

An integrative health approach to promoting wellness in gifted children.

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Gifted children have amazing skills and talents related to unique neurobiology. This results in multiple traits that often impact their overall functioning. Integrative health looks at the whole person and lifestyle factors that influence health. It seeks to not just treat illness but to optimize health by connecting body, mind, spirit and community. It empowers people to practice positive self-care to improve health and well-being. This paper will look at evidence based integrative strategies to address common gifted traits and promote optimal health for gifted children based on the 7 key areas of self-care defined by the University of Arizona Center for Integrative Medicine; resiliency, sleep, diet/nutrients, exercise, relationship, environment, and spirituality.

Resiliency

Resiliency is the ability to cope with life challenges and effectively deal with stress. Strong resiliency minimizes the impact of stress on the body. The stress response changes body homeostasis which impacts cognitive functioning, digestion, sleep, and immune function. While gifted kids cognitive abilities make them very good problem solvers, their complex and intense emotions create strong emotional responses which easily set off the stress response resulting in emotional dysregulation. Mindful strategies such as meditation and guided imagery can calm the neurological response to stress. Research shows that meditation practice not only alters the structure and function of the brain (Davidson & Lutz, 2008) but it can significantly improve attention control, executive functioning, increasing mindful awareness and self-compassion, and decreasing worrying (De Bruin, EI, 2016). Decreasing the stress response can teach their brains to be calm and focused and build self-regulation skills to optimize overall wellbeing.

Nutrition

Diet provides essential nutrients for health. Macronutrients, protein, fat, and carbohydrates, are necessary for energy, growth and other body functions. Micronutrients, vitamins and minerals, are necessary for metabolism, growth, and disease prevention. They are not produced by the body and must come from diet. The CDC estimates that half of children in the world are deficient in one or more micronutrient. A diet of processed food, sugar, and lacking in fruits and vegetables has been linked to chronic inflammation which is associated with heart disease, obesity, diabetes, asthma, inflammatory bowel disease, and depression. (Egger, 2014). A lack of proper nutrients can have a significant impact on growth and brain development as well as health and behavior. Diet has also been linked to executive functioning skills in children (Cohen, et al, 2016). Gifted kids tend to be very picky eaters, often due to sensory sensitivity. Research has shown that picky eaters have a higher IQ and but also have lower intake of energy, protein, carbohydrates, vitamins and minerals, especially magnesium, zinc, and iron. (Xue, et al, 2015). Research also suggests that a lack of micronutrients can perpetuate picky eating in that supplementing nutrients such as zinc and magnesium can improve taste and appetite (Yagi, et al, 2013) and decreases picky eating because food tastes better and the experience of eating is more pleasurable. A healthy diet with proper nutrition can be challenging with gifted kids but is essential for health and may even decrease picky eating.

Sleep

Restful sleep and dreaming is essential for health and overall functioning. Sleep supports the immune system, allows the brain to remove toxins, solidifies memories, and impacts cognitive function, obesity, and cancer risk. Gifted children have difficulty quieting their minds and their unique neurobiology is not only evident in waking cognitive abilities but is seen in brain wave patterns during sleep. (Geiger, et al, 2011) While children with high cognitive efficiency also show increased sleep efficiency and, as indicated by a lack of daytime sleepiness, often need less sleep (Geiger, et al, 2010), sleep disturbance is significantly greater in highly creative people (Healey & Runco, 2006). Research shows that mindfulness strategies improves sleep and can reduce symptoms of chronic insomnia (Ong, et al, 2014) A brief school base intervention using pre-recorded mp3 breath-based mindfulness bodyscan technique showed improved sleep-onset (Bartel, K.et al, 2018). Learning to recognize signs of sleepiness, limit light, associating bed with sleep, and keeping a regular sleep-wake schedule are good strategies to improve sleep. In addition, restricting teen phone use prior to bed has been shown to have teens turn lights off earlier and sleep longer (Bartel K, Scheeren R, & Gradisar M, 2018). Developing good sleep hygiene and teaching mindful strategies to slow thinking will improve sleep and well-being of gifted kids.

Exercise

Physical exercise is an important in maintaining healthy weight, decreasing stress, improving mood, and boosting immune and cognitive function in addition to building muscle, improving cardiovascular health, balance, and flexibility. Like other areas of self-care, there is a strong relationship between physical activity and wellness. While high intelligence is associated with high motor skills, research suggests that people who seek out and enjoy challenging cognitive activities are less physically active than those who have a low “need for cognition.” (McElroy,et al, 2015). This may make it challenging to engage gifted children in regular physical activity. The CDC recommends that children and adolescents do 60 minutes or more of physical activity daily including aerobic as well as muscle and bone strengthening. Engaging in structured physical activities they enjoy, parents leading by example, limiting screen time, and making social events physically active helps increase exercise. Research suggests that school-based interventions can target large populations regardless of parental activity level and that building healthy lifestyle habits within the school environment is successful especially when started with young children (Zanher, et al, 2007). Physically active kids have lower BMI, better self-management strategies, greater belief they can succeed, and greater social support (Taverno, et al, 2013).

Environment

Physical surroundings include air, land, and water. Environments such home, work, and school impact health and well being as just as toxic chemicals and sensory input. The neurobiology of gifted kids makes them very sensitive to their environment and are known to have more allergies. Sensory sensitivity and sensory processing disorder affects approximately 35% of the gifted population as compared to between 5 to 16% of the general population (Jarrard, P. 2008). Related to early neurological development, gifted kids often have stronger responses to sensory input including taste, sound, sight, touch, and smell. Being mindful of sensory stimuli in the environment can greatly improve the health and functioning of gifted kids. Strategies such using natural or dimmed light, reducing ambient noise, and wearing sound blocking headphones are beneficial. Limiting toxic exposure such as food additives and dyes, BPA's from plastics, and nitrates and other chemicals from processed food can improve immune function and behavior in this neurologically sensitive population. In addition, aromatherapy has shown to directly affect the nervous system leading to secretion of neurotransmitters and research shows it can reduce pain, help sleep, and improve mood. (Keville, K., & Green, M. 2012).

Relationships

Healthy social relationships are essential for optimal health. Social relationships are a significant protective factor for anxiety and depression. Gifted children are highly sensitive to interpersonal conflicts with family and peers, and are more socially isolated because of their advanced cognitive abilities (Neihart, 1999). Research shows that family connectedness and school belonging are important protective factors for gifted adolescents (Mueller, 2009). Mueller (2009) also found that “support from family, friends, teachers, and other caring adults can often help gifted and nongifted adolescents deal with stressors in a way as to reduce vulnerability to psychosocial and environmental risk factors.” Helping gifted kids find peers, navigate social relationships, feel supported, and enrolled in the best possible school environment with teachers who can connect with them greatly improves their health.

Spirituality

Spirituality is beliefs about ourselves and the world including our purpose and meaning. This is very important to the well-being of gifted children who ponder existential issues from a very young age and are a greater risk for existential depression. Helping gifted children learn to tolerate the uncertainty, connect with others with the same passions, and explore their interests rather than fast-tracking is beneficial to overall health. Using strategies from Martin Segilman’s positive psychology and basing identity on internal traits such as wisdom and knowledge, courage, humanity, justice, temperance, and transcendence rather than performance and achievement can improve happiness, health, social engagement (Segilman, et al., 2005). Simply writing about three good things that happened each day and why they happened made people happier and less depressed for up to six months. Gifted kids, who are often plagued with perfectionism and the pressure of being gifted, benefit from learning self-compassion. Self-compassion includes “3 main components: (a) self-kindness versus self-judgment, (b) a sense of common humanity versus isolation, and (c) mindfulness versus overidentification.” (Neff, 2009). Self-compassion strategies such as understanding how they operate in the world, identifying inner processes, and decreasing self-criticism are extremely beneficial for gifted for kids. High levels of self-compassion are associated with “increased feelings of happiness, optimism, curiosity and connectedness, as well as decreased anxiety, depression, rumination and fear of failure” (Neff, 2009).

Conclusion

Gifted children have amazing skills and talents related to unique neurobiology. This results in multiple traits that impact their overall functioning. Rather than pathologizing these traits, integrative health models empower people to practice positive self-care to improve health and well-being as outlined by 7 key self-care areas: resiliency, sleep, diet/nutrients, exercise, relationship, environment, and spirituality. By utilizing integrative strategies such as meditation, aromatherapy, positive psychology, and healthy eating, gifted kids can not only optimize health and well-being but “favourable conditions in the child’s environment (sociocultural, educational, socioaffective, etc.) and good physical and mental health foster the realisation of the child’s “high-level potentialities” or exceptional ability, and this is then accompanied by harmonious development of the personality.” (Vaivre-Douret, L.,2011).

References

- Bartel K, Huang C, Maddock B, Williamson P, Gradisar M (2018). Brief school-based interventions to assist adolescents' sleep-onset latency: Comparing mindfulness and constructive worry versus controls. *Journal of Sleep Research*. February (1), 23-33
- Bartel K, Scheeren R, Gradisar M (2018). Altering Adolescents' Pre-Bedtime Phone Use to Achieve Better Sleep Health. *Health Communication*. Jan 9:1-7
- Davidson, R. J., & Lutz, A. (2008). Buddha's Brain: Neuroplasticity and Meditation. *IEEE Signal Processing Magazine*, 25(1), 176–174
- De Bruin, EI and der Zwan, JE, Bogels, SM. (2016). A RCT Comparing Daily Mindfulness Meditations, Biofeedback Exercises, and Daily Physical Exercise on Attention Control, Executive Functioning, Mindful Awareness, Self-Compassion, and Worrying in Stressed Young Adults. *Mindfulness (N Y)*. 2016;7(5):1182-1192.
- Cohen, J., Gorski, M. T., Gruber, S. A., Kurdziel, L. B., & Rimm, E. (2016). The effect of healthy dietary consumption on executive cognitive functioning in children and adolescents: a systematic review. *The British journal of nutrition*. (1) 1-12.
- Egger, G., & Dixon, J. (2014). Beyond Obesity and Lifestyle: A Review of 21st Century Chronic Disease Determinants. *BioMed Research International*, 2014, 73-85.
- Geiger, A., Achermann, P., & Jenni, O. G. (2010). Association between sleep duration and intelligence scores in healthy children. *Developmental Psychology*, 46(4), 949-954.
- Geiger, A., Huber, R., Kurth, S., Ringli, M., Jenni, O. G., & Achermann, P. (2011). The Sleep EEG as a Marker of Intellectual Ability in School Age Children. *Sleep*, 34(2), 181–189.
- Healey, D. & Runco, M.. (2006). Could Creativity Be Associated With Insomnia?. *Creativity Research Journal*. 18. 39-43.
- Jarrard, P. (2008). Sensory Issues in Gifted Children: Synthesis of the Literature. Unpublished doctoral dissertation. Rocky Mountain University of Health Professions, Provo, UT
- McElroy, T., Dickinson, D., Stroh, N.A., & Dickinson, C. (2015). The physical sacrifice of thinking: Investigating the relationship between thinking and physical activity in everyday life. *Journal of health psychology*. (21), 1-8.
- Muller, C. E. (2009) Protective Factors as Barriers to Depression in Gifted and Nongifted Adolescents. *Gifted Child Quarterly* Vol 53, Issue 1, pp. 3 - 14
- Neff, K. D. (2009). The Role of Self-Compassion in Development: A Healthier Way to Relate to Oneself. *Human Development*, 52(4), 211–214. <http://doi.org/10.1159/000215071>
- Neihart, M. (1999). The impact of giftedness on psychological wellbeing: What does the empirical literature say? *Roeper Review*, 22, 278-319. Neihart, M. (2001). Risk
- Ong, J. C., Manber, R., Segal, Z., Xia, Y., Shapiro, S., & Wyatt, J. K. (2014). A Randomized Controlled Trial of Mindfulness Meditation for Chronic Insomnia. *Sleep*, 37(9), 1553–1563. <http://doi.org/10.5665/sleep.4010>
- Seligman, M. E. P., Steen, T, Park, Nansook,P., & Peterson, C. (2005) *Positive Psychology Progress: Empirical Validation of Interventions*. *American Psychologist*, Vol 60(5), 410-421
- Taverno R, Dowda, M., Beets, M. W., & Pate, R. R. (2013). Physical activity behavior and related characteristics of highly-active 8th grade girls. *The Journal of Adolescent Health : Official Publication of the Society for Adolescent Medicine*, 52(6), 745–751.

Vaivre-Douret, L. (2011). Developmental and Cognitive Characteristics of “High-Level Potentialities” (Highly Gifted) Children. *International Journal of Pediatrics*, 2011, 420297.

Xue, Yong & Lee, Eva & Ning, Ke & Zheng, Yingdong & Ma, Defu & Gao, Hongchong & Yang, Baoru & Bai, Ying & Wang, Peiyu & Zhang, Yumei. (2015). Prevalence of picky eating behaviour in Chinese school-age children and associations with anthropometric parameters and intelligence quotient. A cross-sectional study. *Appetite*. 54. 248-255

Yagi, Takakazu & Asakawa, Akihiro & Ueda, Hirotaka & Ikeda, Satoshi & Miyawaki, Shouichi & Inui, Akio. (2013). The Role of Zinc in the Treatment of Taste Disorders. *Recent patents on food, nutrition & agriculture*. 44-51.

Zahner L, Puder JJ, Roth R, Schmid M, Guldemann R, Pühse U, Knöpfli M, Braun-Fahrländer C, Marti B, Kriemler S. (2006) . A school-based physical activity program to improve health and fitness in children aged 6-13 years ("Kinder-Sportstudie KISS"): study design of a randomized controlled trial. *BCM Public Health*, June 6:147. 1-12.