1 Self-regulation

What is self-regulation?

Self-regulation is the ability to consciously control your body, thinking, and emotions in ways appropriate for different situations. In learning to self-regulate, your child will learn to adjust the speed at which his body moves and where and when he should move it in different ways. For example, if your child is in a place of worship, he learns to use a quiet voice and not run. He learns that handsprings and yelling are for the playground and not inside the house. Learning self-regulation helps your child know when he needs to listen carefully and check that he understands what's being said. Self-regulation will also help him understand and respond appropriately to different emotions and feelings in himself and others.

What self-regulation is not

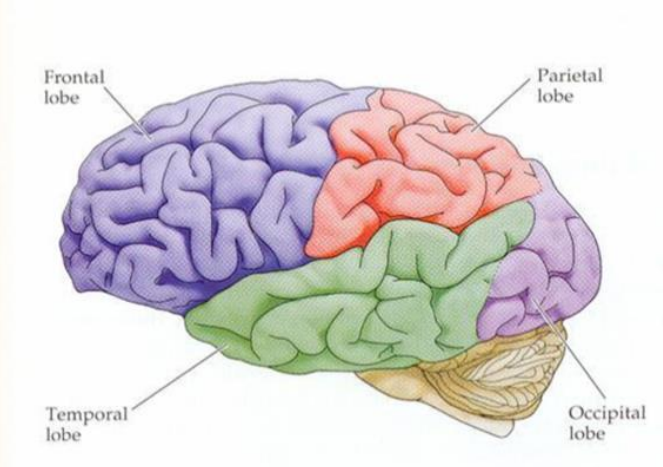
Learning self-regulation is completely different from your typical approaches to changing behavior in children. Usually, you wait for your child to misbehave (you might even warn him beforehand about what not to do), then you reprimand him when he does. You may penalize him by giving him a time-out or by losing some privilege, hoping he's learned from the experience.

With self-regulation, you teach your child before anything happens. You make sure he knows how to modulate and control his behavior, thinking and emotions in different situations. You help him understand what he needs to do, why and when. You increasingly give up control so he can be more independent.

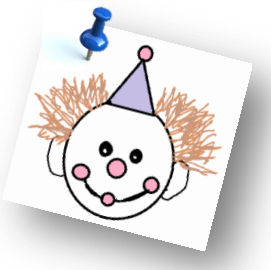
Ultimately, you can put your parental eagle eyes away and assume the role of coach and cheerleader to your child.

Self-regulation and executive functions

In developing self-regulation, your child will learn to consciously control something called his executive functions. Executive functions are brain circuits that help him organize his world, set priorities and put his ideas and thoughts together. Executive functions are located in the frontal lobes of our brains, just behind the forehead (see the diagram to the right). Executive functions help us put our thoughts and ideas into action.



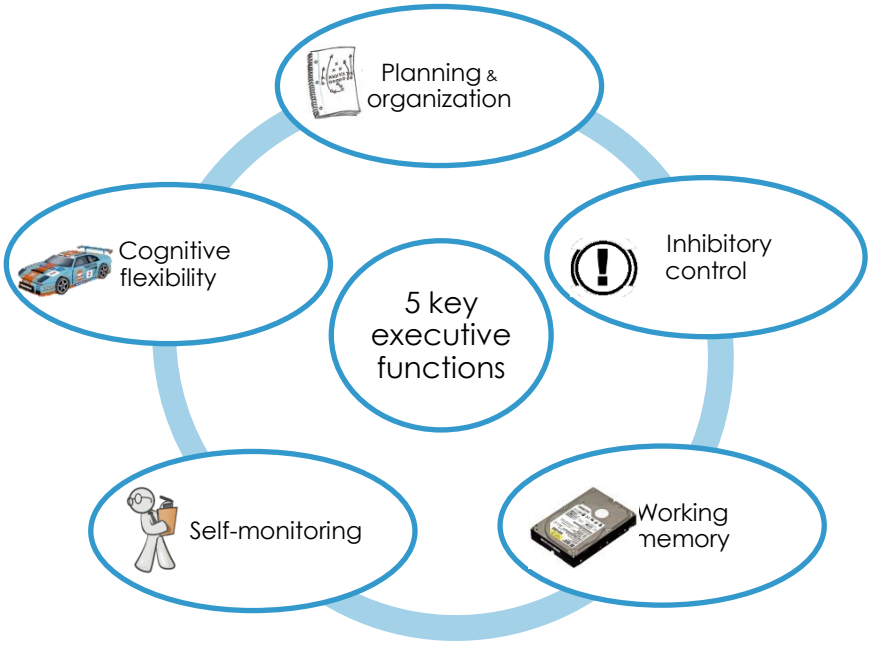
To get a clearer idea of how executive functions help us, imagine drawing the clown shown to the left. You need to:



- Plan and organize materials needed. Then decide how to approach the task. What I should draw first?
    - Stick with that plan and don't dive impulsively into drawing his fuzzy hair before drawing the main circle for his head.
    - Keep the image of the clown in mind while working, remembering that there are three pink circles on his mouth, for example.
- Check your work to make sure all the right parts are in the right place and look like the model.
- Be flexible when needed because plans may have to be adjusted if they're not working out.

The things I had to consider in that example are the key executive functions your child needs in day-to-day life. Here are the five key executive functions he'll practice in this program:

1. **Planning and organization** are involved from the instant your child decides to do something. He needs to think about what he intends to do and make a plan so he can finish the task completely and on time. If your child wants to build a marble run, he needs to find the pieces he wants as well as the marbles. *Planning and organization are the day-planners or organizers among the executive functions that help him stay directed and on task.*
2. **Inhibitory control** lets him direct his attention and actions even if there are temptations and distractions. Inhibitory control helps him ignore things that might interfere with what he's doing. It also helps him stop doing something if it isn't effective or appropriate. In addition, it keeps him persevering



with a task even if it's difficult. For example, your child is printing; he may want to just get it done any old way because he's getting tired or his friends are playing; his inhibitory control helps him continue doing his best work until it's done. *Inhibitory control is the set of brakes among the executive functions that helps him star and stop when needed.*

3. **Working memory** lets your child keep ideas in his mind while putting them together in a complete picture. Working memory makes it possible to remember instructions, consider alternatives, multi-task and connect the 'right now' with future possibilities and/or past experiences. If you ask your child to tidy up his room and carry his dirty clothes to the laundry basket, he has to keep those instructions active in his working memory as he completes each part. *Working memory is the central processing unit of the executive functions*.

4. **Self-monitoring** *is the supervisor or boss of the executive functions*. It helps your child check his actions and thoughts to make sure he's heading in a direction he wants. If he needs to meet a goal and get his work done, he has to keep checking how he's doing and whether he's making headway. When your child brushes his teeth, he needs to make sure he brushes each tooth on both sides. He has to keep track of what he's done and where else he needs to brush so he doesn't forget anything.

5. **Cognitive flexibility** lets your child switch the way he's thinking or acting in response to changing cues and situations. If your child decides to wear a particular shirt but he finds it's in the laundry, he can change his whole outfit, pick a different shirt or ask to have his special shirt washed. *Cognitive flexibility is like self-righting car of executive functions; if it runs into a roadblock, it can flip around and keep going*.

Separating executive functions into five key ones is a bit artificial. All are intertwined and interdependent that it's really not easy to separate one from the other. Often when you're working on one executive function, you're also influencing one or more other functions. This means that, when we're working on self-regulation, we're helping your child take control of each of these executive functions.

What can improved self-regulation do?

When children improve their self-regulation, they can adjust their behavior, thinking, and emotions in relation

to the demands of each situation. They can stay calm in exciting or stressful situations. They can make plans and follow them, as well as make changes if necessary. They can also wait for payoffs and take greater pleasure in their achievements.

Research shows that children with stronger self-regulation tend to have:

- Better mental health, greater feelings of happiness[i,ii], and experience less anxiety and tension[iii]
- Advanced social skills[iv] and more resistance to persuasion (such as peer pressure)[v]
- More intrinsic motivation (that is, doing something for the pleasure or challenge) with less reliance on rewards for working[vi]
- More interest and enjoyment in learning[vii,viii,ix,x]
- Greater persistence[xi] [xii,xiii,xiv,xv,xvi]
- More independence[xvii]

Self-regulation is central to becoming an independent, happy child and adult. Through it, your child learns to make decisions and to regulate his behavior, thinking, and emotions in all situations – at home, at school, in the community.

Does my child need work on self-regulation?

Do you find that you have to remind your child over and over and over to:

- ✓ Put his things away (like his jacket or toys)
- ✓ Calm down
- ✓ Slow down
- ✓ Use a quiet voice or speak a little louder
- ✓ Listen carefully
- ✓ Not hit or push other children
- ✓ Do something on his own from beginning to end (like homework or chores)

If you answered 'yes' to any of these questions, your child could benefit from working on self-regulation.

Look a little more thoroughly at your child's key executive functions by completing the *Executive Function Survey* on the next two pages. The survey isn't exhaustive but it will give you an idea how your child is self-regulating in everyday life. Often we get used to patterns of behavior and don't really notice if a child is different from others his age. Have a look at the age-appropriate household tasks (pages 72-73) to gain more perspective on what others do in your child's age group. The *Executive Function Survey* will help you summarize your day-to-day experience and let you look at some of these patterns. Go ahead and complete the survey.

You can find extra copies of the Executive Function Survey on the Self-regulation Everyday website (www.self-reg-everyday.com).

Now, let's look at your responses to the *Executive Function Survey*.

- If you checked three or more items as occurring "very frequently" or "always", your child needs to improve his body, cognitive and emotional self-regulation.
- If you checked six or more items as occurring "occasionally", there is room for improvement in self-regulation so your child would benefit from completing this program.

EXECUTIVE FUNCTION SURVEY

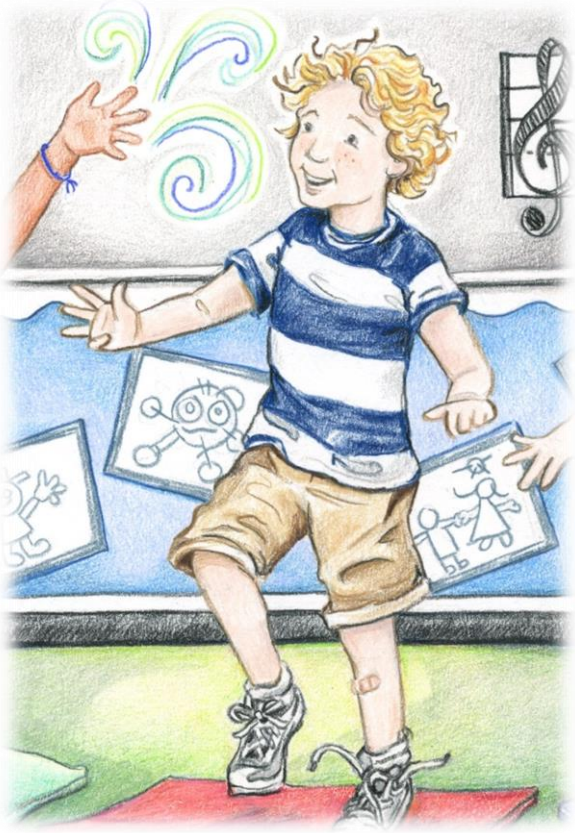
Please put a check (✓) in the column that tells how often you've seen your child behave in the way described by the sentence as <u>compared to other children his/her age</u>.

Child's name: Today's date:

Person completing survey: Relation to child:

Compared to other children my child's age, s/he …	Never	Rarely	Occasionally	Very frequently	Always	Don't know
PLANNING & ORGANIZING						
1. Gets stuck on parts of tasks and can't move forward.						
2. Becomes overwhelmed by too many options or large tasks.						
3. Needs to be told to start a task even when interested in doing it.						
4. Leaves his belongings messy and disorganized.						
5. Has trouble figuring out where to start an activity or task.						
INHIBITORY CONTROL						
1. Fails to stop himself from doing unsafe or inappropriate things (like running into the street, grabbing something from another person).						
2. Has difficulty managing worry or disappointment.						
3. Is easily distracted by noises, activity, sights, other people.						
4. Has difficulty delaying rewards or events.						
5. Gives up easily.						

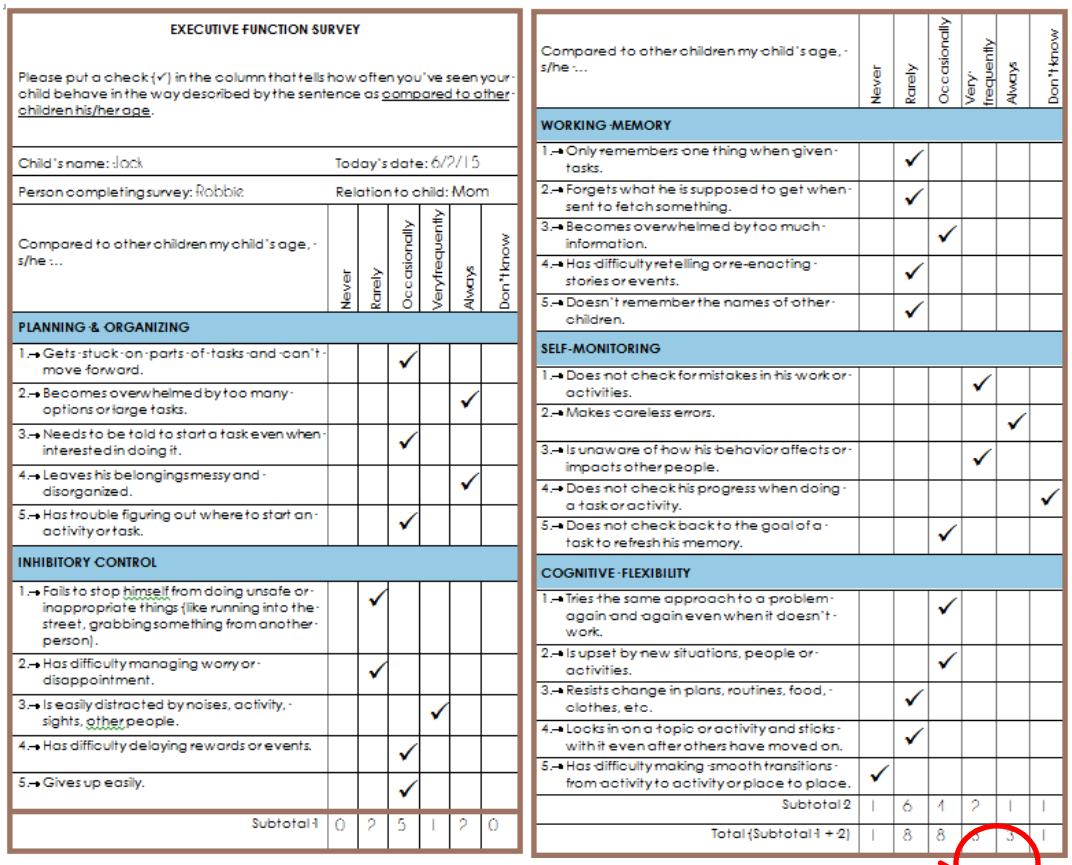
Compared to other children my child's age, s/he …	Never	Rarely	Occasionally	Very frequently	Always	Don't know
WORKING MEMORY						
1. Only remembers one thing when given tasks.						
2. Forgets what he is supposed to get when sent to fetch something.						
3. Becomes overwhelmed by too much information.						
4. Has difficulty retelling or re-enacting stories or events.						
5. Doesn't remember the names of other children.						
SELF-MONITORING						
1. Does not check for mistakes in his work or activities.						
2. Makes careless errors.						
3. Is unaware of how his behavior affects or impacts other people.						
4. Does not check his progress when doing a task or activity.						
5. Does not check back to the goal of a task to refresh his memory.						
COGNITIVE FLEXIBILITY						
1. Tries the same approach to a problem again and again even when it doesn't work.						
2. Is upset by new situations, people or activities.						
3. Resists change in plans, routines, food, clothes, etc.						
4. Locks in on a topic or activity and sticks with it even after others have moved on.						
5. Has difficulty making smooth transitions from activity to activity or place to place.						



Keep a copy of your responses on the *Executive Function Survey* so you can compare them after you've worked with your child for a few months.

ILLUSTRATION – seven year old boy (Jack)

Jack is a seven year old boy. His mom completed the Executive Function Survey. Here are the results:



EXECUTIVE FUNCTION SURVEY

Please put a check (✓) in the column that tells how often you've seen your child behave in the way described by the sentence as compared to other children his/her age.

Child's name: Jack — Today's date: 6/2/15

Person completing survey: Rabbie — Relation to child: Mom

Compared to other children my child's age, s/he :...	Never	Rarely	Occasionally	Very frequently	Always	Don't know
PLANNING & ORGANIZING						
1. Gets stuck on parts of tasks and can't move forward.			✓			
2. Becomes overwhelmed by too many options or large tasks.					✓	
3. Needs to be told to start a task even when interested in doing it.			✓			
4. Leaves his belongings messy and disorganized.					✓	
5. Has trouble figuring out where to start an activity or task.			✓			
INHIBITORY CONTROL						
1. Fails to stop himself from doing unsafe or inappropriate things (like running into the street, grabbing something from another person).		✓				
2. Has difficulty managing worry or disappointment.		✓				
3. Is easily distracted by noises, activity, sights, other people.				✓		
4. Has difficulty delaying rewards or events.			✓			
5. Gives up easily.			✓			
Subtotal 1	0	2	5	1	2	0

Compared to other children my child's age, s/he :...	Never	Rarely	Occasionally	Very frequently	Always	Don't know
WORKING MEMORY						
1. Only remembers one thing when given tasks.		✓				
2. Forgets what he is supposed to get when sent to fetch something.		✓				
3. Becomes overwhelmed by too much information.			✓			
4. Has difficulty retelling or re-enacting stories or events.		✓				
5. Doesn't remember the names of other children.		✓				
SELF-MONITORING						
1. Does not check for mistakes in his work or activities.				✓		
2. Makes careless errors.					✓	
3. Is unaware of how his behavior affects or impacts other people.				✓		
4. Does not check his progress when doing a task or activity.						✓
5. Does not check back to the goal of a task to refresh his memory.			✓			
COGNITIVE FLEXIBILITY						
1. Tries the same approach to a problem again and again even when it doesn't work.			✓			
2. Is upset by new situations, people or activities.			✓			
3. Resists change in plans, routines, food, clothes, etc.		✓				
4. Looks in on a topic or activity and sticks with it even after others have moved on.		✓				
5. Has difficulty making smooth transitions from activity to activity or place to place.	✓					
Subtotal 2	1	6	4	2	1	1
Total (Subtotal 1 + 2)	1	8	8	3	3	1

These results show that six items are marked 'very frequently' or 'always'. He seems to have most problems in Planning & Organization and Self-monitoring. 'Occasionally' was checked in all executive function categories which supports the need for improved self-regulation.

The survey results clearly indicate that he needs to work on his self-regulation. There's nothing 'wrong' with him but life could be easier with stronger self-regulation.

Jack's mom reads on.

ILLUSTRATION – four year old girl (Emma)

Emma is a four year old girl. Her mom completed the Executive Function Survey. Here are the results:

EXECUTIVE FUNCTION SURVEY

Please put a check (✓) in the column that tells how often you've seen your child behave in the way described by the sentence as compared to other children his/her age.

Child's name: Emma — Today's date: June, 2015

Person completing survey: Sandra — Relation to child: Mom

Compared to other children my child's age, s/he :...	Never	Rarely	Occasionally	Very frequently	Always	Don't know
PLANNING & ORGANIZING						
1. Gets stuck on parts of tasks and can't move forward.	✓					
2. Becomes overwhelmed by too many options or large tasks.					✓	
3. Needs to be told to start a task even when interested in doing it.		✓				
4. Leaves his belongings messy and disorganized.					✓	
5. Has trouble figuring out where to start an activity or task.		✓				
INHIBITORY CONTROL						
1. Fails to stop himself from doing unsafe or inappropriate things (like running into the street, grabbing something from another person).			✓			
2. Has difficulty managing worry or disappointment.				✓		
3. Is easily distracted by noises, activity, sights, other people.				✓		
4. Has difficulty delaying rewards or events.				✓		
5. Gives up easily.		✓				
Subtotal 1	1	3	1	3	2	0

Compared to other children my child's age, s/he :...	Never	Rarely	Occasionally	Very frequently	Always	Don't know
WORKING MEMORY						
1. Only remembers one thing when given tasks.		✓				
2. Forgets what he is supposed to get when sent to fetch something.		✓				
3. Becomes overwhelmed by too much information.			✓			
4. Has difficulty retelling or re-enacting stories or events.		✓				
5. Doesn't remember the names of other children.		✓				
SELF-MONITORING						
1. Does not check for mistakes in his work or activities.				✓		
2. Makes careless errors.					✓	
3. Is unaware of how his behavior affects or impacts other people.				✓		
4. Does not check his progress when doing a task or activity.			✓			
5. Does not check back to the goal of a task to refresh his memory.		✓				
COGNITIVE FLEXIBILITY						
1. Tries the same approach to a problem again and again even when it doesn't work.		✓				
2. Is upset by new situations, people or activities.		✓				
3. Resists change in plans, routines, food, clothes, etc.				✓		
4. Locks in on a topic or activity and sticks with it even after others have moved on.		✓				
5. Has difficulty making smooth transitions from activity to activity or place to place.			✓			
Subtotal 2	0	8	3	3	1	0
Total (Subtotal 1 + 2)	1	11	4	6	3	0

These results show that nine items are marked 'very frequently' or 'always'. Emma seems to have most problems in Planning & Organization, Inhibitory Control and Self-monitoring. There are also some 'occasionally' responses in Working Memory and Cognitive Flexibility.

The survey results clearly indicate that she needs to work on self-regulation. There's nothing wrong with her, just like Jack, but she won't struggle so much with life when she has stronger self-regulation.

Emma's mom reads on.

[i] 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, 271–324.

[ii] Levesque, C. S., Zuehlke, N., Stanek, L., & Ryan, R. M. (2004). Autonomy and competence in German and U.S. university students: A comparative study based on self-determination theory. *Journal of Educational Psychology*, 96, 68-84

[iii] Ryan, R. M., Connell, J. P., & Plant, R. W. (1990). Emotions in non-directed text learning. *Learning and Individual Differences*, 2, 1-17.

[iv] Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Twenge, J. M. (2005). Social exclusion impairs self-regulation. *Journal of Personality and Social Psychology*, 88, 589 – 604.

[v] Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego-depletion, and motivation. *Social and Personality Psychology Compass*, 1, 115–128

[vi] Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, *125*, 627–668.

[vii] Reeve, J., Jang, H., Harde, P., & Omura, M. (2002). Providing a rationale in an autonomy-supportive way as a strategy to motivate others during an uninteresting activity. *Motivation and Emotion*, 26, 183-207.

[viii] Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding socio-cultural influences on student motivation. In S. Van Etten & M. Pressley (Eds.*), Big theories revisited* (pp. 31–60). Greenwich, CT: Information Age Press.

[ix] Assor, A., Kaplan, H., Roth, G., & Kanat-Maymon, Y. (2005) Directly Controlling Teacher Behaviors as Predictors of Poor Motivation and Engagement in Girls and Boys: The Role of Anger and anxiety. *Learning and Instruction*, 15, 396- 412.

[x] Martin, J. E., Mithaug, D. E., Cox, P., Peterson, L. Y., Van Dyke, J. L., & Cash, M. E. (2003). Increasing self-determination: Teaching students to plan, work,

evaluate, and adjust. *Exceptional Children*, 69(4), 431–447.

[xi] Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Brière, N. M. (2001). Associations among perceived autonomy support, forms of self-regulation, and persistence: A prospective study. *Motivation and Emotion*, 25, 279-306.

[xii] Patrick, B. C., Skinner, E. A., & Connell, J. P. (1993). What motivates children's behavior and emotion? The joint effects of perceived control and autonomy in the academic domain. Journal of *Personality and Social Psychology*, 65 (4), 781–791.

[xiii] Reeve, J., Jang, H., Harde, P., & Omura, M. (2002). Providing a rationale in an autonomy-supportive way as a strategy to motivate others during an uninteresting activity. *Motivation and Emotion*, 26, 183-207.

[xiv] Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology*, 57, 749-761.

[xv] Hardré, P. L., & Reeve, J. (2003). A motivational model of rural students' intentions to persist in, versus drop out, of high school, *Journal of Educational Psychology*, 95(2), 347-356.

[xvi] Noels, K.A., L.G. Pelletier, R. Clément and R.J. Vallerand. 2000. Why are you learning a second language? Motivational orientations and self-determination theory. *Language Learning*, 50, pp. 57–85

[xvii] Sowers, J., & Powers, L. (1995). Enhancing the participation and independence of students with severe physical and multiple disabilities in performing community activities. *Mental Retardation*, 33, 209–220