...information for practitioners on the importance of self-regulation and how to measure it.

October 2010

ASSESSING SELF-REGULATION: A GUIDE FOR OUT-OF-SCHOOL TIME PROGRAM PRACTITIONERS

Tawana Bandy, B.S., and Kristin A. Moore, Ph.D.

BACKGROUND

As children and youth develop, the capacity to regulate their emotions and behavior represents a shift from vulnerability to competence. [1,2] Learning to actively control emotions and behavior begins in early childhood. For example, children in the early grades learn to wait quietly or raise their hand before speaking. As children grow older, the process of self-regulation continues as they become more able to *think* about what they are doing and react accordingly, such as controlling their anger or resisting the urge to cry.[3] Increasingly, research is finding associations between young people's success in controlling their behavior and emotions, and their social competence, school success, and healthy eating habits.[4] In contrast, research finds that children and adolescents who exhibit poor self-regulation skills are at greater risk for peer rejection, social problems, delinquency, and obesity.[5] For these reasons, it is important to build and improve the self-regulation capacity of children and youth. Out-of-school time programs can play an important role in these efforts.

WHAT IS SELF-REGULATION?

Self-regulation refers to both unconscious and conscious processes that affect the ability to control responses.[6] It is a skill that has overarching effects on an individual's ability to tolerate unmet wants or needs, handle disappointments and failures, and work towards success. The ability to self-regulate is the foundation for compliance with accepted standards of conduct at home, school, and later, in the workplace. Self-regulation is often thought of as a dual process —cognitive and social-emotional.[7]

- *Cognitive self-regulation* is the degree to which children can be self-reflective, and can plan and think ahead. Children with these strengths are in control of their thoughts. They monitor their behavior, evaluate their abilities, and are able to adjust their behavior, if necessary.[8] For example, if a self-regulated child knows there is an upcoming test, he or she chooses to study to be ready for the test, instead of hanging out with friends.

- *Social-emotional self-regulation* is the ability to inhibit negative responses and delay gratification. An individual with this ability is able to control his or her emotional reactions to positive and negative situations, as in the case of a child who can resist his immediate inclination to erupt into anger when a peer skips in front of him in the lunch line.

The ability to self-regulate increases dramatically as children grow older.[9] Whereas self-regulation depends largely on developmental capabilities,[10,11] as children mature, goal-setting and self-monitoring become critical.[12] In general, children and adolescents are more likely to carry out self-regulatory behaviors if they set manageable goals for which they have direct control and continuously evaluate their behaviors and responses.

WHY IS SELF-REGULATION IMPORTANT?

Young children need to develop self-regulation skills because of the strong influence these skills have on school readiness and building relationships with peers.[13] Self-regulation remains perhaps even more important in the teen years, which are often marked by an increased vulnerability to risks such as truancy,[14] peer victimization, and substance use.[15] Adolescents who do not regulate their emotions and behavior are more likely to engage in risk-taking and unhealthy behaviors.[16,17] Being able to suppress impulsive behavior and to adjust behavior as appropriate has been linked to positive outcomes for children and adolescents. Some of these positive outcomes include:

- **Higher academic achievement**. Children who are self-regulated are more likely to perform well in school.[18]
- **School engagement.** Adolescents who delay gratification and adjust their behavior are more likely to be engaged in school. Moreover, such students tend to work harder than do their peers who lack self-regulatory abilities.
- **Peer social acceptance.** Self-regulation is also linked with favorable perceptions by others.[19] Children and adolescents who are able to control impulses and reflect on their actions are more likely to have friends and to get along with others.[20]
- **Avoidance of negative behaviors.** Self-regulated adolescents are less likely to engage in substance abuse, truancy, and violence.[21]
- **Healthy eating patterns**. Adolescents who are able to regulate their behavior are more likely to have healthy eating habits.[22]

HOW CAN SELF-REGULATION BE INCREASED IN CHILDREN AND YOUTH?

Athletic and training programs can promote self-regulation. Sports and martial-arts programs, for example, have been found to improve children and adolescent's self-regulation skills. [23,24] Such programs generally seek to foster qualities that are critical for successful self-regulation, including setting standards, monitoring, and motivation.[25]

Also, in a review of experimentally evaluated programs for children and youth, researchers have found that several out-of-school time programs that address social competence—such as CASASTART, Early Risers, and the Bicultural Competence Skills Program—have positive impacts on self-regulation skills.[26] This evidence linking participation in out-of-school time programs with increased self-regulation skills has been found to be especially strong for children and youth who come from low-income families.[27]

WHAT CAN OUT-OF-SCHOOL TIME PROGRAMS DO?

Programs can be successful in enhancing self-regulation if they include one or more of the following components:

- Cognitive-behavioral training
- Social skills training
- Community service.

In addition, programs that teach problem-solving skills, and self-monitoring strategies—and that train adolescents to consider how their behaviors affect others—appear to work, to some degree, at improving behavior regulation skills.

WHAT ARE SOME SPECIFIC MEASURES OF SELF-REGULATION?

Questionnaire on Self-Regulation[28]

This is a 13-item questionnaire used to assess children's ability to regulate negative emotions and disruptive behavior, and to set and attain goals. Respondents rate how true each item is for them, ranging from 1 (*never true*) to 4 (*always true*). After reverse coding items 1, 2, 3, 4, 5, 8, 10, 11, 12 and 13, higher scores represent the child's ability to regulate his/her emotions (items 1, 2, 3, 4, 5), behavior (items 9, 10, 11, 12), and cognitions (items 6, 7, 8).

1. I have a hard time controlling my temper.
2. I get so frustrated I feel ready to explode.
3. I get upset easily.
4. I am afraid I will lose control over my feelings.
5. I slam doors when I am mad.
6. I develop a plan for all my important goals.
7. I think about the future consequences of my actions.
8. Once I have a goal, I make a plan to reach it.
9. I get distracted by little things.
10. As soon as I see things that are not working, I do something about it.
11. I get fidgety after a few minutes if I am supposed to sit still.
12. I have a hard time sitting still during important tasks.
13. I find that I bounce my legs or wiggle with objects.

Fast Track Project Child Behavior Questionnaire [29]
This 20-item questionnaire is designed to measure the self-regulation skills of children and adolescents. After reverse coding items 4, 5, 7 and 19, lower scores indicate ability to self-regulate.

How often does each of the following statements describe you? Would you say?

All of the time	Most of the time	Some of the time	None of the time
❏$_1$	❏$_2$	❏$_3$	❏$_4$

1. I wait my turn during activities.
2. I cope well with disappointment or frustration.
3. I accept it when things do not go my way.
4. My feelings get hurt.
5. When I get upset, I whine or complain.
6. I control my temper when there is a disagreement.

7. I stop and calm down when I am frustrated or upset
8. I think before I act.
9. I do what I am told to do.
10. When I want something, I am patient when waiting.
11. I follow the rules.
12. I stick with an activity until it is finished.
13. I can concentrate and focus on one activity at a time.
14. I ignore kids who are fooling around in class.
15. I fight or argue with adults.
16. I tell new kids my name without being asked to tell it.
17. When people are angry with me, I control my anger.
18. When someone tells me a rule that I think is unfair, I ask about the rule in a nice way.
19. When I disagree with my parents, I yell and scream.
20. I ask friends for help with my problems.

Adolescent Self-Regulatory Inventory[30]

This is a 36-item questionnaire used to measure the self-regulation of teens. Respondents rate how true each item is for them, ranging from 1 (*not at all true for me*) to 5 (*really true for me*). A sum or average of the items should be calculated. After reverse coding items 1, 2, 5, 6, 7, 8, 12, 13, 14, 15, 16, 18, 19, 21, 34, 35, higher scores indicate ability to self-regulate.

1 Not at all true for me	2 Not very true for me	3 Neither true nor untrue for me	4 Somewhat true for me	5 Really true for me

1. It's hard for me to notice when I've "had enough" (sweets, food, etc.).
2. When I'm sad, I can usually start doing something that will make me feel better.
3. If something isn't going according to my plans, I change my actions to try and reach my goal.
4.   I can find ways to make myself study even when my friends want to go out.
5.   I lose track of the time when I'm doing something fun.
6. When I'm bored I fidget or can't sit still.
7. It's hard for me to get started on big projects that require planning in advance.
8. I can usually act normal around everybody if I'm upset with someone.
9.   I am good at keeping track of lots of things going on around me, even when I'm feeling stressed.
10. When I'm having a tough day, I stop myself from whining about it to my family or friends.
11. I can start a new task even if I'm already tired.
12. I lose control whenever I don't get my way.
13. Little problems detract me from my long-term plans.
14. I forget about whatever else I need to do when I'm doing something really fun.

15. If I really want something, I have to have it right away.
16. During a dull class, I have trouble forcing myself to start paying attention.
17. After I'm interrupted or distracted, I can easily continue working where I left off.
18. If there are other things going on around me, I find it hard to keep my attention focused on whatever I'm doing.
19. I never know how much more work I have to do.
20. When I have a serious disagreement with someone, I can talk calmly about it without losing control.
21. It's hard to start making plans to deal with a big project or problem, especially when I'm feeling stressed.
22. I can calm myself down when I'm excited or all wound up.
23. I can stay focused on my work even when it's dull.
24. I usually know when I'm going to start crying.
25. I can stop myself from doing things like throwing objects when I'm mad.
26. I work carefully when I know something will be tricky.
27. I am usually aware of my feelings before I let them out.
28. In class, I can concentrate on my work even if my friends are talking.
29. When I'm excited about reaching a goal (e.g., getting my driver's license, going to college), it's easy to start working toward it.
30. I can find a way to stick with my plans and goals, even when it's tough.
31. When I have a big project, I can keep working on it.
32. I can usually tell when I'm getting tired or frustrated.
33. I get carried away emotionally when I get excited about something.
34. I have trouble getting excited about something that's really special when I'm tired.
35. It's hard for me to keep focused on something I find unpleasant or upsetting.
36. I can resist doing something when I know I shouldn't do it.

Self-Regulation Questionnaire(SRQ)[31]

This **questionnaire uses** a 63-item scale to measure the self-regulation of youth. The questionnaire includes seven subscales, which measure seven steps of self-regulation: receiving, evaluation, triggering, searching, formulating, implementing, and assessing.

REFERENCES

[1] Shonkoff, J. P., & Phillips, D. A. (Eds.) (2000). *From neurons to neighborhoods: The science of early childhood development.* Committee on Intergrating the Science of Early Childhood Development, National Research Council and Institute of Medicine. Washington, DC: National Academy Press.

[2] Hair, E.C., Jager, J., & Garrett, S. (2001). *Background for community-level work on social competency in adolescence: Reviewing the literature on contributing factors.* Child Trends: Washington, DC.

[3] Kopp, C. (1989). Regulation of distress and negative emotions: A developmental view. *Developmental Psychology, 25*(3), 343-354.

[4] Richards, J., & Gross, J. (2000). Emotional regulation and memory: The cognitive costs of keeping one's cool. *Journal of Personality and Social Psychology, 79*(4), 410-424.

[5] Trentacosta, C. J., & Shaw, D. S. (2009). Emotional self-regulation, peer rejection, and anti-social behavior: Developmental associations from early childhood to early adolescence. *Journal of Applied Developmental Psychology, 30*, 3, 356-65.

[6] Carver, C. S. (2004). Self-regulation of action and affect. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of self-regulation: Research, theory, and applications* (pp. 13–39). New York: Guilford.

[7] Blair, C., & R.P. Razza. (2007). Relating effortful control, executive function, and false belief understanding to emerging math and literacy ability in kindergarten. *Child Development,78*, 2, 647–63.

[8] Kanfer, F. H. (1970). Self-regulation: Research, issues, and speculations. In C. Neuringer & J. L. Michael (Eds.), *Behavior modification in clinical psychology* (pp. 178- 220). New York: Appleton-Century-Crofts.

[9] Eccles, J. S., Wigfield, A., & Schiefele, U. (1998). Motivation to succeed. In W. Damon (Editor-in-Chief) and N. Eisenberg (Vol. Ed.), *Handbook of child psychology* (5th ed., Vol. 3, pp. 1017-1095). New York: Wiley.

[10] Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman.

[11] Zimmerman, B. J. (1989). Models of self-regulated learning and academic achievement. In B. J. Zimmerman & D. H. Schunk (Eds.), *Self-regulated learning and academic achievement: Theory, research and practice* (pp. 1-25). New York: Springer.

[12] Campbell, S.B. (2006). *Behavior problems in preschool children: Clinical and developmental issues* (2nd ed.). New York: Guilford Press.

[13] Shonkoff, J. P., & Phillips, D. A. (2000). *From neurons to neighborhoods:The science of early childhood*, Chapter 9, "Nurturing Relationships." (pp.225-266). Washington, DC: National Academy Press.

[14] McCluskey, C. P., Bynum, T. S., & Patchin, J. W. (2004). Reducing chronic absenteeism: An assessment of an early truancy initiative. *Crime & Delinquency, 50*, 214-234.

[15] Wulfert, E., Block, J. A., Rodriguez, M. L., & Colsman, M. (2002). Delay of gratification: Impulsive choices and problem behaviors in early and late adolescence. *Journal of Personality, 70*, 4, 533-552.

[16] Grolnick, W. S., Gurland, S. T., Jacob, K. F., & Decourcey, W. (2002). The development of self-determination in middle childhood and adolescence. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation* (pp. 147-171). San Diego, CA: Academic Press.

[17] Shapiro, E. S. (2000). School psychology from an instructional perspective: Solving big, not little problems. *School Psychology Review, 29*(4), 560-572.

[18] Ibid.

[19] Baummeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass, 10*, 1-13.

[20] Baumeister, R. F., Schmeichel, B. J**.**, & Vohs, K. D. (in press). Self-regulation and the executive function: The self as controlling agent. In A. W. Kruglanski & E. T. Higgins (Eds.), *Social psychology: Handbook of basic principles* (2nd. ed.). Available at: www.csom.umn.edu/assets/71708.pdf

[21] Tangney, J. P., Baumeister, R. F., & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality*, *72*, 271-322.

[22] Kalavana, T. V., Maes, S., & Gucht, V. D. (2010). Interpersonal and self-regulation determinants of healthy and unhealthy eating behaviors in adolescents. *Journal of Health Psychology, 15*, 1, 44-52.

[23] Lakes, K. D., & Hoyt, W. T. (2004). Promoting self-regulation through school-based martial arts training. *Journal of Applied Developmental Psychology, 25,* 3, 283-302.

[24] Kane, T. D., Marks, M. A., Zaccaro, S. J., & Blair, V. (1996). Self-efficacy, personal goals, and wrestler's self-regulation. *Journal of Sport and Exercise Psychology, 18*, 36-48.

[25] Behncke, L. Self-regulation: A brief review. *Athletic Insight: The Online Journal of Sport Psychology*. Available at: http://www.athleticinsight.com/Vol4Iss1/SelfRegulation.htm

[26] Child Trends. (2008). LINKS: Lifecourse interventions to nurture kids successfully. Available at: http://www.childtrends.org/_catdisp_page.cfm?LID=CD56B3D7-2F05-4F8E-BCC99B05A4CAEA04.

[27] Bandy, T., & Moore, K. A. (forthcoming). *What works for promoting and reinforcing positive social skills: Lessons from experimental evaluations of programs and interventions*. Washington, DC: Child Trends.

[28] Novak, S.P., & Clayton, R. R. (2001). The influence of school environment and self-regulation on transitions between stages of cigarette smoking: A multilevel analysis. *Healthy Psychology, 20*, 196-207.

[29] http://sanford.duke.edu/centers/child/fasttrack/allmeasures.htm

[30] Moilanen, K. L. (2007). The Adolescent Self-Regulatory Inventory: The development and validation of a questionnaire of short-term and long-term self-regulation. *Journal of Youth and Adolescence, 36*, 835-848.

[31] Brown, J. M., Miller, W. R., & Lawendowski, L. A. (1999). The Self-Regulation Questionnaire. In L. Vandecreek & T. L. Jackson (Eds.), *Innovations in clinical practice: A source book* (pp. 17, 281-293.) Sarasota, FL: Professional Resources Press.

_____

Child Trends is a nonprofit, nonpartisan research center that studies children at all stages of development. Our mission is to improve outcomes for children by providing research, data, and analysis to the people and institutions whose decisions and actions affect children. For additional information on Child Trends, including publications available to download, visit our Web site at **www.childtrends.org**. For the latest information on more than 100 key indicators of child and youth well-being, visit the Child Trends DataBank at **www.childtrendsdatabank.org**. For summaries of more than 420 experimental evaluations of social interventions for children, visit **www.childtrends.org/LINKS**.