Encouraging the Development of Key Life Skills In Elementary School-Age Children: A Literature Review and Recommendations to the Tauck Family Foundation

By Nina Chien, Vanessa Harbin, Samantha Goldhagen, Laura Lippman, Karen E. Walker

Child Trends is pleased to support the Tauck Family Foundation in its efforts to focus on programs that help build skills that are important to success in the elementary school years and beyond. This report addresses three key questions:

- *What life skills have been identified in the research literature as contributing to success for elementary school students?*
- *To what extent does the development of those skills contribute to long-term success?*
- *Are those skills malleable—that is, can social programs help young people develop and strengthen those skills?*

Our review of the research literature identified the following skills as important to learning and development: self control and self regulation; approaches to learning; mastery vs. performance orientation; persistence; interpersonal skills and peer relations; prosocial behavior; academic self-efficacy; and academic engagement. From these, we recommend the Tauck Family Foundation focus on four—self control; mastery orientation; persistence; and academic self-efficacy—and we explain our reasoning.

Four skills for success in elementary school & beyond:
1. Self Control
2. Mastery Orientation
3. Persistence
4. Academic Self-Efficacy

The Research:

At the request of the Tauck Family Foundation, Child Trends reviewed the research literature to identify life skills that are central to the development of elementary-school-aged children, and for which there is strong research evidence supporting links to positive outcomes, particularly academic achievement.

Self Control and Regulation

Self control and self regulation are closely related concepts that research has consistently linked to positive academic and socio-emotional outcomes, and we discuss them together. Self control is the ability to manage or regulate emotion, direct behavior in a positive, constructive way, and avoid negative behaviors. The ability to self-regulate is what enables children to stay on task during academics tasks and to persevere on difficult tasks in the face of frustration. It has been

Identified Skills important to learning and development:

1. Self Control and Self Regulation
2. Approaches to learning
3. Mastery vs. Performance Orientation
4. Persistence
5. Interpersonal Skills and Peer Relations
6. Prosocial Behavior
7. Academic Self-Efficacy
8. Academic Engagement

argued that self regulation is as important for academic success as intelligence is (Blair, 2002).

A number of rigorous studies have examined the relationship between children's self control and positive outcomes. In a hallmark study of self control, children were presented with a marshmallow and then given a choice: they could either eat one marshmallow right away or wait a few minutes and receive a second marshmallow (Mischel, Ebbesen, & Raskoff Zeiss, 1972). The number of seconds that children were able to wait served as an indicator of self control. When these children were tracked years later, their ability to wait for the second marshmallow (i.e., their level of self control) was related to a wide range of outcomes in adolescence, including higher levels of academic and social competence, greater verbal fluency, being more rational and planful, and being better able to deal with frustration and stress (Mischel, Shoda, & Peake, 1988). They also had higher SAT scores (Mischel, Shoda, & Rodriguez, 1989). This series of studies suggests that self control as measured by the "marshmallow test" was highly predictive of positive outcomes across academic and social-emotional domains in adolescence. Conversely, children who showed poor self control during the marshmallow test – that is, children who ate the marshmallows almost right away rather than waiting to receive a second marshmallow – exhibited poorer outcomes in adolescence.

Similar findings emerge from other research. In one study, teachers rated first graders' self control by assessing children's ability to plan, evaluate, and self-regulate, and researchers found that higher levels of self control were related to higher levels of language and mathematics achievement (Normandeau & Guay, 1998). Another study used a behavioral measure of self control in which children were told to push a button when presented with certain stimuli, but to refrain from pushing a button when presented with other stimuli (NICHD Early Child Care Research Network, 2003). Children who were better able to sustain attention – to push the button when they were supposed to – and who were less impulsive – to refrain from pushing the button when they were not supposed to – scored higher on assessments of reading, math, and language abilities. Their teachers also rated them higher than their peers on social competence and lower on behavioral problems. A third study used both teacher reports and behavioral measures of adaptive/effortful control, and found that adaptive/effortful control in first grade was related to reading achievement in third grade (Liew, McTigue, Barrois, & Hughes, 2008). Finally, researchers found that higher teacher ratings of effortful control (which included inhibitory control, attention, approach, and anger) in preschool was related to higher math and language skills in kindergarten (Blair & Razza, 2007). These last two studies followed children over time and suggest that higher levels of self control predict more positive outcomes at a later time.

Similarly, children rated by parents as having higher levels of emotional regulation scored higher on assessments of math and literacy, even after controlling for IQ (Graziano, Reavis, Keane, & Calkins, 2007). Another study found that higher self-reports of self regulation (which included suppression of aggression, impulse control, consideration of others, and responsibility) in sixth grade were associated with higher levels of academic achievement (Wentzel, Weinberger, Ford, & Feldman, 1990). Emotional regulation is also linked to many aspects of social

functioning, including behavior problems, internalizing behavior (e.g., shyness, loneliness), socially appropriate behavior, and prosocial skills (for a review, see Eisenberg, Fabes, Guthrie, & Reiser, 2000).

Approaches to Learning: A Cluster of Skills Essential for Learning

Self control and emotional regulation are overlapping and inter-related skills that are part of a cluster of skills essential for learning, which also includes other skills such as attentiveness, eagerness to learn, and concentration. Some studies have examined this cluster of skills – which we will call "approaches to learning" – collectively rather than in isolation. In one study, parents and teachers reported on the following skills in their kindergarten children: self control, attentiveness, task persistence, eagerness to learn, learning independence, flexibility, organization, concentration, responsibility, and creativity (Li-Grining, Votruba-Drzal, Maldonado-Carreno, & Haas, 2010). Children whose parents and teachers gave them high ratings on approaches to learning in kindergarten exhibited faster rates of growth in reading and math from kindergarten to fifth grade, compared with children with lower ratings. Therefore, these approaches to learning skills are important to acquire early because low skill levels can lead young children to fall further behind their peers. This may be because early approaches to learning serve as a set of basic tools that serve as a foundation for more advanced academic skills (Li-Grining et al., 2010).

Another study assessed a cluster of the following skills: self-regulation, responsibility, independence and cooperation (McClelland, Acock, & Morrison, 2006). These skills assessed in kindergarten predicted growth rates in math and reading from kindergarten through second grade: children with higher ratings on approaches to learning showed faster growth in reading and math than children with lower ratings. From second to sixth grade, the gap persisted (children with higher ratings on approaches to learning maintained their advantage in reading and math) but did not widen.

Mastery vs. Performance Orientation

When children set out to do a task, they can either proceed with a *mastery orientation* or a *performance orientation* (Dweck & Leggett, 1988). Children with a mastery orientation have learning goals – they are concerned with increasing their competence and abilities while mastering new tasks over time. Conversely, children with a performance orientation have performance goals – they are concerned with seeking positive judgments of their competence. In an experimental study, Elliot and Dweck (1988) manipulated fifth graders' performance versus mastery orientation by highlighting either performance goals or learning goals, and by providing feedback indicating either high or low ability on a task. In response to obstacles, mastery-oriented children tended to view challenging situations as an opportunity to acquire new skills or extend their mastery. This response caused them to seek challenges with positive affect and high persistence. Performance-oriented children, on the other hand, sought to avoid others' unfavorable judgments and avoided failure by avoiding risk and difficult/challenging tasks. When they did fail, performance-oriented children

were more likely to have negative affect and low persistence because they saw failure as evidence of low competence (Elliott & Dweck, 1988).

Empirical evidence demonstrates that having mastery versus performance goals has important consequences for children's academic outcomes. In one study, Wolters (2004) found that junior high students who adopted mastery goals were more motivationally engaged (procrastinated less and persisted more) and used more effective learning strategies than students with performance goals. In another study, fifth and sixth grade students who were high in mastery goals alone had higher science grades than students with other constellations of goals (i.e., students high in both mastery and performance goals, and students high in performance goals alone; Meece & Holt, 1993).

A child's theory of intelligence—that is, his/her implicit understanding about the nature of ability—is related to the concept of mastery vs. performance orientation. The *incremental theory* of intelligence states that intelligence is an increasable and controllable quality, and the process of overcoming challenges increases one's intelligence. The *entity theory* of intelligence, on the other hand, posits intelligence as fixed and uncontrollable – you have what you are born with. Research consistently indicates that children who believe that intelligence is fixed adopt performance-oriented goals, whereas children who believe intelligence can grow adopt mastery-oriented goals to increase their competence (Dweck & Leggett, 1988; Elliott & Dweck, 1988).

Children's theories of intelligence predict a variety of long-term academic outcomes. Stipek and Gralinksi (1996) assessed third through sixth graders' beliefs about intelligence using questionnaires at the beginning of the school year. Results showed that those who believed intelligence was fixed (entity theory) had lower grades and lower achievement test scores at the end of the school year than those who viewed intelligence as a quantity that could be increased (incremental theory). In other words, children's theories of intelligence had ramifications for their academic achievement later on. In another study, students who believed intelligence was controllable (incremental theory) had a distinct long-term academic advantage over students who believed intelligence was fixed (entity theory; Blackwell, Trzesniewski, & Dweck, 2007). Those who believed they had control over their intelligence had an upward trajectory of grades over two years in junior high school, while students who thought intelligence was stable had a flat trajectory. In other words, the achievement gap increased between students with an incremental versus entity theory of intelligence. Theories of intelligence has also been manipulated in real-world contexts and found to have positive impacts on achievement (Blackwell, et al., 2007). After participating in a workshop that taught seventh-grade students that intelligence is increasable and controllable, students with declining math grades saw a change in their theory of intelligence, an increase in motivation (via teacher report) and no further decline in performance. Control group students who received a workshop series that did not teach students that intelligence is increasable showed no change in their

theory of intelligence, no change in motivation, and they continued a downward trajectory in grades.

Because mastery orientation helps elementary school students persevere when faced with challenges it may be important in developing and reinforcing academic self-efficacy (discussed below), which in turn supports academic success.

Persistence

Persistence is the "voluntary continuation of a goal-directed action in spite of obstacles, difficulties, or discouragement" (Peterson & Seligman, 2004). The work of Angela Duckworth has been particularly influential in identifying and measuring what she and her colleagues term grit – a "perseverance and passion for long-term goals" (Duckworth et al., 2007). Grit, persistence, or perseverance can be thought of as a certain stick-with-it attitude and determination that is maintained over time despite failure or setbacks.

Most research has focused on persistence as a desirable outcome of other traits, including self-control and mastery orientation, reflecting its high value in our culture. However, although the current evidence is limited, several studies examine persistence as a driver of successful development and link it to multiple measures of success. Lufi and Cohen (1987) found that children who scored high on measures of persistence were less anxious and did not blame others while trying to find solutions to difficult problems. Duckworth et al. administered an early version of their grit scale to 139 undergraduates at the University of Pennsylvania and found that grit was associated with higher GPA but lower SAT scores suggesting that, at least among a high-achieving population, grit is very important in fostering achievement (Duckworth et al., 2007).

For the most part, persistence has not been examined using longitudinal studies with data collected over multiple ages, although there are a few exceptions. In one study, children who were rated by parents as having higher levels of persistence in kindergarten or first grade exhibited faster growth in reading from kindergarten through third grade, compared to children who exhibited lower levels of persistence (Newman, Noel, Chen, & Matsopoulos, 1998). Duckworth and her colleagues have examined information collected over several months. In one study of 1,218 freshmen at the U.S. Military Academy, West Point the authors found that grit was a better predictor of retention through the first summer of training than self-control and scores on entrance exams were (Duckworth et al., 2007). In another study, Duckworth et al. evaluated 175 participants of the Scripps Spelling Bee ranging in age from 7 to 15. Although the results of this study were mixed, grit was a predictor of advancement into the final round, at least in part because of more (self-reported) time spent studying (Duckworth et al., 2007). In a third study of 7th, 8th, 10th, and 11th grade magnet school students, Duckworth et al. found that grit scores predicted GPA one year later and "grittier" students watched fewer daily hours of television (Duckworth et al., 2009). The dearth of longitudinal studies in this area is particularly noteworthy given the very definition of persistence as effort over time. Further, while Duckworth and her colleagues

have contributed much to the literature, they have focused mainly on high-performing populations, limiting what one can say about the skill's importance among other populations (Farrington et al., 2012).

Interpersonal Skills and Peer Relations

A number of studies have demonstrated that peer rejection and low peer acceptance is linked with negative school attitudes, school avoidance, lower classroom participation, and ultimately lower levels of academic achievement (for a review, see Ladd, Buhs, Troop, Smith, & Hart, 2002). Lower levels of peer acceptance are also related to lower emotional well-being and loneliness. In other words, children's ability to get along with peers at school is not only important in and of itself, but also has ramifications for academic achievement and emotional adjustment. Some studies also observed longitudinal associations between peer acceptance and academic achievement (e.g., Ladd, 1990), suggesting that if children do not develop the ability to get along well with peers early on, they are more likely to have lower levels of academic achievement later on.

Peer relations in childhood have also been linked to adolescent and adult adjustment. One study found that children with better peer reputations in middle childhood showed greater general competence in adolescence seven years later, as well as lower levels of psychopathology (Morison & Masten, 1991). A comprehensive review of dozens of studies found extensive evidence that low peer acceptance and high levels of aggression in childhood are associated with greater likelihood of dropping out of school and criminality in adulthood (Parker & Asher, 1987). Another study following a cohort of at-risk infants in Kauai through adulthood found that the infants who were resilient and grew into competent young adults were reported by teachers to have gotten along well with their peers in middle childhood (Werner, 1993). Thus, if children don't acquire important interpersonal skills early on, they may be more likely to run into problems in adolescence and adulthood.

The quantity and quality of friendships in middle childhood are also related to positive outcomes. In one study, children who had a larger number of close friends, and those who made a larger number of new friends, had higher school performance (Ladd, 1990). Another study found that higher friendship quality (e.g., lower conflict, higher helping behavior) was associated with positive school adjustment including liking school , school engagement, attitudes toward school, lower loneliness, and lower avoidance (Ladd & Kochenderfer, 1996).

Prosocial Behavior

Prosocial behaviors in children include helping, sharing, consideration, concern, and defending others (Grusec, Davidov, Lundell, Smith, & Hart, 2002). Kindergartners who were observed engaging in more prosocial behaviors early in the year were rated by teachers as having higher levels of classroom participation and academic achievement, as assessed later in the kindergarten year (Ladd, Birch, & Buhs, 1999). Similarly, another study found that children who exhibited higher levels of prosocial behavior in kindergarten had higher levels of school achievement in first grade (Normandeau & Guay, 1998). A third study found that

children rated by teachers as exhibiting more prosocial behavior (helping, showing empathy, concern for others' distress, and comforting others) in first grade had higher levels of literacy achievement in third grade (Miles & Stipek, 2006). Finally, one study found that third graders who exhibited higher levels of prosocial behavior (based on both self- and teacher-reports) had higher levels of academic achievement and were more liked by peers in eighth grade. Thus the research evidence suggests that throughout the elementary school years, earlier displays of prosocial behavior are linked to higher levels of academic achievement later on.

Academic Self-Efficacy

Self-efficacy is the belief in one's capability to accomplish a task. More specifically, academic self-efficacy refers to one's capability to effectively perform academic tasks. An individual's efficacy beliefs help determine one's levels of effort used on activities, perseverance when confronting challenges, and resiliency when faced with obstacles. Self-efficacy beliefs are also linked to thought patterns, emotional responses, and academic outcomes. For instance, research indicates that students with high self-efficacy exhibit better learning strategies and more self-monitoring of learning outcomes than students with low self-efficacy. Student awareness of self efficacy has also been shown to be positively related to task persistence, task choice, study activities, skill acquisition and academic achievement (Zimmerman, 1989).

While many studies find a relationship between academic self-efficacy and academic outcomes in adolescence and adulthood, the research on elementary school children is more limited. One longitudinal study, Phan (2012) found that fifth and sixth graders' math and science self-efficacy were predictive of math and science academic achievement ten months later. Results also showed that a trajectory of increasing science self-efficacy during the school year was associated with success in science learning.

Academic Engagement

Academic engagement is the extent to which children feel connected – or engaged – to school, to learning, and to their teachers and peers. The research on academic engagement in middle childhood is not as cohesive or well-defined as it is in adolescence, which may be partly due to the fact that elementary school students exhibit similar (and high) levels of engagement. The lack of variation among students means that it is not useful in predicting outcomes (Buhs, 2005).

One study did find that kindergartners and first graders with more positive general attitudes toward school had higher levels of math achievement (Valeski & Stipek, 2001). These attitudes included liking school and feeling that school is fun, which map onto the *emotional engagement* component of educational engagement in the adolescent literature. Another study found that school engagement (independent participation, enthusiastic participation, and school avoidance) was related to academic achievement in a sample of 6- to 10-year old children (Iyer, Kochenderfer-Ladd, Eisenberg, & Thompson, 2010), although the focus of this study was actually on the effects of peer victimization on school engagement.

Note:

The relationships among life skills discussed in this report and outcomes at various stages of development are complex because they are mutually reinforcing. As a result, one cannot precisely measure how much one skill matters to a specific outcome compared with another. It is important to emphasize, however, that considerable consensus exists among researchers that these skills contribute to long-term outcomes.

Relationships between skills important in elementary school and adolescent and adult outcomes

As the discussions above indicate, there is considerable evidence that the skills that predict success in elementary school also predict social and academic success in adolescence and adulthood—and they are important both in themselves and important for their impact on each other. The ability to control one's impulses and emotions is a skill required throughout life, and children's abilities to do so develop in middle childhood. At the same time, children whose self-regulation skills are strong tend to be better liked by their peers than those who have poor skills. Similarly, children who have difficulties with self-control do not do as well academically as those who do not. As they fall behind academically, such children tend to become more aggressive, which tends to negatively affect their peer relationships, which in turn can negatively affect their social adjustment.

Can the Skills be Taught?

Research indicates that children from low-income families are not as prepared for school as middle class children, have more behavioral problems in elementary school, and tend to lag behind their middle-class counterparts once they enter school. Although some researchers in the past have attributed the differences to genetic influences, research on identical twins has indicated that a large portion of developmental differences is due to environmental influences, and other researchers have disentangled many of those influences. Parenting stress and practices and the opportunities for cognitive stimulation in children's environments all contribute (for a review see McLoyd 1998). In addition, although experts have identified early childhood as critical for brain development, the evaluation literature has demonstrated that skills such as self-control can be taught to elementary school children. For children who enter elementary school with deficits, being able to address those deficits as early as possible is important in minimizing the achievement gap between children from low- and middle-income families.

Recommendations

In making recommendations for life skills that can be the focus of the Tauck Family Foundation's work, we considered the following criteria:

- Evidence that both community-based out-of-school time programs and in-school programs could measurably improve children's skill in that area;

- Evidence either that use of the skill contributed to important childhood outcomes that predict later success in adolescence or adulthood OR that the skill itself is important in helping adolescents and adults navigate their lives.

We recommend that the Tauck Family Foundation focus their funding on programs that concentrate on self control, persistence, mastery orientation, and academic self-efficacy. They all relate to academic achievement and tend to be mutually reinforcing (for example, self-control reinforces persistence and

persistence reinforces mastery orientation), which suggests that using them together may strengthen young people's achievement. They are distinct from each other, which will enable the Foundation to communicate what they mean to your grantees.[1] It is very likely that helping students develop these skills can be done both during the school day and in voluntary after-school programs that are also designed to be fun and engaging for children (which is important for ensuring children's interest and attendance in programs).

All of these skills—persistence, self- control, mastery orientation to learning, and academic self-efficacy-are strongly related to a diverse set of positive outcomes, and may underlie other life skills discussed here, including interpersonal skills and peer relations. There is also considerable evidence that these are skills that can be taught to elementary school children and that they are important over time. Also, self control and self-regulation are traits that are remarkably stable within individuals over time (Caspi & Silva, 1995) and, once developed, are likely to persist through childhood, adolescence, and adulthood.

---

[1] We did not select the remaining four outcomes--approaches to learning; peer relationships, and academic engagement for a variety of reasons. Approaches to learning is a broad category that includes multiple dimensions. It would be very challenging to communicate what is actually meant to grantees. There is very little information about how to create positive friendships among youth, although there is some limited information about how to create environments in which peers interact positively. We are less certain, therefore, that adults can foster such relationships. And finally, as we noted earlier elementary school children's academic engagement tends to be high and therefore not a good indicator for that age group.

References

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development, 78*, 246-263.

Blair, C. (2002). School readiness: Integrating cognition and emotion in a neurobiological conceptualization of children's functioning at school entry. *American Psychologist, 57*, 111-127.

Blair, C., & Razza, R. P. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development, 78*, 647-663.

Buhs, E. S. (2005). Peer rejection, negative peer treatment, and school adjustment: Self-concept and classroom engagement as mediating processes. *Journal of School Psychology, 43*, 407-424.

Caspi, A., & Silva, P. A. (1995). Temperamental qualities at age three predict personality traits in young adulthood: Longitudinal. *Child Development, 66*, 486-498.

Duckworth, A. L., Kirby, T. A., Tsukayama, E., Berstein, H., and Ericsson, K. A. (2010) Deliberate Practice Spells Success: Why Grittier Competitors Triumph at the National Spelling Bee. *Social Psychology and Personality Science*. Online at: http://www.sas.upenn.edu/~duckwort/images/Social%20Psychological%20and%20Personality%20Science-2011-Duckworth-174-81.pdf

Duckworth, A. L., Peterson, C., Matthews, M. D., and Kelly, D. R. (2007). Grit: Perseverance and Passion for Long-Term Goals. *Journal of Personality and Social Psychology* 92(6), 1087-1101.

Duckworth, A. L. and Qinn, P. D. (2009). Development and Validation of the Short Grit Scale (Grit-S). Journal of Personality Assessment, 91(2), 166-174

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.

Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality and Social Psychology, 78*, 136-157.

Elliott, E. S., & Dweck, C. S. (1988). Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology, 54*, 5-12.

Farrington, C. A., Roderick, M., Allensworth, E., Nagaoka, J., Seneca Keys, T., Johnson, D. W., and Beechum, N. O. (2012). *Teaching Adolescents to Become Learners, The Role of Noncognitive Factors in Shaping School Performance: A Critical Literature Review*. Chicago, IL: The University of Chicago Consortium on Chicago School Research.

Graziano, P. A., Reavis, R. D., Keane, S. P., & Calkins, S. D. (2007). The role of emotion regulation in children's early academic success. *Journal of School Psychology, 45*, 3-19.

Grusec, J. E., Davidov, M., Lundell, L., Smith, P. K., & Hart, C. H. (2002). Prosocial and helping behavior *Blackwell handbook of childhood social development.* (pp. 457-474). Malden: Blackwell Publishing.

Howse, R. B., Calkins, S. D., Anastopoulos, A. D., Keane, S. P., & Shelton, T. L. (2003). Regulatory contributors to children's kindergarten achievement. *Early Education and Development, 14*, 101-119.

Iyer, R. V., Kochenderfer-Ladd, B., Eisenberg, N., & Thompson, M. (2010). Peer victimization and effortful control: Relations to school engagement and academic achievement. *Merrill-Palmer Quarterly: Journal of Developmental Psychology, 56*, 361-387.

Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment? *Child Development, 61*, 1081-1100.

Ladd, G. W., Birch, S. H., & Buhs, E. S. (1999). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development, 70*, 1373-1400.

Ladd, G. W., Buhs, E. S., Troop, W., Smith, P. K., & Hart, C. H. (2002). Children's interpersonal skills and relationships in school settings: Adaptive significance and implications for school-based prevention and intervention programs *Blackwell handbook of childhood social development.* (pp. 394-415). Malden: Blackwell Publishing.

Ladd, G. W., & Kochenderfer, B. J. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development, 67*, 1103-1118.

Li-Grining, C. P., Votruba-Drzal, E., Maldonado-Carreno, C., & Haas, K. (2010). Children's early approaches to learning and academic trajectories through fifth grade. *Developmental Psychology, 46*, 1062-1077.

Lufi, D. and Cohen, A. (1987). A Scale for Measuring Persistence in Children. *Journal of Personality Assessment*, 51(2), 178-185.

McClelland, M. M., Acock, A. C., & Morrison, F. J. (2006). The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly. Vol, 21*, 471-490.

Meece, J. L., & Holt, K. (1993). A pattern analysis of students' achievement goals. *Journal of Educational Psychology, 85*, 582-590.

Miles, S. B., & Stipek, D. (2006). Contemporaneous and longitudinal associations between social behavior and literacy achievement in a sample of low-income elementary school children. *Child Development, 77*, 103-117.

Mischel, W., Ebbesen, E. B., & Raskoff Zeiss, A. (1972). Cognitive and attentional mechanisms in delay of gratification. *Journal of Personality and Social Psychology, 21*, 204-218.

Mischel, W., Shoda, Y., & Peake, P. K. (1988). The nature of adolescent competencies predicted by preschool delay of gratification. *Journal of Personality and Social Psychology, 54*, 687-696.

Mischel, W., Shoda, Y., & Rodriguez, M. (1989). Delay of gratification in children. *Science, 244*, 933-938.

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701.

Morison, P., & Masten, A. S. (1991). Peer reputation in middle childhood as a predictor of adaptation in adolescence: A seven-year follow-up. *Child Development, 62*, 991-1007.

Newman, J., Noel, A., Chen, R., & Matsopoulos, A. S. (1998). Temperament, selected moderating variables and early reading achievement. *Journal of School Psychology. Vol, 36*, 215-232.

NICHD Early Child Care Research Network. (2003). Do children's attention processes mediate the link between family predictors and school readiness? *Developmental Psychology, 39*, 581-593.

Normandeau, S., & Guay, F. d. r. (1998). Preschool behavior and first-grade school achievement: The mediational role of cognitive self-control. *Journal of Educational Psychology, 90*, 111-121.

Parker, J. G., & Asher, S. R. (1987). Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychological Bulletin, 102*, 357-389.

Peterson, C. and Seligman, M. E. P. (2004). *Character Strengths and Virtues, A Handbook and Classification*. New York, NY: Oxford University Press.

Phan, H. P. (2012). Relation between informal sources, self-efficacy and academic achievement: A developmental approach. *Educational Psychology, 32*, 81-105.

Stipek, D., & Gralinksi, J. H. (1996). Children's beliefs about intelligence and school performance *Journal of Educational Psychology, 88*, 397-407.

Trzesniewski, K. H., Moffitt, T. E., Caspi, A., Taylor, A., & Maughan, B. (2006). Revisiting the association between reading achievement and antisocial behavior: New evidence of an environmental explanation from a twin study. *Child Development, 77*, 72-88.

Valeski, T. N., & Stipek, D. J. (2001). Young children's feelings about school. *Child Development, 72*, 1198.

Wentzel, K. R., Weinberger, D. A., Ford, M. E., & Feldman, S. S. (1990). Academic achievement in preadolescence: The role of motivational, affective, and self-regulatory processes. *Journal of Applied Developmental Psychology, 11*, 179-193.

Werner, E. E. (1993). Risk, resilience, and recovery: Perspectives from the Kauai longitudinal study. *Development and Psychopathology. Special Issue: Milestones in the development of resilience, 5*, 503-515.

Wolters, A. (2004). Advancing achievement goal theory: Using goal structures and goal orientations to predict students' motivation, cognition, and achievement. *Journal of Educational Psychology, 96*, 236-250.

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology, 81*, 329-339.