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# Appreciating Beauty in the Bottom 80

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# Appreciating Beauty in the Bottom 80

## **Abstract**

Americans spend a great deal of time and money trying to help teens who are not top students become better performers--providing tutoring/test preparation (a \$3.5 Billion industry that has doubled in the past five years), diagnosing learning disabilities, or simply seeking new ways to "motivate" better school performance. We have developed many labels to identify what is wrong with students who are not in the top of their classes--for example, learning disabilities, motivation issues, and processing problems--but we have not asked, "What's right with these kids?" That is the question I raised in this study.

The answer was surprising: many things are right with these students. What's wrong is the way we view and structure education. I found that the students' capabilities are remarkable and well-suited to thriving in adulthood, but are not capitalized upon in school. I also demonstrated that our approach to education as a society--from a systems view--is a cause of depression and anxiety in students of at all levels of performance.

I concluded that appreciating beauty in the gifts and strengths of adolescents who are not top students – the majority - will significantly increase student, parent, and teacher well-being. Moreover, we can enhance adolescent well-being (at all performance levels) by refuting three myths of education: Myth #1: Not being a "top student" means not: intelligent, hardworking, or gifted; Myth #2: Being a "top student" leads to a great life; Myth #3: Our approach to education is good for adolescents.

Through a combination of interviews and literature review, I identified strengths and gifts in secondary school students who were not in the top 20% of their classes, "The Bottom 80," and examined them in the context of education objectives and future prospects. Interviewees were a representative sample of eleven parents, three educators, and two experts. Information from additional experts was obtained as part of a wide-ranging literature review that included multiple intelligences, positive psychology, education practices, and leadership.

In addition, through Abduction, the form of reasoning that leads to new knowledge, this study demonstrated that as a society we reinforce an approach to education that causes depression and anxiety and that by changing this approach--with proven practices--we can increase well-being in adolescents, parents, and educators.

## **Keywords**

Strengths, education, adolescents, depression, anxiety, leadership, gifted, gifts, giftedness, teachers, schools, learning disabilities, ADD, ADHD, dyslexia, asperger's

## **Comments**

The Capstone Project is a Parent Presentation which is found online at: <http://www.positiveleaders.com/studyresults.html> The paper is an addition to the capstone presentation, with more details in some areas but it does not include everything that is in the presentation.

**Appreciating Beauty**

**In**

**The Bottom 80**

Capstone Project for Master of Applied Positive Psychology

University of Pennsylvania

Christine Duvivier

July 31, 2007

My work culminated in a presentation for parents—a format that is targeted to some of gifts and strengths in the students studied. Please see the presentation for a complete synopsis—on the web at:

<http://www.positiveleaders.org/appreciatingbeauty/appreciatingbeauty.html>.

The attached paper provides some of the findings and discussion points.

Please contact [Christine@positiveleaders.org](mailto:Christine@positiveleaders.org) for more information.

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### Summary

Americans spend a great deal of time and money trying to help teens who are not top students become better students-- providing tutoring (an industry that has doubled in the past five years), diagnosing learning disabilities, or simply seeking new ways to motivate higher school performance. We have identified and labeled much of what is wrong with these students. What we have not done, though, is to turn the question on its head—instead of asking, “What’s wrong with these kids?” we have not asked, “What’s right with these kids?<sup>1</sup>” That is the question I raised in this study. The answer was surprising: many things are right with these students—what’s wrong is the way we view and structure education.

Through a combination of interviews and literature review, I identified strengths and gifts in secondary school students who were not in the top 20% of their classes, “The Bottom 80,” and examined them in the context of education objectives and future prospects. Interviewees were a representative sample of eleven parents, three educators, and two experts. Information from additional experts was obtained as part of a wide-ranging literature review that included multiple intelligences, positive psychology, education practices, and leadership.

As a result of the study, I concluded that appreciating beauty in the gifts and strengths of adolescents who are not top students – the majority—will significantly increase student, parent, and teacher well-being. The students’ capabilities are remarkable and well-suited to thriving in adulthood. Moreover, when we do not appreciate their gifts we violate a fundamental principle of equality: “*We hold these truths to be self-evident: that all men are created equal.*” If it is self-evident that all men are created equal, then a system whose goal is to develop productive citizens and leaders with good character must be designed to value equally and enhance the capacities of every child. Teachers working within the current system of education have devised

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<sup>1</sup> Derived from the movie, “What’s Right with the World?”

creative ways to appreciate the gifts and strengths of all students, but I found that these teachers are working within a flawed system—one that includes schools, parents, other taxpayers, and government officials-- that they did not design and which they cannot change by themselves.

We will stop a source of depression in adolescents by changing our (parents' and other decision makers') approach to education. Currently, we combine lack-of-student-control (e.g., what/when/how to learn), with many opportunities for defeat (e.g., awards, grades, try-outs, learning dominated by written language) and then explain defeat with a Pessimistic Explanatory Style<sup>2</sup> (e.g., "hardworking students get good grades," "the best and the brightest are at the top of the class"—in other words, "if you aren't one of these students, there's something wrong with you"). The mix of defeat, lack of control and Pessimistic Explanatory Style is a formula for depression (Seligman, 1990).

What makes it worse for the current generation are first, a heightened emphasis on competing for scarce goods and second, an intensified focus on teachers' opinions and looking attractive to colleges, both of which increase unhappiness (Schwartz, 2004, p. 95; Templeton, 2007, p. 16). The problems are not limited to The Bottom 80: "top" students are affected too, as I describe in the paper. These findings are important because 20% of High School children (240 in a class of 1200) will experience depression (Reivich, Shatte, Gillham & Seligman, 2006). Moreover, Jean Twenge noted, "The average American child in the 1980s reported more anxiety than child psychiatric patients in the 1950s (2000, p.1)."

What is interesting is that The Bottom 80 are fully capable of learning, are self-motivated, hardworking and have strengths and gifts that are well-suited to life satisfaction and leadership roles. For example, 6 of 11 parents interviewed said honesty/authenticity was a defining strength of their child and Peter Drucker said being trustworthy was one of the most

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<sup>2</sup> A Pessimistic Explanatory Style is one that explains a failure by blaming oneself, assuming that it "always happens," and it happens in every domain (Seligman, 1990).

important characteristics of a leader (Karlgaard, 2007). Other top strengths named for at least 30% of the students were: kindness/empathy (cited by 7 of 11), fairness, judgment/critical thinking, bravery, love, loyalty, humility and creativity. Moreover, at least four of the eleven students scored high on verbal intelligence.<sup>3</sup>

Some of the gifts found in The Bottom 80 are directly at odds with a written language-based education. One example is visual thinking. As Einstein explained, “The words or the language, as they are written or spoken, *do not seem to play any role* in my mechanism of thought (Dunham, 2007).” He, like others with this gift, thought in pictures, which means their brains process more information, faster--*a picture is worth 1000 words*-- (Davis, 1994, pp.8-9).

Despite an approach to education that often thwarts their gifts, these students are resourceful—although sometimes they show it in “bad behavior.” When faced with painful conflicts between their gifts and what is demanded of them by important people in their lives (parents, teachers, peers), The Bottom 80 sometimes use the adaptive coping mechanisms identified by George Vaillant (1977, p.9). For example, a student who learns best through hands-on exploration may ignore a lesson taught by someone else because, “... To act in a manner inconsistent with one’s core identity betrays the self and is therefore unthinkable (Templeton, 2007, p. 16).”

Through this research, I discovered world leaders and renowned scientists who were poor students in high school. This indicates that either 1) doing badly in school can lead to a bright future—in which case, why not make it a goal for every child?-- or 2) leaders are developing despite poor school experiences, in which case we are wasting resources – both human and monetary (over \$500 Billion for K-12 in 2004-5).<sup>4</sup>

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<sup>3</sup> These were unprompted statements from parents, so it is not known whether or not other students fall into this category.

<sup>4</sup> According to the Department of Labor <http://www.ed.gov/about/overview/fed/10facts/edlite-chart.html>

The Bottom 80 have strengths as measured in the VIA<sup>5</sup> Strengths classification and they also have strengths that need to be considered for additions to VIA (Vaillant, 2007). Vision and grace are two examples that meet many of the criteria.

### **Appreciating Beauty**

To fully appreciate the beauty in these students, we need to both (i) understand the value and (ii) enhance the value<sup>6</sup> of their strengths and gifts. Understanding requires us to look for the inherent value, just as a person who has lived his entire life surrounded by skyscrapers and paved roads will need to deliberately stop and watch quietly in order to appreciate the beauty of a country meadow. Simply by observing, though, he will soon find himself delighted with the natural wonder in the wildflowers, butterflies, or grazing deer. Likewise, when we take note of the assets in The Bottom 80, we will soon come to recognize their natural value.

To enhance the value, we need to allow students opportunities to fully develop their gifts and strengths. Students in The Bottom 80 have self-protecting instincts. I saw that they use coping mechanisms, resisting and rebelling against directives that threaten their inner core, such as being told to study material that does not interest them or being required to learn in a manner that is painful. As George Vaillant explained, when you are cut, your body adapts and heals itself by clotting blood (Vaillant, 2006). Similarly, adaptive mental mechanisms (or ego mechanisms of defense) are "...mental processes that the ego uses to resolve conflict among the four lodestars of our inner life: instincts, the real world, important people, and the internalized prohibitions provided by our conscience and our culture (Vaillant, 1977, p.9)." When important people in a child's life (teachers, parents and peers) tell him to do or learn things in ways that conflict with the very essence of who he is—his gifts and interests-- he may rebel or resist in

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<sup>5</sup> Values in Action Strengths: a classification developed by Peterson & Seligman (2004).

<sup>6</sup> The two meanings of "appreciate" were pointed-out by David Cooperider during a MAPP 709 class at the University of Pennsylvania in April, 2007.

order to protect his inner core. "... To act in a manner inconsistent with one's core identity betrays the self and is therefore unthinkable (Templeton, 2007, p. 16)." In contrast, Seligman, Steen, Park and Peterson found that when an individual uses his "signature strengths" in new ways, it has a lasting positive effect on happiness (2005).

If we let students have more control over their learning, by utilizing their gifts to master new challenges, they will be more engaged. Engagement increases long-term well-being (Seligman, 2002, p.17). Middle School teacher Peter Mitchell commented, "Where there's passion, there's a high intelligence level. When kids aren't engaged they seem stupid." Allowing students to find and apply their own unique approaches to learning will mean greater happiness, engagement, and productivity. Education that enables more students to use their strengths is fulfilling for the individuals, but it is also emotionally elevating for those around them—and it is infectious, creating an upward spiral for the group (Peterson & Seligman, 2002; Haidt, 2006; Cameron, Dutton & Quinn, 2003). Not only do the students feel better, but positive emotion increases cognitive skills, resourcefulness, and creativity (Fredrickson, 2006).

To see a *brief overview* of some of the students' strengths, click the icon below:



Apprec 80 Movie Clip

### **Missing the Mark: Education Myths**

Some of our fundamental objectives in educating our children include developing adults with good character, productive citizens, and future leaders. Beyond citizenship and serving humanity, individual parents also hope that education will lead to "better lives" for their children.

In order to consider how well our system facilitates our objectives, we need to understand whether or not 1) we have designed it to serve the needs of the majority – those who are not in the top 20% -- and 2) the majority has the capacity to achieve “a better life” and develop into future leaders and citizens of good character.

If we are trying to educate students who will become adults of good character, then we would be wise to start with the definition of virtue from one of the sages of western civilization: “... [Aristotle argues] actions undertaken solely for external reasons cannot be considered virtuous, precisely because they are coaxed or coerced, carroted or sticked (Peterson & Seligman, 2004, p.19).” In other words, doing well in school is not a virtue.

Aristotle also said the ultimate human model was “The Virtuous Man,” a person who is deeply attracted to what is good and whose will and desire are in harmony (Fowers, 2006). More than half of The Bottom 80 students whose parents were interviewed are deeply attracted to good (truth for example).

I found that our measures and approach to education, in the best of school systems, is flawed, causing a great deal of suffering and waste of human potential, but I hasten to add that this is not the fault of educators. We-- parents, taxpaying citizens, and educators-- perpetuate three myths that do not align with our goals for adolescent education.

#### Myth #1: Not being a “top student” means not intelligent, hardworking, or gifted

Through this study, I found that teens who are not top students – the majority-- are fully capable of learning, are self-motivated, hardworking and have strengths and gifts that are perfectly suited to life satisfaction and future business, government, or scientific leadership. Tenacity and diligence, when a topic interests them, was one of the common themes from the parent interviews. These students “become completely absorbed in learning,” and “dive in head first.” Einstein, Churchill, and Nobel Prize winner Vernon Smith, are a few of the many

famous adults who, like some of the students in this study, had lousy grades and high intelligence.

Unfortunately, some gifts and strengths directly conflict with the way we educate, causing students to sub optimize their capacities and lose interest and energy. Middle School teacher, Elizabeth Guydan observed, “A lot of really gifted people are very disorganized.” Unfortunately for them, organization skills are prized in secondary education. Several of the students in this study have high levels of initiative and self-motivation, preferring to learn by exploring on their own, and they actively resist being shown how to do something. Peter Mitchell, noted, “If you remove academic criteria as a measure of intelligence, you can see genius in every kid... Students come up with ideas, opinions, twists that are ingenious.”

#### Myth #2: Being a “top student” leads to a great life

The corollary to this myth is: not being a great student leads to a life that isn't great. Both of these were proven false with real-world examples and research. The logical sequence between top student- and – great life is: Being “the best students” enables them to go to “the best” colleges, which leads to getting “the best” jobs, thereby making a lot of money – and assuring that they will be Happy for Life . Each step in this sequence was refuted with data.

For example, Antioch College accepted 80% of applicants and produced a higher percentage of scholars and scientists than all the Ivies except Princeton (Pope, 1996 , p.131 ); lawyers are the best paid-- and unhappiest-- professionals; during the same period in which Gross Domestic Product tripled, depression increased 1000% in the U.S. (Seligman, 2002). Diener and Seligman reported, “...It is clear that rising income has yielded little additional benefit to wellbeing in prosperous nations (Diener & Seligman, 2004, p.2).”

Finding oneself among The Bottom 80 does not sentence one to inferiority for life. Many successful adults were poor students: John Chambers (CEO of \$30 Billion Cisco

Systems), Richard Branson (Founder of Virgin Airways), Harry Truman and Bill Dreyer (scientist who helped launch the human genome revolution) are just a few of the most famous. Further, in holding out the ideal of striving to be the best student, we increase negative emotion, anxiety and depression in every child. Barry Schwartz described “The Curse of High Expectations.... ‘Children feel the pressure to be sure they don’t slide back...Falling back is the American nightmare’” and the fear of falling is worse when the perch is higher (p.185).

He also explained, “...If you’re in competition for inherently scarce goods, ‘good enough’ is never good enough; only the best—only maximization will do” and maximizing makes people unhappier (p.95). Focusing on being the “best student” trains the attention on teachers’ opinions, rank, self-image, and comparison to others. Janice Templeton cited a study by Crocker, Brienes et al., who found that the more students were motivated to avoid being wrong, get others to recognize their intelligence, avoid being criticized, etc., the more their anxiety and depression increased over the course of a ten-week study (p. 26).

This myth does a disservice to every student, but may be particularly harmful to top students, first because it can lead to tremendous disappointment when they discover that even though they have dutifully devoted their lives to the prescribed success path, it has not led them to the happiness they expected and second, because it can narrow perspective and increase risk-aversion. Mark Linkins, Curriculum Director in a prestigious school district observed, “[The Bottom 80 tend] to have a more balanced view of what’s important...their interpersonal and social intelligence skills are more pronounced... the pace of their lives is different, they have more time; they tend to be more well-rounded and deliberative.” He went on to say, “There is an emphasis on achievement and excelling at everything you do, putting considerable pressure on all the students but it is most pronounced on the top achievers.”

Myth #3: Our approach to education is good for adolescent development

*“It is nothing short of a miracle that the modern methods of instruction have not yet entirely strangled the holy curiosity of inquiry; for this delicate little plant, aside from stimulation, stands mainly in need of freedom; without this it goes to wrack and ruin without fail.”*

*- Albert Einstein*

I found that our approach to education leads to depression: by increasing both the stakes and the opportunities for defeat and by describing school performance with a Pessimistic Explanatory Style. As Martin Seligman wrote, repeated defeat or failure combined with lack of control can lead one to believe future effort will be futile (Seligman, 1990, pp.68-70).

Depression results when a person explains bad events with the Pessimistic Explanatory Style: caused by Me/will Always happen/in Everything I do (pp. 76-82).

In education, we have structured a system guaranteed to create feelings of helplessness through lack of control (what to study, how to take in new information, how to demonstrate understanding, when to learn) and continual opportunities for defeat (tests, grades, try-outs, awards/honor roll). In both general rhetoric and individual instances, we often attribute failure to the individual student’s ability--which is out of his control--or behavior (e.g., “smart/hardworking students get A’s”), an explanation that tells them to blame themselves for the bad events. This is the “Me” in the Me/Always/Everything of Pessimistic Explanatory Style (Seligman, 1990, pp.76-82).

The Pessimistic Explanatory Style is a combination of blaming oneself for bad events, along with the belief that this is a pervasive problem (Always), and that it is a general problem, not an isolated event (Everything). The daily dose of failing to meet expectations on tests, competitive try-outs, and school recognition awards leads to a perception of continual defeat –

the pervasive, “it Always happens” in pessimism. Worse, Barry Schwartz noted that negative events such as poor exam grades trigger “if only” thoughts in a person-- regretting an option not chosen-- and “...what is so difficult about regret is the feeling that it could have been avoided by *you*, if only you had chosen differently (2004, pp. 153-7).”

In competitive school systems, students have heavy loads of daily homework (in some cases even during vacation), which is correlated with anxiety, stress, fatigue, and mood disturbance—See Appendix D (Kouzma & Kennedy, 2002). With school and related activities consuming about 60-98% of a teen’s waking hours and ongoing reminders of the impending college admittance/rejection experience, it follows that they may begin to extrapolate from one instance to “Everything.” Further, exhaustion and stress can create a negative performance spiral, creating even more instances that add to the always/everything perspective.

## **Discussion**

I asked parents to identify their adolescents’ strengths and it is possible that these differ from what the students would say if asked directly. However, Peterson, Park and Seligman found that “...self-ratings of character strengths agree with reports by informed others... (Peterson, 2006, p. 153),” so I chose to obtain the strengths through the parent interviews. In addition to the direct evidence cited in the study from the interviews and literature, I also drew conclusions about our approach to education through Abduction,<sup>7</sup> the form of reasoning that starts with an observed result and works backwards, applying one’s experience to propose the cause of the result (Barton, p. 5). My reasoning is explained in the appropriate sections of both the paper and the presentation.

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<sup>7</sup> Abduction is the form of reasoning related to Pragmatism and “the only form of inference that adds to knowledge” (Barton, p. 5).

Beliefs commonly-held by those of us in the system, and practices we design into schools, lead to depression by raising the stakes for failure, increasing opportunities for defeat, and describing performance with a Pessimistic Explanatory Style. The problem rests in the assumptions we have made about how to educate children and in the ways we discuss school performance. I showed that these assumptions are reflected in three myths about education: 1) Not being a “top student” means a child is *not* intelligent, hardworking, or gifted; 2) Being a “top student” leads to a great life; and 3) Our approach to education is good for adolescent development. In the study, I provided evidence that refuted each of these myths.

While it could be argued that the lack of control, opportunities for defeat and attribution to the individual are not new, I submit that the heavy workload, the intensity of pressure, and the pervasive messages about college entrance competitiveness are new phenomena, introduced at younger ages, in our children’s generation. This increases the magnitude of perceived failures and narrows the domain in which the question of “everything” is considered: school can easily become the only world that counts as the adolescent anticipates the future. Some might say that it is an issue of individual susceptibility that does not require a change in our system, because not all students become clinically depressed and in response, I would ask, “would we continue putting our children in blankets infected with smallpox if only 20% were getting a full-blown case?” As Twenge noted, the symptoms of anxiety are high, even though most kids are not being treated clinically.

Much emphasis is rightly placed on individual responsibility and choice when speaking of either behavior or cognition. However, in the case of adolescent education, we adults are responsible for designing the system in which they learn and modeling the explanations through which they understand their experiences. Individual choice has little meaning in a system that defines what, how, where, and when you will be taught.

## Background

Research and experience have demonstrated that language is not the only way to learn, or to demonstrate intelligence (Ornstein, 1992), but we continue to educate our children in a *written* language-based curriculum, without the physical and emotional emphases scientifically demonstrated to be essential to health (Snyder & Lopez, 2005). Furthermore, the Pygmalion effect<sup>8</sup> has been shown to directly alter children's performance in school, but we continue to provide honors, awards, special privileges (e.g., committee assignments, off-campus passes), and attention to a narrowly-selected group of students. Although when pressed, many in education and the parent community will say that all children have gifts, we continue to use rhetoric such as “the best and the brightest” and “gifted” as ways of describing those at the top of the class.

Sadly, statistics we use to identify “the most promising students” and best schools – GPA, SAT Scores, College Acceptances-- continue to rely on assumptions that ignore both scientific and practical evidence to the contrary. Howard Gardner has documented multiple intelligences, but most of these are not captured in typical school measurements. Daniel Goleman has shown that emotional intelligence correlates with success in life, but this is not considered when assessing schools. Many of our most famous heroes and heroines, including world statesmen, Fortune 50 corporate leaders, artists, scientists, and actors, did not perform well in school ( Winston Churchill, Nelson Rockefeller, Albert Einstein, Tom Cruise and

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<sup>8</sup> The Pygmalion effect, Rosenthal effect, or more commonly known as the "teacher-expectancy effect" refers to situations in which students perform better than other students simply because they are expected to do so. [Wikipedia]  
[http://en.wikipedia.org/wiki/Pygmalion\\_effect](http://en.wikipedia.org/wiki/Pygmalion_effect)

Vincent Van Gogh for example), yet we continue to act as if grades, test scores and acceptance to competitive colleges are the keys to life success.

Much has been written and studied about students who struggle in school. Highly "intelligent" children may not appear to have problems because they are able to compensate and earn passing grades, according to Johns Hopkins' Center for Talented Youth. Some, however, will be noticed and may even be given services outside the "normal" classroom. "Learning Disabilities" is a standard term that has made its way into our legal, educational, and social language. Even the term, "Special Education" implies a need to be segregated due to the "inability" to learn in a "normal" classroom. While multiple intelligences and different learning styles have been identified, some of the fundamental precepts in our public education system, such as heavy emphasis on written communication and fact memorization, have not been significantly altered.

Diehner and Seligman reported, "...It is clear that rising income has yielded little additional benefit to wellbeing in prosperous nations (Diener & Seligman, 2004, p.2)." Peterson and Seligman's research on strengths indicated that Wisdom, Curiosity, and Leadership were not correlated with life satisfaction, while the "heart strengths" of Love, Gratitude, and Kindness were the only strengths that showed a correlation (Park, Peterson, & Seligman, 2004)" (Seligman et al., 2005). George Vaillant's work with the Harvard Study of Adult Development showed that the "cream of the crop" in the country's most prestigious college fell all across the bell curve of adult health and maturity-- similar to the curve seen with men from bleak backgrounds who attended any college ( Vaillant, 2002, pp.208-210). In spite of all this research, we continue to approach education and run schools with an outdated set of assumptions. This study examined those assumptions through a literature review and interviews. The intent was to articulate strengths and gifts among students who

were not in the top 20% of academic performance, as well as to identify improved approaches to education for those teens.

### **Approach**

The purpose of this study was to gather stories of children (grades 7-12) who were not in the top 20% of their classes in school and successful adults who struggled in school—in order to learn about their gifts and their strengths. In addition, I wanted the perspective of secondary school teachers and experts. My intent was to examine the stories in light of research on multiple intelligences, happiness, developmental maturity, strengths, career success, and learning.

I started with the hypothesis that struggling students have strengths and gifts that are equally as valuable as those of the academic elite to achieving subjective well-being and life satisfaction. My assumptions were 1) these students do not have "learning disabilities" -- that is, they are perfectly capable of learning; 2) they have tremendous strengths, gifts, and/or intelligences that are not measured by grades and SAT scores; 3) the capabilities measured by school grades and standardized tests are not the most important strengths for Life Satisfaction; 4) many schools currently have a disability in preparing children for life, as determined by measures of job success and life satisfaction, and 5) there are proven practices that can improve school-ability.

Parents of these students often struggle to find answers or resources and live with great confusion about what actions to take, even doubting their own—or their child's—capabilities. I expected there would be tremendous messages of hope and strength in the stories and I wanted to uncover these, combining them with educators' and medical experts' perspectives as well as existing research on intelligence, happiness, and maturation.

## Method

I interviewed a mix of 16 adults: 11 parents, mostly from Wellesley, Massachusetts; a curriculum director from an elite suburban Philadelphia district; teachers from two different metro Boston schools, as well as a Behavioral Optometrist and an expert in Asperger's Syndrome. In addition, I conducted a wide-ranging literature review that included positive psychology, multiple intelligences, giftedness and talent, education research, ADHD and Dyslexia.

Parents interviewed were a representative mix of those with adolescents in the bottom 80% of their classes: parents of boys and girls in middle and high school; those with – and without-- superior talents in sports or arts; those with—and without-- a diagnosed learning disability. The other adults were educators and experts who work with middle and high school students. In addition to the interviews, I gathered written profiles of adult leaders who struggled in school and information from experts in Dyslexia and ADHD. Griffin & Hauser demonstrated that with 12 diverse interviews, a researcher will get 70% of the needs from a population and with 20 interviews, will approach 95% (Griffin&Hauser, 1993).

To view the profile mix of interviewees, see Appendix A or click on the icon below:



Profiles: Interview  
Mix

## The Bottom 80: Some Examples

Several of the students have high levels of initiative and self-motivation, preferring to learn by exploring on their own, and they actively resist being shown how to do something. Tara<sup>9</sup>, age 16, likes to learn by observing and processing mentally on her own. She qualified for

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<sup>9</sup> Student names and other identifying information have been changed.

the competitive tennis team after refusing to take lessons. A common theme among the group was tenacity and diligence when a topic interests them— they “become completely absorbed in learning,” and “dive in head first.” Laura, age 14 chose a difficult-to-research topic for her first multi-month project, despite pleading from her parents to pick something easier, because she was fascinated by it—she initiated and persisted in tracking-down adults in a remote location that she could interview. Matt reads for hours on end to learn everything he can about a subject that interests him. Michelle is tenacious, “working herself to the bone,” to complete all of her school work.

A number of the students have great manual dexterity, spatial awareness, or athletic ability. They enjoy learning by touching or physically interacting with the subject. Mike, prefers a combination of interactive discussion and manually moving objects to understand concepts and when he is interested he explores deeply. His history teacher reported, “The ‘smartest’ kids in my class didn’t get [Roman battle strategy and organization] the way Mike did.” Tony worked with a peer to design and build one of the few Robots-- among a group that included college teams-- that completed the assigned task.

Elizabeth has an extraordinary visual/spatial ability and does well in higher level conceptual science. People with this gift are often visual thinkers: Einstein is a renowned example and dyslexics commonly have this ability as well. This allows them to manipulate 3-dimensional objects in their mind’s eye. While it gives them a tremendous aptitude for higher order math and science, it also interferes with written language, which is a linear process, and a picture is processed about one thousand times faster (Davis, ).

Ben and Andy prefer to learn through the spoken word and are gifted speakers, one with a theatrical bent, and the other in the theater of advocacy. Brendan and Jonathan have the gift of grace under pressure, in athletics and tense situations. Often great athletes have a mental ability

to “slow the motion” in their mind and I theorize that this asset may interfere with school, as they both have “slow processing speeds” when it comes to taking verbal information in or out.

For more information on the students, see “Student Strengths Matrix in Appendix B and “Student Stories” in Appendix C or double click on this icon:



Student stories.doc

Deirdre Wright, a learning disorders project manager at University of Pennsylvania, noted, “Asperger’s students can have a high IQ, but cannot complete a multi-part project. They seem so bright that everyone thinks they should be able to do it, but with a month-long project [a child] gets overwhelmed.” Nobel Prize Winner Vernon Smith has Asperger’s Syndrome.

### **Lessons from Talented Teachers**

In addition to their adaptations, some students in The Bottom 80 are fortunate to encounter teachers and schools that understand their needs better than most. Elizabeth Guydan, a Middle School Social Studies teacher in a large metro-Boston district, and Peter Mitchell, a Middle School English, Reading For Enjoyment, and Study Skills teacher in an affluent suburb are two such teachers. Mark Linkins, a former High School English teacher and current Director of Curriculum in a competitive suburban-Philadelphia public school district has brought an innovative approach to the ninth grade English curriculum.

Utilizing a wide variety of techniques that stimulate different parts of the brain, engaging students by making the most of class diversity, and embedding positive psychology in the curriculum are a few of the effective methods they employ.

Elizabeth Guydan works hard to provide a stimulating environment for every child, using “Differentiation,” an approach that makes the students responsible for their learning, with the teacher as facilitator. She said, “I teach heterogeneous classes—a range from brilliant to severely learning-disabled (language-based, not cognitively impaired). A boy can be brilliant and also have organization issues.”

Guydan believes, “Every subject should have hands-on methods. I use maps and globes that are 3-D. We can make maps out of shaving cream...” She also works to connect concepts to something the students understand and are interested in.

She explained that diversity (ethnic, racial, religious, economic) is a tremendous strength of the town where she teaches. “We have some children who live on estates and other children in housing projects. They show a lot of respect for each other and don’t generalize on ethnic lines. They work together like a charm—they show a lot of zest. It’s a wonderful thing and something very different from the [wealthy community] public school where I taught previously.”

Peter Mitchell puts great emphasis on asking questions in his English class. He tells the students, “You can say, ‘I was day dreaming when you said that’ and I’ll applaud you for the courage to ask—and I don’t want to hear a groan from anyone. I want them to know they’re protected, that I want to hear from them.” As a result, he gets questions constantly—and when he doesn’t, he says, “you must be ready for the test,” which gets the questions rolling again. “If you remove academic criteria as a measure of intelligence, you can see genius in every kid... where there is some form of passion, you see a high level of intelligence.”

Mitchell said, “We must dispel the myth that intelligence is picking things up quickly, picking up the concept the first time. That’s what frustrates students lots of times.

They'll say, 'he got it the first time, but I only got 60%. Students feel they are supposed to look smart, so they hide it if they don't get it the first time—they don't want to be exposed.'

Mitchell developed a "Study Skills for Success course" based on information he was learning in his master's program. Since 1984, he has taught approximately 4800 students in four sections twice/year. His thinking about the course has shifted over the years: "At one time, the note taking, memory, vocabulary and speed reading skills were the important things. Now, I believe preparing the mind to learn—visualizing, the psychological aspects of dealing with the stress from deadlines and overwork, etc.— is the most important part of the course."

He said a student must be relaxed and positive in order to learn. He uses and teaches a wide variety of approaches to learning. For example, he will have students put out two cups, one with cold water and one with hot. As they are learning something new, he tells them to trace the idea first in one cup and then again in the other. He works with all of the senses, movement and even meditation.

In his Reading for Enjoyment class, Mitchell emphasizes ownership: the student chooses what to read and where to read it (he has mats, cushions, chairs and desks in the room) because he wants them to enjoy the experience. He engages them through a journal, without prescribed questions, in which he prods them to discuss how they feel about the book, connections they make, etc. In his English class, he said, he tries to move them out of their boredom, "I try to make them see it's not all about getting to college, pleasing your parents, competing for academic accolades amongst your peers."

Mark Linkins introduced an innovative approach to ninth grade English, allowing researchers from the University of Pennsylvania to help build Positive Psychology into the curriculum. As a result of this approach he said, "In our most successful Positive Psychology

classes, the level and intensity of connection among the learners ratchets-up a lot. The interpersonal connections and community really builds. Instead of starting with literature, using it as a vehicle for exploring big ideas, understanding motivations and then moving from the novel or poem to one's own experience, our program reverses the process."

Linkins explained that in the traditional English classes, it is at this point—when they begin connecting the ideas from literature to the individual—that “the class begins to sparkle.” With this program, the class is dynamic from the start. “It is a greater forum for inter- and intra-personal development, increasing the capacity for all regardless of their signature strengths. It also validates interpersonal strengths that are not otherwise as explicitly validated.”

## **Conclusion**

This study identified inspiring strengths and gifts in The Bottom 80, precisely the capacities they need for a successful, satisfying life. We need to be celebrating and recognizing these in our everyday language and in all that we do within a school.

Sadly, the myths we tell ourselves about education harm the majority of our children. This is important in light of increased rates of depression and anxiety, with the average age of the first episode occurring at 15 today vs. age 30 in 1960 (Seligman, 2002, p. 117). What many parents want for their children is to become adults who contribute to society productively and have a highly satisfying life. If this is the target, our process is flawed.

The Bottom 80 are determined, intelligent, motivated, kind, self-aware, gifted, industrious and ingenious. If we let them develop their strengths and gifts, they will live highly satisfying, productive, healthy lives. If we continue to tell them—implicitly or explicitly—that they need to be “fixed,” that they must learn in a manner that undermines their own gifts, and that they are responsible for their “plight,” we will continue to see high rates of depression, anxiety, and resistance to schoolwork. As Marie Jahoda noted fifty years ago in her report on positive mental health, “. . . human behavior cannot be understood in terms of isolated symptoms, but must rather be viewed in conjunction with the social norms and values of the community in which the symptoms are observed (ASCH, 1952, p.14).”

I contend that we can significantly increase parent, teacher, and adolescent happiness by Appreciating Beauty in the gifts and strengths of The Bottom 80. To achieve our objectives, we need to restructure our philosophy and practice of education so that the inherent beauty in every student is understood as truth-- ensuring education upholds the first principle of U.S. citizenship:

*We hold these truths to be self-evident: that all men are created equal.*

If it is self-evident that all men are created equal, then it is self-evident that a system whose goal is to develop productive citizens and leaders with good character must be designed to value equally, and strive to enhance, the capabilities of every child.

# Appendix A

## Interview Profiles: Mix of Students

	Middle School		High School		
	Boy	Girl	Boy	Girl	Total
Does not excel at a Sport	Interview #7	#8		#4 #10	4
Does not stand out among peers in Art/Music	#7	#5 #8	#2 #3 #6	#4 #10	8
Excels at a Sport	#9 #11	#5	#2		4
Stands out among peers in Art/Music			#1		1
Parent Mentioned a Formal Learning Disability	#9	#5 #8	#2	#10	5
<b>Total</b>	3	2	4	2	11
	5		6		

## Appendix A Profiles: Mix of All Interviewees

	Middle School			High School				
	Boy	Girl	Teacher	Boy	Girl	Teacher	Medical Expert	Total
No- Sport	7	8			4 10		CS	4
NO- Art/Music	7	5 8		2 3 6	4 10			8
Yes – Sport	9 11	5		2			CS	4
Yes- Art/Music				1				1
Yes- Top Students			EG, PM			ML	CS	
Learning Disability Students	9	5 8	EG, PM	2	10	ML	DW, CS	5
Sub Total	3	2	2	4	2	1	2	
Total Students	5			6			0	11
Total	7			7			2	16

## Appendix B

### VIA Strengths Named in The Bottom 80 Students Whose Parents Were Interviewed

O = Mentioned, unprompted, as a top strength in the child

X= Selected as one of the five "Signature Strengths" from the VIA list provided

✓ = One or more experts named it as a typical strength

### Student #

	1	2	3	4	5	6	7	8	9	10	11	Total Signature	Total Often	Expert
<b>Honesty, authenticity,</b>		X	X		O		X	X	X			5	6	✓
<b>Kindness Compassion, Empathy</b>		O	X	O	X	X	O		X			4	7	
<b>Fairness, equity, and justice</b>		X			O	X	X		X	X		5	6	✓
<b>Judgment, critical thinking</b>	X	X		X		X		O				4	5	✓
<b>Citizenship, teamwork, and Loyalty</b>	O	X		X		X	X					4	5	
Bravery and valor				X	X		X				X	4		
Capacity to love and be loved	X		X					X	X			4		
Creativity, originality, ingenuity	X		O	O				X		X		3	5	✓
Humility and modesty			X			X	X		X			4		
Gratitude	X			X							X	3		
Perspective								X		X		2		✓
Industry, diligence, and perseverance					X	O						1	2	
Zest, enthusiasm, and energy											X	1		
Social intelligence									O	X	X	2	3	✓
Forgiveness and mercy				X					O			1	2	
Caution, prudence, and discretion			X					X				2		
Self-control and self-regulation					X							1		
Hope, optimism,										X		1		
Humor	X								O		X	2	3	
Spirituality		X			X							2		

## Appendix C      Student Stories

“Tara”

When it comes to learning, 16-year-old Tara is a self-starter. She observes others, figures out what she needs to do, practices in her own mind, and then tries it. She made the competitive tennis team in seventh grade, without taking tennis lessons. When she took her first steps as a baby, she just stood up and walked without falling.

When something is important to her, she gets invested and persists. During the past year, she took the initiative to begin working-out at the gym regularly, getting a personal trainer and putting determined effort into it. As a result, she is very strong now. When she was in third grade, a good friend got very upset with her at school, so the teacher talked to each of them and then talked with them together. Still, the other girl refused to forgive Tara. When Tara got home, she thought about it, went upstairs and called the other girl. The next morning she ran to her at the playground and once again they were good friends.

When Tara’s mother went away for a week, to care for a sick relative, Tara took over doing the laundry, cooking and house cleaning before and after school. Even after her mother returned, Tara continued to pitch-in with laundry, room-cleaning and help around the house. Her mother says, “She continues to take-on responsibility without being asked.”

Initiative, self-motivation, and persistence are high on the list of desirable attributes that are cited by most employers and are included among the world’s most valued character strengths-- industry, diligence, and perseverance.\* Yet, for Tara, school does not elicit these strengths. While she gets her work done, she is miserable, says she “hates this [high school]” and is not a top student. Although athletic, she chose to drop out of team sports and while musical, she stopped taking lessons. She actively resists someone else telling her the “right way to do things,” because she wants to learn for herself in her own way and she does not want to put energy into things that are not interesting to her.

When she is interested, though, she is extremely creative and self-disciplined. She expresses herself beautifully in poetry, which she became interested in (unlike either of her parents) as soon as she could read. She perseveres in things she cares about such as personal growth, friendships and support for others. In the past year, three close relatives died and she showed extraordinary insight and empathy in giving support to the people affected in ways they truly appreciated.

She is quite sensitive and shows compassion in many ways, including “sticking-up” for kids that are having a hard time and forgiving friends who have treated her badly. Recently, she was in the car with a group of friends took turns criticizing a classmate. Tara said gently, “Oh, you think that? I’ve always thought she was very nice.” Another time, she said to friends who were making fun of a boy, “I know he’s a little awkward, but I always thought he was very interesting.” When her best friend decided in 7<sup>th</sup> grade that she no longer wanted to be friends, she acted as if Tara didn’t exist. It was a very painful experience that involved other girls as well. Nearly two years later, the best friend called Tara to apologize and said, “I don’t know what I was thinking.” Tara forgave her—and the other girls, too.

Social intelligence was a strength that Tara showed at a young age. In first grade, when a playmate complained (after the child's mother arrived) that Tara had taken the best parts of their play, Tara went to her room for a few minutes and came back saying, "I'm sorry you feel that way about it, but I can't read minds." Despite clear strengths and gifts, including a strong sense of self, Tara developed depression during middle school, losing self-confidence and assertiveness. As a result, her social intelligence weakened and she had more difficulty separating her contributions to a problem from others.'

Tara's Signature Strengths:

- Bravery
- Critical Thinking
- Citizenship/Loyalty
- Forgiveness
- Gratitude

"Tony"

Sixteen-year-old Tony, with a teammate, designed and built a robot that could swim in a pool, dive down and retrieve objects and then bring them back to the surface. They were one of the few teams (including teams of college students) at the college summer camp whose robot worked as desired. Tony, applying his creativity, played a significant role in their design, but when it came to wiring and soldering, he was quick to tell the other boy, "I'm not good at that. You do that part and I'll do other things." He is quite open, when appropriate, about his weaknesses and accepts them easily.

Tony is very thoughtful, kind and highly attuned to others' emotions. Mild-mannered and quiet, he was very sensitive and considerate as a young child. On the few occasions that his mother spoke sharply to him, he came back to her later saying, "I'm sorry you had to yell at me. I'm sorry I [whatever caused her to be upset]."

When he is interested in something, Tony becomes totally absorbed in what he is doing. If it's biology or math, he will study for tests and participate in class. English, however, he doesn't care about and refuses to spend time on it. While he doesn't like high school History and does poorly in his classes, he loves The History Channel, spending almost as much time watching that as he does playing his favorite game, World of Warcraft. Tony spends hours watching The History Channel and learns a great deal, as his parents have discovered when he and his father get into discussions about historic events.

Learning from a TV. program reflects Tony's ability to absorb information presented orally and visually. According to his mother, "he can drink that in, internalize it. He learns better from oral presentation than through reading." He does not learn well by reading and sitting in class and is "not a motivated student." He doesn't respond to "cracking the whip." Up until last year, he was doing poorly in school and his mother was tutoring him and going over his homework to make sure he completed his assignments properly.

He struggles in English and History especially and is not a good reader, so when he had to answer questions on his homework, he wouldn't read the assignment, but would make up answers. His thinking is very literal and life for him is quite black-and-white. When an English teacher asks the class to make inferences, such as "why do you think the character said that?" Tony is confounded as to why the teacher is even asking the question. For him, this is like asking, "Why is the sky blue?" On the other hand, he can study a list of words and get a reasonable grade on the vocabulary test.

Tony's Signature Strengths:

- Honesty, Authenticity, Genuineness
- Capacity to Love and Be Loved
- Kindness and generosity
- Humility and modesty
- Caution/prudence/discretion

"Matt"

18-year-old Matt has an IQ of 142. The testing psychologist told his parents, "This is a gifted child, with the ability to make a difference in the world." Matt is a National Merit Scholar with nearly perfect SAT scores, but he is also a "C" student with a "processing speed problem." If Matt is interested in a topic, he will sit and read for hours as this is the way he learns best. His mother says, "He absorbs a lot by reading—he takes in lots of information."

Matt is also a "very, very compassionate kid—he has a big heart." He cares a great deal about people especially his brother and his friends. Matt has an "extremely strong moral compass" and is a very loyal friend. This got him into trouble at Exeter, where he took a 3-day out-of-school suspension rather than give the names of his friends who were involved in a water fight. It cost Matt a great deal academically because he couldn't afford to miss three days of class and assignments, but he was resolute. f

At Exeter, Matt learned and mastered ping-pong, becoming the best player among his peers. When it comes to school and homework, though, he gets distracted and does not focus on his work. In class, he will doodle and draw football plays or socialize with other students. If Matt does not like a subject or an assignment, he fights it, viewing it as a waste of his time. He is "headstrong" and will put up barriers to avoid learning something he does not want to learn.

On the other hand, Matt showed tremendous discipline and self-regulation this past year when he went to Los Angeles as a community service volunteer. The situation was very difficult and a number of his peers dropped out, but Matt managed his emotions and stayed with it.

Matt's Signature Strengths:

- Judgment and critical thinking
- Honesty, Authenticity and Genuineness

- Citizenship and Loyalty
- Fairness and Justice
- Spirituality

### “Michelle”

15-year-old Michelle is tenacious, diligent, and doesn't give up, “working herself to the bone,” when homework requires long hours. She has to be very deliberate in thinking through the process of an assignment, whether it's English or Math. She is a great athlete, excelling in lacrosse and swimming. She draws strength from these abilities and has always enjoyed learning activities that involve her hands and body. For example, she is a good baker, having learned recipes and decorating skills from a German neighbor. She prefers a physical approach to learning, using her hands and body actively. For example, when studying for a test, she cuts pieces of paper, moves them around, and plays games. She has told her mother that she wants to learn Sign Language.

Michelle is also highly compassionate, honest, and oriented toward justice. When one of her friends moved into a different social group, Michelle learned to deal with that friend, without bringing all of the others into a conflict. She felt left behind by the girl and spoke with her directly, sharing her feelings honestly. Later, this girl had the same experience of being deserted by another friend. Michelle understood that the girl needed her right then and she supported her despite the fact that the girl had abandoned Michelle previously.

Michelle processes what she hears more slowly than average and also has some issues with executive functioning. Even so, she persists painstakingly in completing her homework, spending hours at her work.

### Michelle's Signature Strengths:

- Perseverance
- Spirituality
- Self-regulation
- Bravery
- Kindness

### “Ben”

High School freshman, Ben, “has a lot of confidence in what and who he is.” He is his own best advocate, talking openly with teachers about his issues, asking for more time if he needs it and even demonstrating to a teacher orally that he knows material when he has done poorly on a written test.

His oral expression is excellent: he can organize his thoughts when speaking, although he cannot do the same in writing. He is a superb debater, even with his teachers. He will refute others' statements, speaking up when he believes things should be done differently. Teachers note that if they say, “here's the situation,” Ben will respond, “you can't really say that because we don't know x ...” He also has a good sense of numbers and can visualize relationships between them easily, for example immediately combining numbers such as 53 and 47.

When Ben learns something new, he puts information into context. For example, when he learns something in history, he explains it to his parents in the form of a story that he has developed in his head. When Ben learned lacrosse and golf, he wanted to understand the rules, how the plays were set up, how things worked to score a point—he needed the full context and the math relationships in the game.

When Ben was younger, he would create and tell highly elaborate stories, but on paper his stories did not appear as elaborate as other students' because he had difficulty getting his thoughts onto paper. He has some visual motor issues and writing requires him to first figure out how to spell the word, then visualize what the letters look like, and finally to use his hand to form the words on paper. Despite the fact that kids have always teased him about his poor spelling, his mother says, "His fortitude is such that he keeps plugging away and ignores them." He doesn't appear to be challenged in school, or at least not by homework, which he gets done quickly in study halls and at home, doing enough to "get by."

Ben's Signature Strengths:

Judgment, critical thinking  
Kindness, generosity  
Citizenship, teamwork  
Fairness, equity, justice  
Humility, modesty

"Mike"

13-year-old Mike sits down to do his homework without being told. He does what he is supposed to do, but does the minimum needed to "get by." Mike has a good sense of what he wants and needs. His mother says "he's a very mature boy for his age. He has a level of understanding-- about himself and what he needs—that others don't." For example, he identified for his parents a science and technology high school he thought would best meet his needs, one that is not among the public and private schools his peers generally attend. The school's mission, very different from other schools his family investigated, is to take kids who have had trouble in school—and who want to be at this school—and find a strength in every student. Mike recognized that this school will be a good fit for him and lobbied his parents to consider it.

Mike has very strong eye-hand coordination, likes to build things, and is fascinated by the mechanics of engines and other devices. His sense of spatial relationships is very strong and he is a superb X-Box 360 player, beating players around the world. He taught himself how to set-up the devices and how to play the game, which involves visual, manual, and reflex dexterity as well as communication through headphones. Mike's physical sense of space is also strong, giving him a good sense of direction and the ability to "find his way out of a place he's never been to before."

He is a very sensitive boy, highly empathic, although his mother is quick to note that he's also "An all-American boy, which makes it hard to show his feelings, even though he's very

empathic.” He has great concern for others and is consistently honest. When two schoolmates stole a street crossing sign during a sleepover, Mike silently worried that children could get hurt crossing the street and got up quietly at 6 a.m. to put the sign back, without confronting his peers.

His history teacher, who has a military background, believes he has the capacity to be a great leader and is trying to help Mike cultivate this ability. Although not the best student in the class, Mike’s fascination with history shows in his understanding of Roman battle strategies and organization of battalions. His teacher commented, “The ‘smartest’ kids in my class didn’t get it the way Mike did.”

Mike learns best by understanding new information in the context of his world and ideally, through both interactive discussion and physical manipulation-- of objects that are moved manually as well as body movement. Mike is a concrete thinker, seeing the world in black-and-white, so without context he does not grasp abstract ideas easily. If he isn’t interested, he refuses to spend time on a subject, but when he wants to learn something new, and he finds that he likes it, he “dives-in head first.” Mike wants to figure things out for himself, so he resists help from others, at least in the beginning.

Mike’s Signature Strengths:

Bravery

Honesty

Citizenship and loyalty

Fairness, equity, and justice

Humility and modesty

“Andy”

17-year-old Andy is theatrical and musically-oriented. When a teacher asks for homework in the form of a song or poem, he can produce one in a matter of minutes and receive a high grade for it. He is also “off the charts in analytical thinking,” even though he never rises above the middle of the class academically. In English class, he comes up with ideas no one has thought of before and he can discuss political issues at length. The middle school principal held “Sound Off” sessions that were open to any student, although not many took advantage of it. Andy went regularly because he loves discussing ideas.

He is very funny, a highly loyal friend, empathic, affectionate and caring. In eighth grade his teachers adored him and he won an award for helping a new Chinese student to open-up and speak in front of the class.

When he was tested, his verbal skills were all in the superior/very superior range. However, he has some executive functioning and organizational issues and can be easily distracted. Andy loves to learn new information orally and he can sit and listen for long periods of time. He has no trouble learning the lines for a major role in a play, but in school he doesn’t like to write notes and has trouble copying from the board.

When his father helped him with homework recently, Andy said, “I know how hard you’re working, Dad. You must be tired. I realize this is taking a lot for you to help me and I really, really appreciate it.”

Andy’s Signature Strengths:

- Creativity
- Judgment and critical thinking
- Capacity to love and be loved
- Gratitude
- Humor

“Laura”

Eighth-grader, Laura, recently tested above the 90<sup>th</sup> percentile on verbal and analytical abilities. She is terrific at speaking and crafting a strong argument. She easily makes herself understood clearly and she is not afraid to call adults on the phone to get information. In fourth grade, she quickly learned to make outstanding presentations using PowerPoint and she is extremely adept at researching information on the internet—everything from the best airline prices for a trip to horse-adoption websites to finding the ideal summer camp for her. She persists in her research, making calls and seeking out that obscure bit of information. In seventh grade, she had a major research assignment and her parents urged her to choose a subject for which they could readily help her to access resources and obtain interviews, but “she would have no part of that.” She chose a topic of great interest to her and then called the Chamber of Commerce in a southern town to get the number of the Park Service she needed. She then called the Park Service and got the home phone numbers of some rangers and called two of them on a Saturday morning to interview them for her project (she then

sent them emails to thank them). In addition, Laura remembered that a friend of her parents had mentioned a friend in Pittsburgh who vacationed in the town that she wanted information about, so she called her parents' friend and then called the friends' friend in Pittsburgh.

She is also persistent when she has a goal, as she did when she wanted a summer job at age 11. She rode her bike to every retailer in her town, persevering even though all of them explained they could not hire a child. Laura has tremendous empathy for animals and is incredibly kind to them. When she was unable to get a "real job," she landed herself a position at a pet grooming facility where she works once or twice a week, in exchange for products.

Her mother describes Laura as "wise beyond her years" and in school she has flashes of insight that her teachers find remarkable. When her seventh grade social studies teacher brought up the topic of the U.S. Constitution, Laura said, "So, if we didn't have laws there would be chaos in the country and we need these so that we can work together..." The teacher noted that it was an unusually insightful comment for that age group. However, Laura's performance in class is inconsistent, as her issues with spatial, executive functioning, memory, and organizational tasks interfere. Recently, she started to give her 10-slide presentation in class, but only 2 slides came up on the classroom computer. She had lost the memory stick on which the presentation was saved, so she could not get credit for her work.

Laura's Signature Strengths:

- Creativity
- Perspective (wisdom)
- Honesty, authenticity
- Caution/prudence
- Capacity to love and be loved

"Elizabeth"

17-year-old Elizabeth shows a very mature empathy and has for a long time, according to her mother. "She is empathic to a situation, giving it a fair review and will never make fun of a kid. If she sees someone left out, she reaches out." This is incredibly thoughtful from a child whose social life in elementary school was painful, a time when she was rejected by her peers.

Elizabeth tests at the high-end of visual-spatial thinking. She sees the whole and can quickly frame an entire scenario without others understanding how she gets there. As a result, she has done well in high school science, despite the fact that in eighth grade she was recommended for the lowest level science. As science became more conceptual she performed better and ended-up in the highest level high school science classes.

This was a far cry from her elementary and middle school days. After being pulled-out of public school (due to the painful embarrassment her mother witnessed in the fifth grade classroom-- when Elizabeth and four other "Special Education" students came back into class

and stood in the center alone-- as the class finished a reading discussion) and repeating fifth grade, Elizabeth returned to middle school.

“She is a kid who has to put more energy [than most] into striving.” In her adolescent years, Elizabeth began advocating for herself, going to her teachers and telling them “I don’t get it.” While she didn’t excel, she wanted to do the work and she found teachers who wanted to engage with her. Schoolwork became a target and a focus for her. Throughout middle and high school, she had an Individual Education Plan and obtained extra help from the special education centers as well as going to her teachers to ask for extra help. Her mother believes she developed wisdom, in part, because she had time alone in her younger years to think about the world around her.

#### Elizabeth’s Signature Strengths:

Creativity, originality, ingenuity  
Perspective, wisdom  
Social Intelligence  
Fairness, Equity and Justice  
Hope and optimism

#### “Jonathan”

Jonathan has the gift of grace under pressure; he remains calm and unruffled in tense or stressful situations. In fact, he will often use humor to lighten the mood or turn a difficult moment around. His mother believes it makes his life a lot easier, “he doesn’t end up knocking heads over things he has no control over.” Frequently, he uses humor with his older siblings. If one says to him angrily, “Why did you do that?” Jonathan turns into a joke and the misdeed is forgotten. His mother notes wryly that he also uses humor to get out of consequences that might be appropriate.

His ability to stay calm in the face of pressure helps him immensely in sports. He is a strong athlete, playing on club teams above the level of his middle school sports teams. He has a very good sense of his own body, his balance, and a good sense of other people. He is able to read people and sense where they are going to move on the playing field. He is “very intuitively on top of a social setting in any space. He can give you the whole social strata within two minutes of coming into a room. He can tell you who is more socially significant in a group.”

Jonathan has a good sense of who he is and where he wants to go, which he demonstrates courageously. His verbal comprehension is very high, according to tests, although his processing and reading skills do not keep pace. He does not extract information from reading very well. Instead, he likes to learn by being hands-on. He likes lab sciences for this reason and also loved the math he learned with manipulatives at a younger age. He easily learns new sports because they are physical and he can get a feel for what he needs to do with his body. Jonathan is willing to work very hard at sports and comes up with creative ways to get a task done. For example, he asked his father to serve a basket of tennis balls on the tennis court so that he could practice catching them in his lacrosse stick.

Jonathan also works hard at his school work, but organizational issues cause him a great deal of trouble. Even getting the right papers into folders laid out on a table is difficult for him. He may not be able to find a book he needs, perhaps because it is in his locker that is crammed with papers, books and gear. After school, he sits down in his workspace every day and does all his homework (or at least all that he knows of, as he may not have his agenda with him). He carefully finishes his homework, puts it in his backpack and put the pack by the door. All of his homework may not be in the pack— and may not make it to the classroom -- but it will be done.

Jonathan's Signature Strengths:

Humor  
Social Intelligence  
Bravery and Valor  
Zest, enthusiasm  
Gratitude

“Brendan”

Brendan is a natural athlete, easily learning and playing all sports. He has such a love of playing the game that he usually doesn't care whether his team wins or loses. In fact, most of the time when someone asks him the score, he doesn't know—he hasn't been keeping track of it. He plays sports gracefully and easily—nothing is forced or tense—and he particularly likes the social side of sports. If he chose to focus on one sport, it is clear he would be a great player, but this is not of interest to him. Despite his outstanding ability, he does not seek the spotlight at all. At 13, he has recently enrolled in a tennis program and they moved him up several levels to the high school group that requires clinics twice per week. His mother tried encouraging him to focus on tennis, saying “I think it would be a great sport for you,” but Brendan said matter-of-factly, “Yes, but I'm good at all sports. I don't want to focus on just one.” His intent wasn't to brag but to remind his mother that, for him, the joy is in playing many different games. For this reason he doesn't like soccer camps—he doesn't want to play one sport for a week, he wants three or four.

Brendan is such a nice, eager student that his teachers always like him. His mother describes him as “a dove, a very sweet, nice, genuinely good person.” In a group, he always makes everyone feel included and he has lots of friends. Brendan has a keen sense of social intelligence, tuning-in to others' motives and feelings, although he is also a bit reticent with people he doesn't know well. With people he does know well, he shows a great sense of humor. Brendan is “a gentle soul” and he forgives easily.

His friendships and his athleticism have helped him to feel good about himself despite his struggles in school. While he always comes to understand what has been said, eventually, he has a processing issue that slows him down so that by the time he “gets it,” the teacher has moved on to something else. His teachers report that he puts in a great deal of effort, always trying, although he often tries to do things on his own, rather than asking for help.

Sometimes in class, his mind goes off into space, as he gives up in frustration from trying to follow what is being taught, but not being able to.

Brendan prefers to learn things in pieces and hands-on. Although his reading comprehension is not strong, he loves to be read to by his parents or tutor. When his social studies class had a huge test on the U.S. Constitution, his tutor turned the information into a story, which he loved and he was able to grasp the many facts.

Brendan's Signature Strengths:

Honesty, Authenticity

Capacity to Love and Be Loved

Kindness, generosity

Fairness, equity and justice

Humility and modesty

## Appendix D

N. M. KOUZMA & G. A. KENNEDY (2002)

Table 2 shows that the number of hours spent on homework was positively related to scores for stress, Depression-Dejection, Tension-Anxiety, Fatigue—Inertia, Confusion—Bewilderment, Anger—Hostility, Vigor—Activity, and Mood Disturbance. Also stress was positively correlated with rated Depression-Dejection, Tension-Anxiety, Fatigue-Inertia, Confusion-Bewilderment, Anger-Hostility, Vigor-Activity, and Mood Disturbance.

TABLE 2 CORRELATIONS AMONG VARIABLES

Measure	1	2	3	4	5	6	7	8
1. Homework Hours								
2. Stress	.71†							
3. Depression-Dejection	.52†	.52†						
4. Tension-Anxiety	.53†	.48†	.69†					
5. Fatigue-Inertia	.54†	.45†	.71†	.72†				
6. Confusion-Bewilderment	.49†	.47†	.84†	.79†	.76†			
7. Anger-Hostility	.35†	.35†	.64†	.53†	.55†	.64†		
8. Vigor-Activity	-.24†	-.47†	-.49†	-.35†	-.34†	-.31†	-.18	
9. Mood Disturbance	.55†	.53†	.93†	.83†	.83†	.89†	.77†	-.52†

†  $p < .001$

## References

- Ackoff, Russell L. (1993). Systems Thinking and Thinking Systems. *Interact: The Institute for Interactive Management, Report*.
- Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research*, 64(2), 287-309.
- Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research*, 64(2), 287-309.
- Artists & designers | happy dyslexic. Retrieved 6/30/2007, 2007, from <http://www.happydyslexic.com/node/20>
- ASCEND group :: The asperger syndrome alliance for greater philadelphia - ABOUT AS - favorite quotes. Retrieved 6/30/2007, 2007, from [http://www.ascendgroup.org/about\\_asp.html](http://www.ascendgroup.org/about_asp.html)
- Barton, John (1999). Pragmatism, Systems Thinking and System Dynamics. Retrieved on December 13, <http://www.systemdynamics.org/conferences/1999/PAPERS/PLEN2.PDF>
- Baumeister, R. F., Gailliot, M., DeWall, C. N., & Oaten, M. (In press). Self-regulation and personality: How interventions increase regulatory success, and how depletion moderates the effects of traits on behavior. *Journal of Personality*.
- Boggiano, A. K. (1998). Maladaptive achievement patterns: A test of a diathesis-stress analysis of helplessness. *Journal of personality and social psychology*, 74(6), 1681-1695.
- Boggiano, A. K., Shields, A., Barrett, M., & Kellam, T. (1992). Helplessness deficits in students: The role of motivational orientation. *Motivation and Emotion. Special Issue: Perspectives on intrinsic motivation*, 16(3), 271-296.
- Brown, K. W., & Ryan, R. M. (2004). Fostering healthy self-regulation from within and without: A self-determination theory perspective. In Linley, P. & Joseph, S. (Eds.), *Positive psychology in practice* (pp. 105-124). Hoboken, NJ: Wiley
- Cameron, Dutton, Quinn (2003). *Positive Organizational Scholarship: Foundations of a New Discipline*. San Francisco, CA: Berrett-Koehler Publishers.
- Compton, W. C. (2005). Selection from *An Introduction to Positive Psychology* (pp 158-168). Belmont, CA: Wadsworth.

- Cooperider, D. (2007). (Presenter: "Pioneering Research Across Many Fields: An Emerging Vocabulary of 'Positive Change'"). (2007, April). MAPP 709. Philadelphia: University of Pennsylvania.
- Csikszentmihalyi, M. (1999). If we are so rich, why aren't we happy? *American Psychologist*, 54(10), 821-827.
- Csikszentmihalyi, M. (2003). Legs or wings? A reply to R. S. Lazarus. *Psychological Inquiry*, 14(2), 113-115.
- Csikszentmihalyi, M. (. (2004). Materialism and the evolution of consciousness. In T. Kasser, & A. D. Kanner (Eds.), *Psychology and consumer culture: The struggle for a good life in a materialistic world*. (pp. 91-106). Washington, DC, US: American Psychological Association.
- Csikszentmihalyi, M. (., & Csikszentmihalyi, I. S. (Eds.). (2006). *A life worth living: Contributions to positive psychology* New York, NY, US: Oxford University Press.
- Csikszentmihalyi, M. (1990). The anatomy of consciousness. In *Flow: The psychology of optimal experience* (pp. 23-42). New York: HarperPerennial.
- Csikszentmihalyi, M., Rathunde, K., & Whalen, S. (1996). *Talented Teenagers: The Roots of Success and Failure (Cambridge Studies in Social & Emotional Development)*. Cambridge: Cambridge University Press.
- Csikszentmihalyi, M. (1991). *Flow: The Psychology of Optimal Experience*. New York, NY: Harper Perennial.
- Csikszentmihalyi, M. (1994). *The Evolving Self*. New York, NY: Harper Perennial.
- Csikszentmihalyi, M. "Flow" and mihaly csikszentmihalyi - education - austega. Retrieved 6/30/2007, 2007, from <http://www.austega.com/education/articles/flow.htm>
- Davis, R. (1994). *The Gift of Dyslexia*. New York: Ability Workshop Press.
- Diener, E. & Seligman, M.E.P. (2004). Beyond Money: Toward an Economy of Well-Being. *Psychological Science*
- Dunham, E. Albert Einstein: Discoverer. Retrieved on February 23, 2007 from [http://128.143.168.25/classes/200R/Projects/Fall\\_1996/einstein2/ein\\_home.htm#childhood](http://128.143.168.25/classes/200R/Projects/Fall_1996/einstein2/ein_home.htm#childhood)

Dyslexia: Harnessing the Gift (2007). Retrieved on May 6, 2007 from:  
<http://www.lesblind.is/index/dyslexia.cfm?ccs=110&cs=220>.

Florida, R. (2002). *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.

Fowers, Blaine (Presenter, "The Centrality of Virtue in Human Flourishing: How Good Virtue Theory Can Strengthen Positive Psychology"). (2006, October 6). *The Fifth International Positive Psychology Summit* [Conference]. Washington: The Gallup Positive Psychology Institute.

Fredrickson, B.L. & Losada, M.F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist*, 60(7), 678-686.

Fredrickson, B.L. (Presenter: "What Good Are Positive Emotions?"). (2006, September 7). MAPP 600. Philadelphia: University of Pennsylvania.

Gardner, H. (2000). *Intelligence Reframed: Multiple Intelligences for the 21st Century*. New York: Basic Books.

Gillham, J. E., Reivich, K. J., Jaycox, L. H., & Seligman, M. E. P. *Prevention of depressive symptoms in schoolchildren*

Griffin, A., Hauser, J.R. (1993). Voice of the Customer. *Marketing Science*, (12),1, 1-27.

Haidt, J. (2006). *The Happiness Hypothesis: Finding Modern Truth in Ancient Wisdom*. New York: Basic Books.

Hallowell, E., & Ratey, J. (1995). *Driven To Distraction : Recognizing and Coping with Attention Deficit Disorder from Childhood Through Adulthood*. New York: Touchstone.

Harvey, J. H., Pauwels, B. G., & Zickmund, S. (2002). Relationship connection: The role of minding in the enhancement of closeness. In Snyder, C. R., & Lopez, S. J. (Eds.), *Handbook of positive psychology* (pp. 277-287). New York: Oxford University Press.

Heller, K. (2002). *International Handbook of Giftedness and Talent*. Oxford: Pergamon.

His Holiness the Dalai Lama & Cutler, H. (1998). *The Art of Happiness*. New York: Riverhead Books, a member of Penguin Putnam, Inc.

- Hunter, J. P., & Csikszentmihalyi, M. (2003). The positive psychology of interested adolescents. *Journal of Youth and Adolescence*, 32(1), 27-35.
- Kohn, A. (1992). *No Contest: The Case Against Competition*. New York: Mariner Books.
- Kohn, A. (0). *Punished by Rewards: The Trouble With Gold Stars, Incentive Plans, As, Praise, and Other Bribes*. Chicago: Replica Books.
- Kohn, A. (2006). *The Homework Myth*. Cambridge: Da Capo Lifelong Books.
- Kohn, A. (2000). *The Schools Our Children Deserve: Moving Beyond Traditional Classrooms and "Tougher Standards"*. New York: Mariner Books.
- Kouzma, N. M., & Kennedy, G. A. (2002). Homework, stress and mood disturbance in senior high school students. *Psychological reports*, 91(1), 193-198.
- Lesblind.com - the davis programme - famous dyslexics*. Retrieved 6/30/2007, 2007, from <http://www.lesblind.is/index/dyslexia.cfm?ccs=110&cs=220>
- Linley, A. & Joseph, S. (Eds.) *Positive Psychology in Practice*. Hoboken: Wiley.
- Locke, E. A. (2002). Setting goals for life and happiness. In Snyder, C. R., & Lopez, S. J. (Eds.), *Handbook of Positive Psychology* (pp. 299-312). New York: Oxford University Press.
- Lopez, S. J., Snyder, C. R., Magyar-Moe, J. L., Edwards, L., Pedrotti, J. T. Janowski, K., Turner, J. L., & Pressgrove, C. (2004). Strategies for accentuating hope. In Linley, P. A. & Joseph, S. (Eds.), *Positive Psychology in Practice* (pp. 388-404). Hoboken, NJ: Wiley.
- Maslow, A. (1993). *The Farther Reaches of Human Nature (An Esalen Book)*. New York: Penguin (Non-Classics).
- Maslow, A. (1998). *Toward a Psychology of In The Public Interest*, 5(1), pp. 1-31, 3rd Edition. New York: Wiley.
- Moneta, G. B., & Csikszentmihalyi, M. (1999). Models of concentration in natural environments: A comparative approach based on streams of experiential data. *Social Behavior and Personality*, 27(6), 603-638.
- [Mutrie, N. & Faulkner, G. \(2004\)](#). Physical activity: Positive psychology in motion. In Linley, P. A. & Joseph, S. (Eds.), *Positive Psychology in Practice* (pp. 146-164). Hoboken, NJ: Wiley.

Nakamura, J. & Csikszentmihalyi, M. (2002). *The concept of flow*. New York, NY, US: Oxford University Press.

Park, N., & Peterson, C. (2006/12). Moral competence and character strengths among adolescents: The development and validation of the values in action inventory of strengths for youth. *Journal of Adolescence*, 29(6), 891-909.

PAVE - vision and learning. Retrieved 6/30/2007, 2007, from <http://www.pavevision.org/visionandlearning.htm>

Peterson, C. (2006, September 7). MAPP 600. Philadelphia: University of Pennsylvania.

Peterson, Christopher (2006). *A Primer in Positive Psychology*. New York: Oxford University Press.

Peterson, C., & Seligman, M.E.P. (2004). *Character Strengths and Virtues: A Handbook and Classification*. Washington, DC: American Psychological Association and Oxford University Press.

Pope, L. (1996). *Colleges That Change Lives: 40 Schools That Will Change the Way You Think About Colleges*. New York: Riverhead Books, a member of Penguin Putnam, Inc(Non-Classics).

PsycARTICLES - achievement goals in the classroom: Students' learning strategies and motivation processes. Retrieved 6/30/2007, 2007, from <http://proxy.library.upenn.edu:5025/journals/edu/80/3/260.html>

Rathunde, K. (., & Csikszentmihalyi, M. (. (2006). *The developing person: An experiential perspective*. Hoboken, NJ, US: John Wiley & Sons Inc.

Rathunde, K. R., & Csikszentmihalyi, M. (1993). Undivided interest and the growth of talent: A longitudinal study of adolescents. *Journal of Youth and Adolescence*, 22(4), 385-405.

Rathunde, K., & Csikszentmihalyi, M. (2005). Middle school students' motivation and quality of experience: A comparison of montessori and traditional school environments. *American Journal of Education*, 111(3), 341-371.

Rathunde, K., & Csikszentmihalyi, M. (2005). The social context of middle school: Teachers, friends, and activities in montessori and traditional school environments. *Elementary School Journal*, 106(1), 59-79.

Rozin, P. (1999). Food Is Fundamental, Fun, Frightening, And Far-Reaching. *Social Research: Paper for Food & Culture Issue*, 66, 9-30.

- Ryff, C. D., & Singer, B. (2002). From social structure to biology: Integrative science in pursuit of human health and well-being. In Snyder, C. R., & Lopez, S. J. (Eds.), *Handbook of Positive Psychology* (pp. 541-555). New York: Oxford University Press.
- Salovey, P., Caruso, D., & Mayer, J. D. (2004). Emotional intelligence in practice. In Linley, P. A. & Joseph, S. (Eds.), *Positive psychology in practice* (pp. 447-463). Hoboken, NJ: Wiley.
- Samson, G. E., Graue, M. E., Weinstein, T., & Walberg, H. J. (1984). Academic and occupational performance: A quantitative synthesis. *American Educational Research Journal*, 21(2), 311-321.
- Schwartz, B. (2005). *The Paradox of Choice: Why More Is Less*. New York, NY: Harper Perennial.
- Seligman, M. E. P. (2002). *Authentic Happiness Using the New Positive Psychology to Realize your Potential for Lasting Fulfillment*. New York: Free Press.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60(5), 410-421.
- Seligman, M. E. P. (Presenter: MAPP 600). (2006, September 8). Philadelphia, PA: University of Pennsylvania, Presentation to MAPP.
- Seligman, M. (2006). *Learned Optimism: How to Change Your Mind and Your Life*. London: Vintage.
- Shernoff, D. J., Csikszentmihalyi, M., Shneider, B., & Shernoff, E. S. (2003). Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly*, 18(2), 158-176.
- Snyder, C. & Lopez, S. (2001). *Handbook of Positive Psychology*. New York: Oxford University Press.
- Taylor, C. (1992). *Ethics of Authenticity*. Cambridge: Harvard University Press.
- Templeton, J. (2007). *Expanding Circle Morality: Believing That All Life Matters*. A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Education and Psychology) in the University of Michigan. Chapter 1.

- Twenge, J.M. (2000). The age of anxiety? The birth cohort change in anxiety and neuroticism, 1952–1993. *Journal of Personality and Social Psychology*, 79, 1007–1021.
- Vaillant, G. (1998). *Adaptation to Life*. New York, NY: Harvard University Press.
- Vaillant, G.E. (2000). Adaptive Mental Mechanisms Their Role in a Positive Psychology. *American Psychologist*, 55, No. 1, 89-98.
- Vaillant, G. (2003). *Aging Well: Surprising Guideposts to a Happier Life from the Landmark Harvard Study of Adult Development*. Boston: Little, Brown and Company.
- Vaillant, G. E. (Presenter). (2006, September 7). MAPP 600. Philadelphia: University of Pennsylvania.
- Vaillant, G. E. (Presenter, “Joy-- the Scariest Emotion”). (2006, October 7). *The Fifth International Positive Psychology Summit* [Conference]. Washington: The Gallup Positive Psychology Institute.
- Vaillant, G.E. (2007). Private communication.
- Visual-spatial learners*. Retrieved 6/30/2007, 2007, from [http://www.gifteddevelopment.com/Visual\\_Spatial\\_Learner/vsl.htm](http://www.gifteddevelopment.com/Visual_Spatial_Learner/vsl.htm)
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of educational psychology*, 90(2), 202-209.
- Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of educational psychology*, 96(2), 195-203.
- Whalen, S., & Csikszentmihalyi, M. (1989). A comparison of the self-image of talented teenagers with a normal adolescent population. *Journal of Youth and Adolescence*, 18(2), 131-146.
- Wikipedia (2007). Pygmalion Effect. Retrieved on May 8, 2007 from: [http://en.wikipedia.org/wiki/Pygmalion\\_effect](http://en.wikipedia.org/wiki/Pygmalion_effect).

Ziegler, A. (., Heller, K. A., Tannenbaum, A. J., Sternberg, R. J., Gagné, F., Csikszentmihalyi, M., et al. (2000). *Part I: Changing conceptions of giftedness and talent*. New York, NY, US: Elsevier Applied Science Publishers/Elsevier Science Publishers.