The Importance of Self-Regulation

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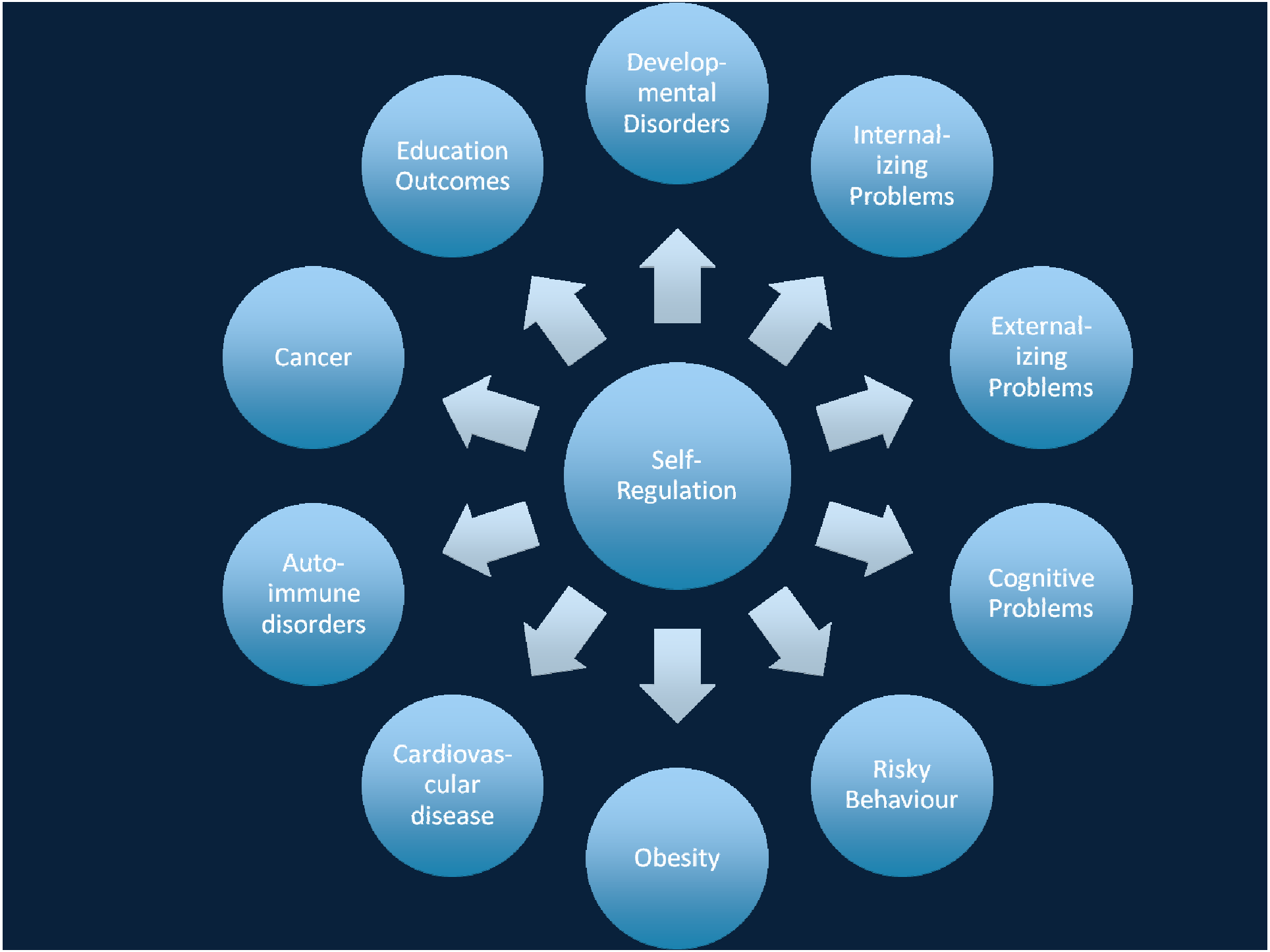
redefine THE POSSIBLE.

Delay of Gratification

- Mischel's famous'marshmallow test: child is told he can have one marshmallow now or several if he waits until experimenter comes back.
- Around 30% of 4 year-olds can wait.
- The children who could wait scored an average of 210 points better on their college entrance exams.
- Not just academic achievement at stake: also predicts anti-social behavior and susceptibility to drugs (Mischel, Shoda & Rodriguez 1989)

The Importance of Self-Regulation

- Over the past decade there's been an explosion of research on self-regulation in regards to a broad range of mental and physical problems.
- Each is thought to have unique biological antecedents and/or environmental contingencies, and to follow a different developmental pathway.
- Each is thought to be a **downstream problem** involving an **upstream problem** in self-regulation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Why are we seeing so many Problems in Self-Regulation?

- Children need to be exercising **ALL THE TIME**
- Exercise promotes the integration of the different systems in the brain, particularly kinaesthetic, tactile and proprioceptive
- Exercise optimizes the balance between the sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS)

Arousal Regulation

- *Arousal regulation* is a function of Sympathetic Nervous System *activation* (e.g., adrenalin) and Parasympthetic Nervous System *inhibition* (e.g., cortisol)

- In effect, putting your foot on the gas or the brakes in order to deal with a stressor.

- Arousal regulation underlies all levels of self-regulation.

Continuum of Arousal Regulation

- There is a continuum of arousal, ranging from sleep to being flooded.
- How much recovery is necessary, or how much activation is needed for any particular task, is going to vary from child to child and situation to situation.

Stages of Arousal

Inhibition

↑

1. Asleep
2. Drowsy
3. Hypoalert
4. Calmly focused and Alert
5. Hyperalert
6. Flooded

↓

Activation

Driving Analogy

- Helpful for understanding the subtle adjustments in arousal involved in regulating attention.
- If goal is to maintain a speed of 100 km/hr constantly pressing and easing up on the gas depending on the state of the road, incline, wind speed etc.
- Furthermore, driving involves constant changes in speed limits or traffic conditions, so learning how to drive involves learning how to smoothly adjust the amount of gas or braking required for the current conditions.

Optimal Regulation

- Children vary considerably in their capacity for optimal regulation:

  i.e., their capacity to make gradual and rapid changes across the arousal continuum, recover back to baseline, and modulate the highs and lows of energy within a given state.

- Some children are constantly pushing too hard on the gas or the brake pedal, jumping erratically from one level to another or not hard enough (Lillas & Turnbull 2009).

Allostatic Load Conditions

- If a child subjected to too much stress, the result can be an allostatic load condition:
  - sudden transitions between energy states
  - prolonged over-activation of SNS and/or PNS
  - inappropriate activation of SNS or PNS (i.e., in situations not warranting a heightened stress response)
  - diminished ability to return to baseline after activation of the stress response

Consequence of Over-Exposure to Stress

- Disrupts development of the brain (HPA pathway)
- Child becomes chronically hypoaroused or hyperaroused
- Child has difficulty staying focused and alert, which is the ideal state for learning to occur
- Child has trouble learning the skills necessary for self-control, or having the resources to exercise those skills

A Change in Attitudes is Imperative

- There is a tendency, dating back to the Ancient Greeks, to see children as somehow to blame for their poor self-control.
- We need a different understanding of why it is so difficult for some children to inhibit their impulses.
- That is, we need to understand why some children have so much more trouble learning the skills that support self-control, and what we can do to help them master these skills.

Why it is so Difficult for Some Children to Develop Self-Control

- Whatever a child is doing demands fuel, and the size of that cost will vary according to the activity, the situation, and most importantly, the child.
- Two children might have to expend very different amounts of energy – be at very different points on the arousal continuum – in order to engage in the same activity.
- This can be due to biological, social, and/or environmental causes.

Sitting in Class

Suppose we are dealing with a child who finds sitting in a classroom very demanding, for different reasons:

a) maybe he finds the visual and auditory stimuli distracting and he has to work hard to filter this out in order to pay attention to his teacher; or

b) he finds the hard seat uncomfortable and it is taxing for him to sit still for too long.

Cascading Effects

- Suppose this child expends 40 l/100 km in order to master some new material while the child sitting next to him only expends 20 l/100 km.
- It is no surprise, given the tight interconnection between arousal and focus that the attention span of the first child will be much less than that of the second.
- But if the pace of the lessons is patterned on the attention span of the latter child, then the former is going to fall further and further behind.

Energy Depletion Studies

- Baumeister has shown in a number of experiments that attention to a task significantly depletes energy reserves.
- The greater the energy consumed by a task the greater the likelihood that child will shut down to try to restore energy churn out adrenaline to try to meet the demands of the situation), both states marked by decreased attentional capacity.
- Negative emotions (frustration, shame, anxiety) are also a great drain.

Sources of the Problem

- The problem is that some children have to work much harder than others to perform the same tasks, and it is this expenditure that so seriously depletes their capacity to meet subsequent challenges.
- A child who daydreams excessively or is inordinately hyperactive is certainly not culpable in any way, and it would be deeply unfortunate to treat the child as if he were, however unconscious this might be.
- We need to understand and thereby mitigate the drains on their nervous system.

The Effects of Excessive Stress

- What studies show is that some children are dealing with far too much stress in their lives, because of biological, social, psychological, and/or environmental reasons.
- These children have to work much harder to pay attention, and an allostatic load condition is going to get ever more entrenched as the negative effects caused by falling further and further behind or having greater and greater social problems exacerbate the drain on their already over-stretched nervous system.

Understanding a Child

- Self-regulation is critical for enabling a child to engage in those social experiences that enable her to learn the cognitive and emotion-regulating skills that underpin self-control.

- A child who has difficulty engaging in these critical social experiences because of the drain on his nervous system can indeed be helped; but only if his or her needs are first understood.

Why Play is Important to Self-Regulation

- Children who thrive in primary school are those who have strong self-regulation skills:
  - calmly focused & alert, remember on purpose, communicate effectively, make friends, are persistent and creative in completing tasks & solving problems
- They have developed their abilities to imagine, use mental representations, act in a deliberate planned manner and integrate emotions and thinking.
- Socio-dramatic or pretend play complemented by constructive play strengthens these qualities

The Power of Play

- Emerges from what really interests children – therefore engages focus
- Demands perspective-taking – figuring out what others think
- Encourages communication about what one wants & what others want
- Fosters connections between objects, people & ideas
- Presents challenges that children can take on
- Requires self-direction to maintain
- Identifies questions that can initiate extensive inquiry projects

Play as Therapy

- We want to watch carefully to see if a child constantly seeks the same play activities, constantly avoids others

- Through play we entice the child to confront their limitations: e.g., child going down stairs; child with weak visual-spatial processing

Readings

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How does it work? Where do I begin?"

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