participate in this study, please understand that your participation is voluntary (you do not have to do it). The identity of the non participants will be protected and respected. The survey will be administered outside of class time when the consents are returned to my classroom. You have the right to withdraw your consent or stop your participation at any time without penalty. You have the right to refuse to answer particular questions. Unanswered questions will not make you ineligible for the draw. The winners of the draw will be notified by letter to protect their identity.

To protect your privacy you will be assigned an identification number. All the information you provide will be stored only with your identification number, *not* with your name. Only Brenda Schumacher will have access to the data which will stored in a locked filing cabinet and on a password protected computer. All the data will be destroyed (shredded) or deleted from the computer when the study is completed.

Every effort will be taken to protect the identity of the participants in the study. You will not be identified in any report or publication of this study or its results.

If you wish to withdraw from this study or have any questions or wish a summary of the results of this study upon its completion contact Ms. Brenda Schumacher.

This study has been reviewed and approved by the Athabasca University Research Ethics board, a group that makes sure that study participants are treated fairly and protected from harm.

The extra copy of this consent form is for you to keep.

AGREEMENT STATEMENTS:

I have read and understand the information presented here, and I freely give my consent to participate in this research.

Signature _____ Date _____

I also give consent for the examination of final grade marks and the comparison of them to the results of the optimism survey by Brenda Schumacher.

Signature _____ Date _____

Appendix 3
XXXXX Senior Secondary School
XXXXXX, BC

PARENT CONSENT FORM
For Child's Participation in a Research Study

What is this study about?

Your child _____ has been invited to participate in a research study entitled: Assessing the Relationship between Optimism and Academic Success in High School Students. The purpose of the study is to compare how optimism is related to success in school. Your child has been asked to participate because their class was one of the classes randomly selected from the school.

This study is being conducted by Brenda Schumacher, Learning Assistant Teacher, XXXXX Senior Secondary School, XXXXXXXXXX, BC, phone XXXXXXXXX loc 7117; and is the final project for a Master of Arts degree from Athabasca University. The study is being conducted under the supervision of my instructor for the course: Dr. Lynda Ross, Associate Professor at Athabasca University, Athabasca, Alberta.

What will the participants be asked to do?

The students will be asked to complete a paper-pencil survey designed to measure optimism. We estimate that it will take about five minutes of their time to complete the survey. These results will be compared to the final report card marks to determine the relationship between optimism and school achievement.

What are the risks and benefits of their participation?

The risks associated with participation are extremely minimal, and could only result in a possible lowered emotional state (i.e. disappointment or sadness) as a result of the personal self reflection of the survey questions. The benefits which may be reasonably expected to result from this study are related only to a possible awareness of optimism and pessimism and the possible effects on school achievement and a chance to win the incentive draw.

Their decision whether or not to participate in this study will not affect their grade in this class or any other class within the school.

Are there any costs? Will they be paid?

No, there are no costs or payment associated with this study. All student participants will be entered in two draws for two \$50.00 gift certificates from XXXXXXXX Mall once they return both consent forms and complete the survey.

Subject's Rights and Confidentiality:

If the student agrees to participate in this study, please understand that participation is voluntary (they do not have to do it). The identity of the non participants will be protected and respected. The survey will be administered outside of class time. They have the right to withdraw consent or stop their participation at any time without penalty. They have the right to refuse to answer particular questions. Unanswered questions will not make them ineligible for the draw. The winners of the draw will be notified by letter to protect their identity.

To protect their privacy, the participating students will be assigned an identification number. All the information they provide will be stored only with their identification number, *not* with their name. Only Brenda Schumacher will have access to the data which will stored in a locked filing cabinet and on a password protected computer. All the data will be destroyed (shredded) or deleted from the computer when the study is completed.

Every effort will be taken to protect the identity of the participants in the study. The students will not be identified in any report or publication of this study or its results.

If you have any questions, or wish a summary of the results of this study upon its completion contact Ms. Brenda Schumacher at 765-1407 local 7117.

This study has been reviewed and approved by the Athabasca University Ethics Board, a group that makes sure that study participants are treated fairly and protected from harm.

The extra copy of this consent form is for you to keep.

AGREEMENT STATEMENTS:

I have read and understand the information presented here, and I freely give my consent for my child _____ to participate in this research.

Signature _____ Date _____

I also give consent for the examination of final grade marks and the comparison of them to the results of the optimism survey by Brenda Schumacher.

Signature _____ Date _____

Appendix 4 General Self Efficacy Scale

Student Number: _____ Teacher _____ Block _____ Grade _____ Age _____ Male or Female

Please be as honest and accurate as you can throughout. There are no "correct" or "incorrect" answers. Answer according to your own feelings, rather than how you think "most people" would answer. Please circle only one response for each question. Your first response is the most accurate; please do not change answers. If any questions make you uncomfortable you may skip them.

1. I can always manage to solve difficult problems if I try hard enough.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

2. If someone opposes me, I can find the means and ways to get what I want.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

3. It is easy for me to stick to my aims and accomplish my goals.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

4. I am confident that I could deal efficiently with unexpected events.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

5. Thanks to my imagination, I know how to handle unforeseen situations

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

6. I can solve most problems if I invest the necessary effort.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

7. I can remain calm when facing difficulties because I can rely on my coping abilities.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

8. When I am confronted with a problem, I can usually find several solutions

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

9. If I am in trouble, I can usually think of a solution.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

10. I can usually handle whatever comes my way.

1 = Not at all true 2 = Hardly true 3 = Moderately true 4 = Exactly true

Appendix 5

**Table 1: Optimism, Academic and Elective Grade Mean Scores
And Standard Deviations by Gender**

	GENDER	N	Mean	Std. Deviation	Std. Error Mean
OPTIMISM	male	15	32.2000	3.34237	.86300
	female	33	31.7424	3.74191	.65138
AGRADE	male	15	69.1467	18.16751	4.69083
	female	33	74.3288	12.08672	2.10403
EGRADE	male	14	66.6143	28.14391	7.52178
	female	29	82.9690	14.34317	2.66346

Table 2: Optimism Mean Scores and Standard Deviations by Grade

Grade	N	Mean	Standard Deviation	Standard. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
10.00	14	32.8214	2.72881	.72931	31.2459	34.3970	28.00	37.00
11.00	12	31.4167	4.10007	1.18359	28.8116	34.0217	21.00	37.00
12.00	22	31.5455	3.82632	.81577	29.8490	33.2419	25.00	38.00
Total	48	31.8854	3.59260	.51855	30.8422	32.9286	21.00	38.00