

Conference Proceedings

I International Science Conference «An overview of modern scientific research in various fields of science»

October 17 – 19, 2022

Amsterdam, Netherlands

# CULTURAL AWARENESS AS BIOLOGICAL, MEDICAL, PSYCHOLOGICAL, PEDAGOGICAL CATEGORY: RELATED QUESTIONS AND TYPOLOGICAL ASPECTS TAKING INTO CONSIDERATION

# Tkachenko Elena

Candidate of medical sciences, Physiology chair assistant Poltava State medical university, Ukraine

### Jha Sahil Kumar

Student, General Medicine Poltava State medical university, Ukraine

# **Al-Madaineh Mohammed**

Student, General Medicine Poltava State medical university, Ukraine

Cultural awareness assessment belongs to important problems of theoretical and applied branches of Science. There exist cultural neuroscience [1], developmental intergroup theory explaining and lowering children's social stereotyping and prejudice (age and ethno-age typological aspects) [2], the term "social brain in adolescence" (age and ethno-age typological aspects) [3] with a consideration point about adolescence as a sensitive period for sociocultural processing (age and ethno-age typological aspects) [4].

Culture is thought to be in tight connections to the evolutionary process [5] both during ontogenesis or individual development [6] and phylogenesis or historical development and cultural neuroscience touches the nervous system development in this context. Brain structure was compared in ethnic and ethno-age typological aspects by Evolutionary Biologists in young and old East Asians and Westerners as for its structural volume and cortical thickness [7]. The observations and measurements were performed in the cognitively matched young and old adults from two cultural/ethnic groups - Chinese Singaporeans and non-Asian Americans (140 people as a whole) to prove or to disprove the suggestions that East Asians and Westerners vary in cognitive processes because the first ones process the information holistically while the second ones - analytically. Young adults from the White Americans had bigger cortical thickness in frontal, parietal as well as medial-temporal multi-modal associative areas both in the right and in the left hemisphere. Older participants did not express valuable differences in the cortical thickness; there were the varieties in the grey matter on the base of strategic differencies arising from the ethnic/cultural varieties though alternative explanations dealing to the genetic heritage environmental factors were also considered to be contributive in a given context (ethno-age typological aspect).

Culture and cultural neuroscience genetic [8] and epigenetic [9] mechanisms are in the scientists' attention focus in various continents and countries (ethnic typological

aspect). Serotonin was found to be not only participant in the emotional regulation but in the social cognition as well and its mediator's transporter is studied [10].

Biogenetic law concerning to structure and function correspondence finds its provement in Neuroscience as well in relation to the cognitive function and brain structure correlations in the examined of various age group from different ethnic group with ethno-age typological aspect taking into consideration for example in the healthy Chinese (East Asians) people aged from 55 to 86 years (the research set was performed in Singapore); total cerebral volume declining as well as relatively greater volume loss in the lateral prefrontal cortex around the primary visual cortex and the parietal cortex in the superior areas on the right and on the left were in correlation to the weakened performance of cognitive function; the information processing velocity demonstrated positive correlation to the grey matter volume in several frontal, parietal and midline occipital regions from the both sides; despite the differences in diet, lifestyle and culture the data received were comparable significantly to the data performed in the Caucasian populations while suggesting the processes generalizability if to discuss the relations between the age-defined weakening in cognition and the brain volume [11]. Brain volume decline and cognitive dys-functions were found out by the Japanese Cognitive Neuroscientists with the ethno-age typological aspect and individual varieties in specific cognitive functions (semantic memory and short-termed memory) performance; only grey matter volume impacted on the cognitive functions performance but not the white one [12].

Cultural awareness is in tight connections to the Cultural Neurobiology, cultural competence development that is paid great attention in various countries with ethnoage typological aspect taking into consideration; separate attention is paid to teaching the students the skills giving the opportunity to get adapted better if not well under the new cultural environments' conditions for example in Vietnam, United Kingdom, China [13]; this question is also actual and is also developed concerning to the general practitioners in Australia [14]. Stimulation-based learning experience was in the attention focus in Canada and found to be relevant at maternal-child nursing when the communication was between mother and child under age of five, adolescent and young person for extrapolation the experience received to the undergraduate nurses with ethno-age typological aspect taking into obligatory consideration; thus one can say and write about student and educator experiences of maternal-child stimulation-based learning [15].

Therefore, the category "cultural awareness" is important to be studied multi-facetatedly in Biology (Neurobiology, Evolutionary in part), Medicine, Psychology and Pedagogy; human typological aspects in part the ethnic and the ethnic-age one should be taken into obligatory consideration.

#### References list

1. Chiao JY. Developmental aspects in cultural neuroscience. Dev Rev.-2018; 50(A): 77-89.

- 2. Bigler RS, Liben LS. Developmental intergroup theory: Explaining and reducing children's social stereotyping and prejudice. Current Directions in Psychological Science.-2007; 16(3):162-166.
- 3. Blakemore SJ. The social brain in adolescence. 2008. Nature Reviews Neuroscience. 2008; 9: 267-277.
- 4. Blakemore SJ, Mills KL. Is adolescence a sensitive period for sociocultural processing. Annual Review of Psychology. 2014; 65: 187-207.
- 5. Boyd R, Richerson P. Culture and the evolutionary process. Chicago: University of Chicago Press, 1985.
- 6. Casey BJ., Giedd JN, Thomas KM. Structural and functional brain development and its relation to cognitive development. Biological Psychology. 2000; 54: 241-257.
- 7. Chee MW, Zheng H, Goh JO, Park DC. Brain structure in young and old East Asians and Westerners: Comparisons of structural volume and cortical thickness. Journal of Cognitive Neuroscience. 2010;23(5):1065-1079.
- 8. Bamshad M. Genetic influences on health: Does race matter? Journal of the American Medical Association. 2005; 294: 937-946.
- 9. Canli T, Qiu M, Omura K, Congdon E, Haas BW, Amin Z, Herrmann MJ, Constable RT, Lesch KP. Neural correlates of epigenesis. Proceedings of the National Academy of Sciences. 2006; 103(43):16033-16038.
- 10. Canli T, Lesch KP. Long story short: the serotonin transporter in emotion regulation and social cognition. Nature Neuroscience. 2007; 10(9): 1103-1109.
- 11. Chee MWL, Chen KHM, Zheng H, Chan KPL, Isaac V, Sim SKY, Chuah LYM, Schuchinsky M, Fischl B, Pin Ng T. Cognitive function and brain structure correlations in healthy elderly East Asians. Neuroimage. 2009; 46(1): 257-269.
- 12. Taki Y, Kinomura S, Sato K, Goto R, Wu K, Kawashima R, Fukuda H. Correlation between grey/white matter volume and cognition in healthy elderly people. Brain Cogn. 2011; 75(2): 170-176.
  - 13. Liu J, Gill E, Li S. Revisiting cultural competence. Clin Teach. 2021; 191-197.
- 14. Watt K, Abbott P, Reath J. Developing cultural competence in general practitioners: an integrative review of the literature. BMC Fam Pract. 2016; 17(1): 158.
- 15. MacKinnon K, Marcellus L, Rivers J, Gordon C, Ryan M, Butcher D. Student and educator experiences of maternal-child stimulation-based learning: a systemic review of qualitative evidence protocol. JBI Database System Rev Implement Rep. 2015; 13(1): 14-26.