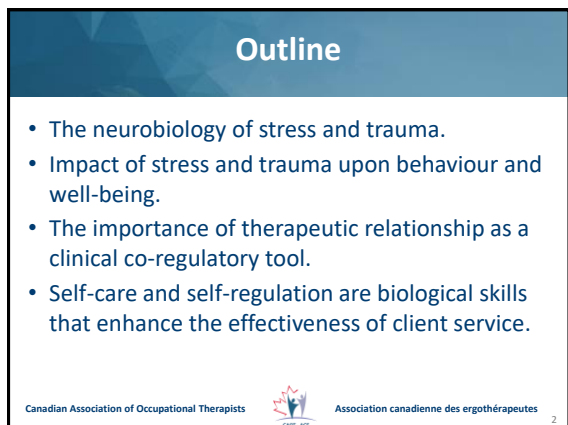


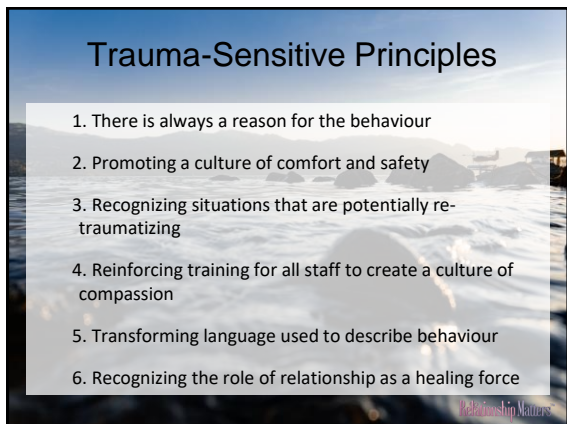
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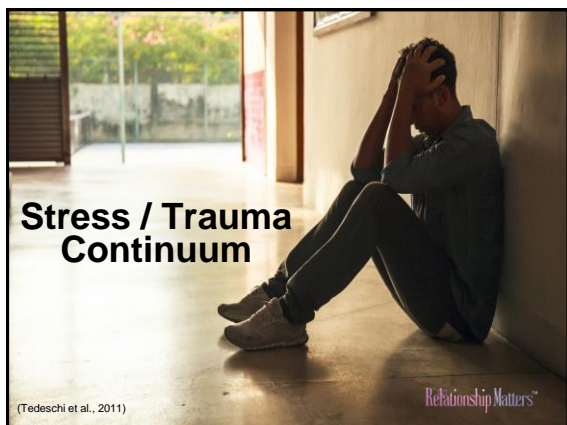
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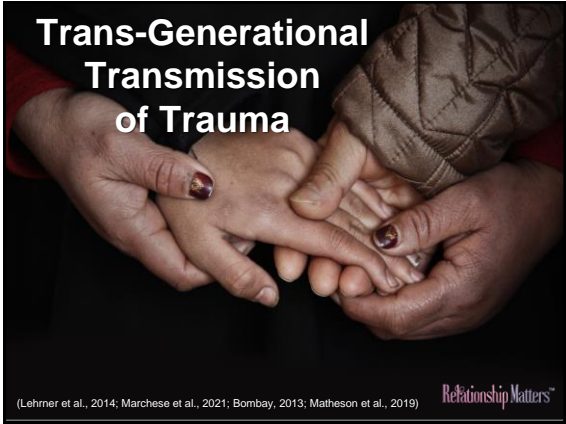
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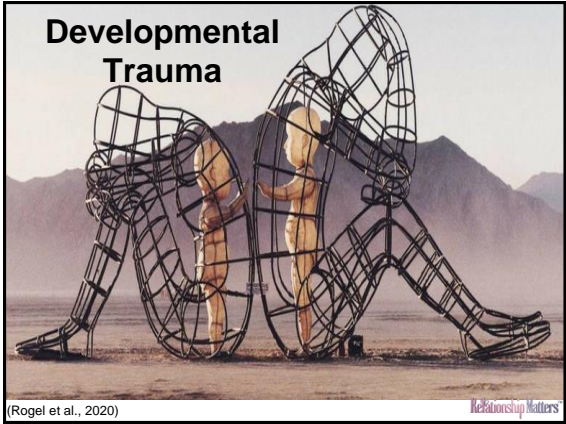
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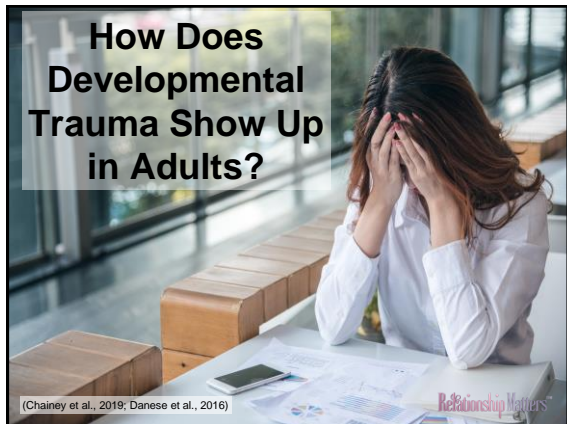
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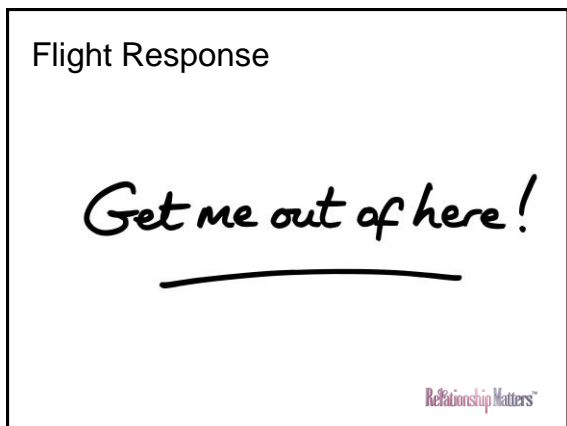
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Takeaway Messages

- Trauma in infancy has an impact upon the developing brain.
- Trauma can result in maladaptive behaviours that interfere with daily living functions and relationships.
- Creating emotional and physical safety through artful co-regulation requires therapeutic use of self.
- Self-care and self-compassion are necessary elements of self-regulation for effective practice.

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Questions?

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<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

References

- Agorastos, A., Pervanidou, P., Chrousos, G. P., & Baker, D. G. (2019). Developmental trajectories of early life stress and trauma: A narrative review on neurobiological aspects beyond stress system dysregulation. *Frontiers in Psychiatry, 10*.
<https://doi.org/10.3389/fpsyt.2019.00118>
- Ainsworth, M. D., & Eichberg, C. G. (1993). Effects on infant–mother attachment of mother’s unresolved loss of an attachment figure, or other traumatic experience. In C. M. Parkes, J. Stevenson-Hinde, & P. Marris (Eds.), *Attachment across the life cycle*. Routledge. <https://doi.org/10.4324/9780203132470>
- American Psychological Association. (n.d.). *Apa PsycNet*. American Psychological Association. Retrieved March 7, 2022, from <https://psycnet.apa.org/record/2014-24382-001>
- Available, N. O. T. (2019). *Intentional relationship: Occupational therapy and use of self*. F A Davis.
- Baldwin, J. R., Reuben, A., Newbury, J. B., & Danese, A. (2019). Agreement between prospective and retrospective measures of childhood maltreatment. *JAMA Psychiatry, 76*(6), 584. <https://doi.org/10.1001/jamapsychiatry.2019.0097>
- Barrett, L. F. (2021). *Seven and a half lessons about the brain*. Mariner Books.
- Beebe, B., & Lachmann, F. M. (2014). *The origins of attachment: infant research and adult treatment*. Routledge.

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

Beeghly, M., Perry, B. D., & Tronick, E. (2016). Self-regulatory processes in early development. *Oxford Handbooks Online*.

<https://doi.org/10.1093/oxfordhb/9780199739134.013.3>

Bierer, L. M., Bader, H. N., Daskalakis, N. P., Lehrner, A., Provençal, N., Wiechmann, T., Klengel, T., Makotkine, I., Binder, E. B., & Yehuda, R. (2020). Intergenerational effects of maternal holocaust exposure on FKBP5 methylation. *American Journal of Psychiatry*, 177(8), 744–753.

<https://doi.org/10.1176/appi.ajp.2019.19060618>

Biglan, A. (2015). *The nurture effect: How the science of human behavior can improve our lives and our world*. New Harbinger Publications.

Birn, R. M., Patriat, R., Phillips, M. L., Germain, A., & Herringa, R. J. (2014). Childhood maltreatment and combat posttraumatic stress differentially predict fear-related fronto-subcortical connectivity. *Depression and Anxiety*, 31(10), 880–892.

<https://doi.org/10.1002/da.22291>

Bombay, A., Matheson, K., & Anisman, H. (2013). The intergenerational effects of indian residential schools: Implications for the concept of historical trauma. *Transcultural Psychiatry*, 51(3), 320–338.

<https://doi.org/10.1177/1363461513503380>

Bouvette-Turcot, A.-A., Unternaehrer, E., Gaudreau, H., Lydon, J. E., Steiner, M., & Meaney, M. J. (2017). The joint contribution of maternal history of early adversity and adulthood depression to socioeconomic status and potential relevance for

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

offspring development. *Journal of Affective Disorders*, 207, 26–31.

<https://doi.org/10.1016/j.jad.2016.08.012>

Brown, B. (2022). *Atlas of the heart: Mapping meaningful connection and the language of human experience*. Random House Large Print.

Brown, D. P., Elliott, D. S., & Morgan-Johnson, P. (2016). *Attachment disturbances in adults: treatment for comprehensive repair*. W.W. Norton et Company.

Bryson, B. (2021). *The body: a guide for occupants*. Anchor Books, a division of Penguin Random House LLC.

Carballedo, A., Lisiecka, D., Fagan, A., Saleh, K., Ferguson, Y., Connolly, G., Meaney, J., & Frodl, T. (2012). Early life adversity is associated with brain changes in subjects at family risk for depression. *The World Journal of Biological Psychiatry*, 13(8), 569–578. <https://doi.org/10.3109/15622975.2012.661079>

Carey, N. (2013). *The epigenetics revolution: How modern biology is rewriting our understanding of genetics, disease, and inheritance*. Columbia University Press.

Carrion, V. G., Weems, C. F., & Reiss, A. L. (2007). Stress predicts brain changes in children: A pilot longitudinal study on youth stress, posttraumatic stress disorder, and the hippocampus. *Pediatrics*, 119(3), 509–516.

<https://doi.org/10.1542/peds.2006-2028>

Chainey, C., & Burke, K. (2019). Adverse childhood experiences, parenting practices, the parent-offspring relationship and emerging adult wellbeing. *UQ ESpace*.

<https://doi.org/10.14264/uql.2019.11>

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

- Chainey, A., Carballedo, A., Amico, F., Fagan, A., Skokauskas, N., Meaney, J., & Frodl, T. (2014). Effect of childhood maltreatment on brain structure in adult patients with major depressive disorder and healthy participants. *Journal of Psychiatry & Neuroscience*, 39(1), 50–59. <https://doi.org/10.1503/jpn.120208>
- Chapman, L. (2014). *Neurobiologically-informed trauma therapy with children and adolescents: understanding mechanisms of change*. W W Norton.
- Choi, J., Jeong, B., Polcari, A., Rohan, M. L., & Teicher, M. H. (2012). Reduced fractional anisotropy in the visual limbic pathway of young adults witnessing domestic violence in childhood. *NeuroImage*, 59(2), 1071–1079.
<https://doi.org/10.1016/j.neuroimage.2011.09.033>
- Choi, J., Jeong, B., Rohan, M. L., Polcari, A. M., & Teicher, M. H. (2009). Preliminary evidence for white matter tract abnormalities in young adults exposed to parental verbal abuse. *Biological Psychiatry*, 65(3), 227–234.
<https://doi.org/10.1016/j.biopsych.2008.06.022>
- Cisler, J. M., James, G. A., Tripathi, S., Mletzko, T., Heim, C., Hu, X. P., Mayberg, H. S., Nemeroff, C. B., & Kilts, C. D. (2012). Differential functional connectivity within an emotion regulation neural network among individuals resilient and susceptible to the depressogenic effects of early life stress. *Psychological Medicine*, 43(3), 507–518. <https://doi.org/10.1017/s0033291712001390>
- Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2017). *Treating trauma and traumatic grief in children and adolescents*. The Guilford Press.

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

Community technical assistance center (CTAC). (2016, July 8). *1/29/14 The impact of trauma and neglect on young children* [Video]. Youtube.

<https://www.youtube.com/watch?v=ma8c6uATk00>

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., DeRosa, R., Hubbard, R., Kagan, R., Liataud, J., Mallah, K., Olafson, E., & van der Kolk, B. (2005). Complex trauma in children and adolescents. *Psychiatric Annals*, 35(5), 390–398. <https://doi.org/10.3928/00485713-20050501-05>

Crittenden, P. M. K. (2014). *Attachment and family therapy*. Open university press.

Crittenden, P. M. K. (2016). *Raising parents: Attachment, representation and treatment*. Routledge, Taylor & Francis Group.

Dana, D. (2021). *Anchored: How to befriend your nervous system using polyvagal theory*. Sounds True.

Dana, D., & Porges, S. W. (2018). *The polyvagal theory in therapy: engaging the rhythm of regulation*. W.W. Norton et Company.

Danese, A., & Lewis, S. J. (2016). Psychoneuroimmunology of early-life stress: The hidden wounds of childhood trauma? *Neuropsychopharmacology*, 42(1), 99–114.
<https://doi.org/10.1038/npp.2016.198>

Dannlowski, U., Kugel, H., Huber, F., Stuhrmann, A., Redlich, R., Grotegerd, D., Dohm, K., Sehlmeier, C., Konrad, C., Baune, B. T., Arolt, V., Heindel, W., Zwitterlood, P., & Suslow, T. (2012). Childhood maltreatment is associated with an automatic negative emotion processing bias in the amygdala. *Human Brain Mapping*, 34(11), 2899–2909. <https://doi.org/10.1002/hbm.22112>

These webinar materials are copyrighted to the presenter and may not be distributed or shared without the express permission of the presenter.

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freeweinars?nav=sidebar>

Dawson, G., Frey, K., Panagiotides, H., Yamada, E., Hessel, D., & Osterling, J. (1999).

Infants of depressed mothers exhibit atypical frontal electrical brain activity during interactions with mother and with a familiar, nondepressed Adult. *Child Development*, 70(5), 1058–1066. <https://doi.org/10.1111/1467-8624.00078>

Fleury, T., & Barthel, K. (2014). *Conversations with a rattlesnake: raw and honest reflections on healing and trauma*. Influence Publishing.

Fortenbaugh, F. C., Corbo, V., Poole, V., McGlinchey, R., Milberg, W., Salat, D., Degutis, J., & Esterman, M. (2017). Interpersonal early-life trauma alters amygdala connectivity and sustained attention performance. *Brain and Behavior*, 7(5). <https://doi.org/10.1002/brb3.684>

Hadiprodjo, N. (2018). *Clinical applications of the Polyvagal theory and attachment theory to play therapy for children with developmental trauma* [Doctoral dissertation]. University of Roehampton.

Hambrick, E. P., Brawner, T. W., & Perry, B. D. (2019). Timing of early-life stress and the development of brain-related capacities. *Frontiers in Behavioral Neuroscience*, 13. <https://doi.org/10.3389/fnbeh.2019.00183>

Hambrick, E. P., Brawner, T. W., Perry, B. D., Brandt, K., Hofmeister, C., & Collins, J. O. (2019). Beyond the ACE score: Examining relationships between timing of developmental adversity, relational health and developmental outcomes in children. *Archives of Psychiatric Nursing*, 33(3), 238–247.
<https://doi.org/10.1016/j.apnu.2018.11.001>

These webinar materials are copyrighted to the presenter and may not be distributed or shared without the express permission of the presenter.

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freeweinars?nav=sidebar>

Hanson, R., & Hanson, F. (2020). *Resilient: how to grow an unshakable core of calm, strength, and happiness*. Harmony Books.

Harris, N. B. (2020). *The deepest well*. Pan Macmillan.

Hostinar, C. E., & Gunnar, M. R. (2018). Future directions in the study of social relationships as regulators of the HPA axis across development. *Future Work in Clinical Child and Adolescent Psychology*, 333–344.

<https://doi.org/10.4324/9781315187914-24>

Jaffee, S. R., Takizawa, R., & Arseneault, L. (2017). Buffering effects of safe, supportive, and nurturing relationships among women with childhood histories of maltreatment. *Psychological Medicine*, 47(15), 2628–2639.

<https://doi.org/10.1017/s0033291717001027>

Karr-Morse, R., & Wiley, M. S. (2012). *Scared sick: The role of childhood trauma in adult disease*. Basic Books.

Keating, D. P. (2017). *Born anxious: The lifelong impact of early life adversity-- and how to break the cycle*. St. Martin's Press.

Kelly, P. A., Viding, E., Wallace, G. L., Schaer, M., De Brito, S. A., Robustelli, B., & McCrory, E. J. (2013). Cortical thickness, surface area, and gyrification abnormalities in children exposed to maltreatment: Neural markers of vulnerability? *Biological Psychiatry*, 74(11), 845–852.

<https://doi.org/10.1016/j.biopsych.2013.06.020>

Khan, A., McCormack, H., Bolger, E., McGreenery, C., & Teicher, M. (2017). Childhood maltreatment and normal adult personality traits: Evidence for developmental

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

sensitive periods of exposure. *Biological Psychiatry*, 81(10).

<https://doi.org/10.1016/j.biopsych.2017.02.969>

Koss, K. J., George, M. R. W., Davies, P. T., Cicchetti, D., Cummings, E. M., & Sturge-

Apple, M. L. (2013). Patterns of children's adrenocortical reactivity to

interparental conflict and associations with child adjustment: A growth mixture modeling approach. *Developmental Psychology*, 49(2), 317-326.

<https://doi.org/10.1037/a0028246>

Laurent, H. K., Harold, G. T., Leve, L., Shelton, K. H., & Van Goozen, S. H. (2016).

Understanding the unfolding of stress regulation in infants. *Development and Psychopathology*, 28(42), 1431–1440.

<https://doi.org/10.1017/s0954579416000171>

Lehrner, A., & Yehuda, R. (2018). Trauma across generations and paths to adaptation

and resilience. *Psychological Trauma: Theory, Research, Practice, and Policy*, 10(1), 22–29. <https://doi.org/10.1037/tra0000302>

Lyons-Ruth, K., Pechtel, P., Yoon, S., Anderson, C., & Teicher, M. (2016). Disorganized

attachment in infancy predicts greater amygdala volume in adulthood.

Behavioural Brain Research, 308, 83–93.

<https://doi.org/10.1016/j.bbr.2016.03.050>

Marchese, S., Cancelmo, L., Diab, O., Cahn, L., Aaronson, C., Daskalakis, N. P.,

Schaffer, J., Horn, S. R., Johnson, J. S., Schechter, C., Desarnaud, F., Bierer, L.

M., Makotkine, I., Flory, J. D., Crane, M., Moline, J. M., Udasin, I. G., Harrison, D.

J., Roussos, P., ... Feder, A. (2022). Altered gene expression and PTSD

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freewebinars?nav=sidebar>

symptom dimensions in world trade center responders. *Molecular Psychiatry*.

<https://doi.org/10.1038/s41380-022-01457-2>

Matheson, K., Bombay, A., Dixon, K., & Anisman, H. (2019). Intergenerational communication regarding Indian Residential Schools: Implications for cultural identity, perceived discrimination, and depressive symptoms. *Transcultural Psychiatry*, 57(2), 304–320. <https://doi.org/10.1177/1363461519832240>

McLaughlin, K. A., Weissman, D., & Bitrán, D. (2019). Childhood adversity and neural development: A systematic review. *Annual Review of Developmental Psychology*, 1(1), 277–312. <https://doi.org/10.1146/annurev-devpsych-121318-084950>

Moog, N. K., Entringer, S., Rasmussen, J. M., Styner, M., Gilmore, J. H., Kathmann, N., Heim, C. M., Wadhwa, P. D., & Buss, C. (2018). Intergenerational effect of maternal exposure to childhood maltreatment on newborn brain anatomy. *Biological Psychiatry*, 83(2), 120–127.

<https://doi.org/10.1016/j.biopsych.2017.07.009>

Nelson, C. A. (2017). Hazards to early development: The biological embedding of early life adversity. *Neuron*, 96(2), 262–266.

<https://doi.org/10.1016/j.neuron.2017.09.027>

Noll, J., & Shalev, I. (2018). *The biology of early life stress understanding child maltreatment and trauma* (1st ed). Springer International Publishing.

<https://doi.org/10.1007/978-3-319-72589-5>

These webinar materials are copyrighted to the presenter and may not be distributed or shared without the express permission of the presenter.

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freeweinars?nav=sidebar>

Perry, B. D. (2009). Examining child maltreatment through a neurodevelopmental lens: Clinical applications of the neurosequential model of therapeutics. *Journal of Loss and Trauma*, 14(4), 240–255. <https://doi.org/10.1080/15325020903004350>

Rass, E., & Bowlby, R. (2018). *The allan schore reader: setting the course of development*. Routledge, an imprint of the Taylor & Francis Group.

Rogel, A., Loomis, A. M., Hamlin, E., Hodgdon, H., Spinazzola, J., & van der Kolk, B. (2020). The impact of neurofeedback training on children with developmental trauma: A randomized controlled study. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(8), 918–929.

<https://doi.org/10.1037/tra0000648>

Sapolsky, R. (2003). Taming stress. *Scientific American*, 289(3), 86–95.

<https://doi.org/10.1038/scientificamerican0903-86>

Schore, A. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant mental health journal*, 22(1-2), 7-66.

Seppala, E. (2017). *The oxford handbook of compassion science*. Oxford University Press.

Siegel, D. J. (2010). *The mindful therapist: A clinician's guide to mindsight and neural integration*. W.W. Norton & Co.

Spinazzola, J., Kolk, B. D., & Ford, J. D. (2018). When nowhere is safe: Interpersonal trauma and attachment adversity as antecedents of posttraumatic stress disorder

Barthel, K. (2022, April 11). *Trauma-sensitive practice*. In CAOT Webinars series.
<https://caot.ca/site/pt/resources/freeweinars?nav=sidebar>

and developmental trauma disorder. *Journal of Traumatic Stress*, 31(5), 631–642. <https://doi.org/10.1002/jts.22320>

Tedeschi, R. G., Shakespeare-Finch, J., Taku, K., & Calhoun, L. G. (2018).
Posttraumatic growth: Theory, research and applications. Routledge.

Teicher, M. H., & Samson, J. A. (2013). Childhood maltreatment and psychopathology: A case for ecophenotypic variants as clinically and neurobiologically distinct subtypes. *American Journal of Psychiatry*, 170(10), 1114–1133.
<https://doi.org/10.1176/appi.ajp.2013.12070957>

Teicher, M. H., & Samson, J. A. (2016). Annual research review: Enduring neurobiological effects of childhood abuse and neglect. *Journal of Child Psychology and Psychiatry*, 57(3), 241–266. <https://doi.org/10.1111/jcpp.12507>

The effect of early institutional deprivation on the brain: findings from the English and Romanian adoptees study. (2012). *Child and Adolescent Mental Health*, 114–120. <https://doi.org/10.1201/b13357-21>

Van der Kolk, B. (n.d.). (2013). *Childhood trauma, affect regulation, and borderline personality disorder* [Film]. Yale University.

Van der, Kolk. B. (2015). *The body keeps the score*. Penguin.