

Learning Plan: Session 6

Time Allotment: 3.0 hours (180 minutes)

Time		References	Did It Work?		If no, what needed to be changed?
			Yes	No	
10 mins Objective: Activity:	Session Overview Review Learning Plan	Session 6 Learning Plan			
15 mins Objective: Activity:	Clarify and Choose- A Clarifying Process - Lead the participants in the activity of identifying their emotional self-regulation in two different relationships. - Note and draw the differences between the quadrants of both relationships using a flip chart. - This process helps the participants identify where they may experience blockages in their relationships. Through mindful awareness, we can improve our odds on experiencing better relationship as we can also understand "what we bring to the plate" and how we can mindfully process it. - Remind participants that as they complete their readings, to also complete the Plan of Action to address a relationship that is in need of some development can some care: - Identify 3 benefits of why you should approach the person - Identify the challenges to change - Identify planned changes to move the relationship into a more positive trajectory.	CCS Textbook (pg. 382-386) Flip Chart CCS Textbook (pg. 386)			

15 mins Objective: Activity:	Stress Inducers and Reducers - Explore Stress Inducers/Reducers #1-15 with the group. - Explain that this tool can be a useful tool to determine the deeper needs of the person they support along with offering additional considerations of support. - Explain that this can be useful to use in upcoming team discussions as the team continues to improve the quality of support offered.	CCS Textbook (pg. 169-170)			
60 mins Objective: Activity:	Brain Development, Coherence Balancing, and Inflammation Regulation - Explain that neurogenesis, neuroplasticity, neuro-stimulation and neurochemical production are not well explored when provided optimal supports for people who have a disability. - When activities are in engaged that stimulate the above considerations, improve levels of anxiety and agitation can occur leading to improved quality of life. - Review Brain Coherence illustration - A neurotypical brain runs at 25 Hz of energy for processing - A neurodivergent brain runs at 17Hz much like how we feel when we first open our eyes after sleeping. - Often people will aggress to raise the level of brain energy or, they can activate the cerebellum through activities of bouncing and balancing. - Reference work of John Ratey, SPARK that speaks to exercise and revving up the brain to increase coherence. - Review Brain Coherence Balancing & Inflammation Regulation illustration - Illustrates the inconsistent brain patterns in someone who has autism	Power Point – Ses.6-Res.1 Handout CCS Textbook (pgs.123–139) (slide 3) CCS Textbook (pgs.130-131) Ratey, J. & Hagerman, E. (2013). <i>Spark: the revolutionary new science of exercise and the brain</i> . Little, Brown Spark. (slide 4) CCS Textbook (pgs.132) Wang, J., et al. (2013). <i>Resting state EEG abnormalities in</i>			

	demonstrating low level of brain coherence. - Review that an area of main focus of CCS is to develop the mindful neurodevelopment for both supporters and people who have autism or other intellectual/developmental disabilities. - Focus on the development of areas of the brain including the medial prefrontal cortex as it relates to the amygdala. - Review Potential for Wellbeing and Neuroscience and GI Research Conclusions - Explain that research is demonstrating that neurodivergent brains or the brains of those who have a developmental disability may have areas of the brain which are over-connected or areas of under connectivity. - No evidence to suggest that Brain and GI of people with developmental disabilities, yet there is evidence that they can grow with CCS type interventions.	<i>autism spectrum disorders. Journal of neurodevelopmental disorders</i>, 5, 1-14. URL (slide 5) (slide 6-7) Prefrontal Cortex Activity Could Help Autistic People Regulate Emotions (University of North Carolina) Richey, J. A., et al. (2015). Neural mechanisms of emotion regulation in autism spectrum disorder. <i>Journal of autism and developmental disorders</i>, 45, 3409-3423. URL. Doidge, N. (2016). <i>The brain's way of healing: Remarkable discoveries and recoveries from the frontiers of neuroplasticity</i>. Penguin Life. Siegel, D. J. (2007). <i>The Mindful Brain: Reflection and attunement in the cultivation of well being</i>. WW Norton & Company. Eagleman, D. (2017). <i>The Brain: The story of you</i>. Vintage.			
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	is evidence that they can grow with CCS type interventions. - Review Maladaptive Behaviours Related to Brain Balancing - The person may become angry. Anger stimulates the brain to focus and in so doing organizes the individual's thoughts, and therefore offers the individual relative calm. For everyone, anger is a much less painful emotion than fear. - The person may obsess and become compulsive. These behaviours organize the individual's thoughts, create focus and therefore calm the individual - The person may blame and even hit others. This is one way that the individual can self-medicate with anger. These behaviours are magnified by a supporter's mindless fear and unknowing powerful communication of that fear. - Review Brain Facts to Enhance Brain Coherence and Functioning and Reduce Challenging Behaviours - Explain that this area of wellness is often underappreciated and least understood as it correlates with the wellness of those we support. - Review that brain functioning can possibly be enhanced by developing:	<i>the frontiers of neuroplasticity</i>. Penguin Life. Siegel, D. J. (2007). <i>The Mindful Brain: Reflection and attunement in the cultivation of well being</i>. WW Norton & Company. Eagleman, D. (2017). <i>The Brain: The story of you</i>. Vintage. (slides 10-11) (slides 12-15)			
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	▪ Neurochemical Production ▪ Neurogenesis ▪ Neuroplasticity ▪ Neurostimulation ▪ Transcranial Magnetic Stimulation	Ratey, J. J., & Manning, R. (2014). <i>Go wild: Free your body and mind from the afflictions of civilization</i>. Hachette UK. Ahlskog, J. E., et al. (2011). <i>Physical exercise as a preventive or disease-modifying treatment of dementia and brain aging</i>. <i>Mayo Clinic proceedings</i>, 86(9), 876–884. Siegel, D. J. (2007). <i>The Mindful Brain: Reflection and attunement in the cultivation of wellbeing</i>. WW Norton & Company. Doidge, N. (2007). <i>The Brain That Changes Itself: Stories of personal triumph from the frontiers of brain science</i>. Penguin Life. Doidge, N. (2016). <i>The brain's way of healing: Remarkable discoveries and recoveries from the frontiers of neuroplasticity</i>. Penguin Life. Brain's Way of Healing Itself- Norman Doidge (CBC Gem) Perrey, S. (2013). Promoting motor function by exercising the brain. <i>Brain sciences</i>, 3(1), 101-122. Centre for Addiction and Mental Health (N.D.) <i>Repetitive Transcranial Magnetic Stimulation (rTMS)</i>. URL.			
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	- Review the involvement of the medial prefrontal cortex (MPFC) as it relates to emotional self-regulation. - MPFC is activated when things get personal, or when feelings are involved - MPFC is also connected with our limbic system (fight, flight or freeze), our amygdala which fires twice a second to make that we are safe. - MPFC acts as a big brother or sister and checks in with the amygdala to keep it better regulated without need to go into fight flight or freeze. - If a person has an underactive MPFC, anxiety often results. An underactive MPFC means that the person doesn't experience the calming of the amygdala. - Much research has been done with respect to this underactive part of the brain and to increase the activation of MPFC is strongly influenced by exercises that develop self-awareness-mindfulness. - Review the correlations of the activation of the MPFC that all contribute to emotional self-regulation: Body regulation – the emotional brakes and accelerator functions. Attuned communication involves the coordination of the input from another	Centre for Addiction and Mental Health. (2015, April 1). RTMS for autism spectrum disorder. YouTube. URL. Eagleman, D. (2017). <i>The Brain: The story of you</i>. Vintage. pp.94-95 (slides 17-18) CCS Textbook (pgs. 125-126). LeDoux, J. E. (2000). Emotion circuits in the brain. Annual review of neuroscience, 23(1), 155-184. URL. Siegel, D. J. (2007). <i>The Mindful Brain: Reflection and attunement in the cultivation of well being</i>. WW Norton & Company.			
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	person with the activity of one's own (as with mirror neurons). ○ Emotional balance to have enough activation so that life has meaning and vitality but not so much that life becomes chaotic. ○ Response flexibility is the capacity to pause before action. ○ Empathy – knowing what might be going on inside someone else. ○ Insight or self-knowing awareness to be able to link the past, present and future. ○ Fear modulation that may be carried out by the release of the inhibitory neurotransmitter GABA. ○ Intuition – a neural mechanism by which we process deep ways of knowing via our body i.e. 'somatic intelligence'. ○ Morality – taking into consideration the larger picture, to image what is best for the whole not just one's self, even when alone. • Explain that the way in how we activate this part of our brain (MPFC) is through practices of self-awareness- mindfulness. The more that we engage in practices of self-awareness the more that we grow this part of our brain. We then build greater capacity for emotional self-regulation and all of the above-mentioned correlations. • Review Brain Development ○ Explain that every time we fire up regions of the brain, we wire it more completely, lending to better connectivity or resonance circuitry.				
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(slide 19-21)

Siegel, D. J. (2007). *The Mindful Brain: Reflection and*

	○ “What fires wires?” • Review Why Invest in Mindfulness? ○ CCS invests heavily in mindfulness training to enhance the development of emotional self-regulation in supporters, who in turn will then be competent and committed to teach mindful awareness to people with developmental disabilities to enhance their emotional self-regulation. • Explain the research has shown that the medial pre-frontal cortex of people supported with neurodiversity can be functional but not as readily activated as those who are not neurodiverse. Our goal in this section is to offer strategies to enhance the functioning of this region of the brain. • CCS Brain Coherence, Balancing & Inflammation Regulating Interventions ○ Enhance essential brain calming elements (e.g. GABA and Serotonin) ○ Prevent excess of excitatory elements (e.g. Cortisol, Glutamate, PPA) ○ Balance anxiety producing vitamins and minerals (e.g. Magnesium, Vitamin B6, Vitamin B12) ○ Cerebellum activation (e.g. 20 minutes of bouncing and balancing to activate the cerebellum which then can increase brain energy in MPFC)	<i>attunement in the cultivation of well being.</i> WW Norton & Company. Richey, J. A., et al. (2015). Neural mechanisms of emotion regulation in autism spectrum disorder. <i>Journal of autism and developmental disorders</i>, 45, 3409-3423. URL. (slide 23-25) CCS Textbook (pg. 134-135)			
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	○ Maintain adequate glutathione levels to prevent brain inflammation (e.g. NAC) ▪ eliminating triggers for inflammation and providing anti-inflammatory supplements (e.g. N-acetylcysteine (NAC)) increases the body's own production of glutathione (GSH) which is the most critical antioxidant that protects the brain from many toxins and contaminants that cause inflammation. Many people supported are dangerously low in GSH. This deficiency can be remedied by increasing the intake of sulfur-rich foods and supplements such as NAC. NAC, given to a group of children with ASD/DD during a controlled research study by Stanford University in 2013, was 72% effective in reducing the levels of irritation. ○ Keep the Mitochondria Cell System Healthy: ▪ Mitochondria are known as the powerhouse of each cell ▪ They give cells their energy to do their work such as maintaining healthy brain functioning	Hardan, A. Y., et al. (2012). A randomized controlled pilot trial of oral N-acetylcysteine in children with autism. <i>Biological psychiatry</i>, 71(11), 956–961. URL.			
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	○ Controllable Mitochondria Killers: ▪ Sugar and Simple Carbohydrates ▪ Oxidative Stress causing Brain Inflammation – low glutathione ▪ Medications such as Antibiotics and Antipsychotics ▪ Vitamins and Minerals Imbalance – low B vitamins, folic acid, magnesium, vitamin D ○ Cardio Exercise: ▪ Bouncing and balancing increases activity of the cerebellum which leads to better brain coherence and functioning. ▪ Increased coherence leads to thoughts becoming more organized and focused therefore, less fear and more calm is experienced. • Review Autism and Neurofeedback ○ Studies have shown that neurofeedback and biofeedback have an influence to increase the coherence of brain waves with people who have autism. This brain coherence then allows for a more organized pattern of thought and therefore lowered experiences of anxiety and agitation. ○ Overview the EMWave2 technology of biofeedback and identifying an image of calm through their biofeedback of heart	(slide 26) CCS Textbook (pg. 136) van der Kolk, B. (2015). The body keeps the score: brain, mind, and body in the healing of trauma. Penguin Books. EMWave 2 machine and laptop, if available			
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	rate and breath rate and visualization activities. ○ Overview the technology of the MUSE Headband and identifying a sense of calm through their biofeedback of heart rate and brain activity from frontal lobe. • Review Training in Self-Regulation with those with ASD/DD can be Successful and Sustainable in the Following Areas: ○ Attentional control, inhibition of verbal responses, cognitive flexibility and planning – through neurofeedback ○ Some areas of executive functioning and behavioural control ○ Resistance to distraction and concentration ○ Affective, cognitive, physical self-regulation and pro-social behaviour • Review Summary ○ Brain development, coherence and inflammation prevention are essential to promote the well-being of children, youth and adults with ASD/DD. ○ Brain development and coherence are proven to absolutely be possible through mindfulness, physical exercise, nutrition and other support initiatives as outlined in Need #1 – 15 BB-ABC Best Practices/Tools.	MUSE Headband, if available (slide 27) MacKenzie, H. (2013). <i>The autistic child's guide: presenting spark* (self-regulation program of awareness & resilience in kids)</i>. Wired Fox. pp. 321-323. (slide 28) CCS Textbook (pgs. 137-139)			
15 mins Objective: Activity:	BREAK				
25 mins Objective: Activity:	Complete the Well-being Facilitation Plan – Needs #4 • Have participants break up into planning groups and complete Needs Area #4. • Have groups share with larger group what was discussed as elements to Continue, Stop, Start	Wellbeing Facilitation Plan			

20 mins Objective: Activity:	B-FIT Mindfulness Exercise #4- Stress Rehearsal • Remind participants to always, tune in to your own PFP Programming reactive feelings that are activated in a moment of crisis. Once you have identified them, activate this B-FIT Mindfulness and non-attachment skills exercise. • Remind participants that the key to success in this exercise is your capacity to identify and address your own emotions in a given situation. The Stress Rehearsal exercise will build on your “here now” and “calming” capacity. • Lead the participants through the exercise for 15 minutes. ○ STEP 1: Begin a B-FIT Mindfulness session. ○ STEP 2: After settling in and becoming calm, deliberately recall a person or situation that causes you stress. Observe your talk thoughts and image thoughts (as applicable) about this person or situation. After one minute, drop this deliberate recalling and resume the ahh-llowing practice, with strong intentional ahh-llowing of each B-FIT experience. ○ STEP 3: Observe your B-FIT and ahh-llow your resistance to decrease. ▪ Whenever you become aware of a body sensation related to a feeling—for example, weakness in your arms which you know is associated with anger—bring your intentions of non-attachment to that sensation, fully experience it and then return to your B-FIT focus. ▪ At each step, as often as possible, intentionally bring a subjective ahh-llowing,	CCS Textbook (pg. 271-272)			
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	surrendering, and matter-of-fact attitude to everything that is being observed. This is being non-attached. ▪ Conclude all practice sessions with intentions for loving kindness and gratitude and review intentions.				
10 mins Objective: Activity:	15 Support Strategies for Advocating with Professionals • Review strategies listed and explain the importance of recognizing our filters as assets and barriers as we approach professionals and advocate for the people we support. ○ E.g. A person with the filter of the need for approval will most likely not ask for clarity from the professional when they do not understand. • Introduce/suggest some templates for charting outside of incident reports to help summarize information for professionals.	CCS Textbook (pg. 51)			
10 mins Objective: Activity:	Session Preparation and Learning Log • Review readings and homework found on Session 6 Learning Plan • Have each participant complete the Session 6 Learning Log	Session 5 Learning Log			