

How should we identify the development of human mind?

Prof. Dr. Toshiko Sawaguchi

Dept.of Legal Medicine Showa Univ.School of Medicine

Japanese major political topic is low birthrate and longevity. If Japan could response properly this national problem of low birthrate and longevity, it could be possible to show the good national model for policy of health & medicine to many Asian foreign countries.

This time, the measure by the Japanese Ministry of Health, Labor and Welfare face the next step following the initial policy of low birth rate such as how the number of birth rate could be increased.

The first step is to develop for the problem of infertility to both of male & female under the supervision of medical measurement of the problem of low birth rate. The second step is to the assistance of childcare. Here it is needed to keep motherhood, to keep self-esteem of ladies, to keep high rate of registration of pregnancy, to keep high rate of gynecological prenatal checkup, to prepare the nutritional guidance for young ladies & expectant mothers, to react non-prenatal checkup, to prepare the following system from prenatal period to postnatal period by each expectant mother, to prepare the administrative cooperation for the support of childcare including economical support. The third step is the support for the care of the growth of next generation. Hence we must recognize the problem of inner mind of children and young generation, measure the decrease of self-esteem & increase of self-flagellation of children and young generation, decrease the suicide rate of young generation and increase employment rate. To establish & keep for motherhood among young generation and healthy children's mind, the home care system has being prepared with visiting each family by public health nurses and counsellors in some prefectural governments.

Here the problem of inner mind of younger generations in Japan in the above-mentioned third step. In recent Japan, it is difficult that the small population as infants

would keep enough the health & strong inner mind to support the national base of Japan.

According to the survey by the Japanese Cabinet Office, Japanese young genera-

tion who should support the senior generation society has less positive feeling to the self, has less dream in future and has not be satisfied with their own families. In addition, the employment rate of younger male generation is under 50% and the rate of male aged 20-year-old which hope to have a child or children in future is less than 30%.

The suicide of younger generation is also the national problem. One of five high school or junior high school teachers have experienced the suicides of own students and one of three have experienced the attempted suicides of own students. In the national healthy plan named the Healthy Parents and Children 21, that is the parallel part of the National Healthy plan named the Healthy Japan 21, the increase of suicide rate in 10 years old younger generation was not enough in the final national report and particularly the suicide rate in younger male generation is high.

Otherwise, according to the OECD statistics, the suicide rate is very high in the Northern Europe where social security system and Neuvo system for child care are well prepared. In these Northern European countries, the ideal life of younger generation is just quiet live sleeping daily life with dreaming fancy. In Finland, the suicide rate has decreased to the 50% by the post-mortal psychological autopsy to decrease the untreated depression patients without pharmaceuticals. In Denmark, the suicide rate has been decreased to the less rate than Finland by the ante-mortal psychological counselling with & without pharmaceuticals.

Japan is making administrative efforts to prepare well enough the social security system for childcare but if these efforts could become actualized, it would not be secured that the negative tendency of children's inner mind and low rate of employment rate of younger generation could be changed to the proper sustainable direction. If the suicide rate in younger generation could be decreased, the younger people saved before suicide could be possible to be expected as strong sustainable independent employees. Also in Japan, the problem of increasing the neurodevelopmental disordered younger generation has been closed up and the supporting system has been prepared in the education field. In the other fields, the survey of rate of neurodevelopment disorder and dissociative disorder in low birth weight babies and babies born by any type of artificial fertilization would be demanded. Administratively, the national future GNP should be esteemed using the future possible employment rate could be estimated against the children saved by the pediatric & pediatric surgical treatment. We must find the authenticated positive value of health & medical care, even if negative productive effect might be bigger to the national economical budget

even after health and medical care.

Already many developmental checkup tests have been developed to investigate children's growth and development objectively. In Japan, Denver's Developmental Scale, Enjhoji-Developmental Scale and K-method etc are used generally. In these developmental scales, plural indexes using children's behavior which one of those could be performed in which process of growth and development as the inner mind measure are included. In this manuscript, not only via these developmental checkup test, if it could be possible to identify personally as the subject of inner mind development more objectively and more scientifically. In Japan, conventionally, the academic field for national medical policy is public health. Nowadays tailor-made medicine is being developed and the direction of subjects for medical policy could be changed to more emphasized personal itself. Hence, the academic subjects of medical policy includes not only public health but also hygiene and other related areas.

Here, we could suggest the possibility under the existence of the evidence that if we could identify the inner mind via viewing inner mind by the direct & scientific prospects.

Authors have examined and confirmed that plural personas in dissociative identity disorder(DID) patients with multiple personalities could be distinguished by the index of frequency characteristics including pitch and formant, wave forms, intonation, width of waves, and pronunciation (1). Coherence analysis in electroencepharography (EEG) is the test to know the association of construction of networks between two sites in the brain. Hopper et al has reported that the values of coherence analysis in EEG each in the different persona in the DID patients was significantly distinguished (2). Hence, it was suggested that the inner mind named persona could be distinguished.

Libet et al has reported that the readiness potential in the EED could be measured just about 0.5 second before at the instant when the subject is just about to and doubt of the existence of human free will has been occurred. In addition, Stanford and Southern Californian University Group has got the success to measure readiness potential using brain mapping of whole brain (4)(5). Also Mizzuli & Chicago University group has got the success to measure readiness potential in EEG just before the pro-

⁽¹⁾ Sawaguchi T et al: Research for discrimination of persona using biological sensors. Report by the Grants-in-Aid for Scientific Research(KAKENHI) by Japan Society for the Promotion of Science. 2016.

⁽²⁾ Hopper et al, 2002.

⁽³⁾ Libet et al, 2005.

⁽⁴⁾⁽⁵⁾ Suppe et al, 1997, 1998.

nunciation of English words and sentences(6).

DID patients is quite characteristics with the actualised multiple personality in the one physical body. According to Jung of the collective unconscious theory, all human beings are linked unconsciously. According to Prof.H.Kawai, all human beings are with set up under multiple personalities and in DID patients just those multiple personalities is expressed with outcome style. Hence, in the status of the collective unconscious theory, when the latent different persona could be distinguished and how the distinguishment could be possible? How are different between the status of persona under the collective unconscious theory and the multiple persona which could be latent in one patient's one body? In both of abovementioned examples, each persona could be identified and distinguished? In clinical psychology, this the collective unconscious theory could not be scientifically proved. If these readiness potential before each multiple perosnas of DID patients could be measured and confirmed the possibility of the distinguished rates, any kinds of results of this trial could contribute the above-mentioned questions. As the result of this, if the specific pattern of readiness potential by different multiple persona in the one DID patient could be detected, the existence of free will could be proved. If the homogenous and indistinguish readiness potential by different multiple persona in the one DID patient could be detected, the existence of free will could be proved with rather less possibility. Hence, it would give the influence to philosophical discussion that if the measurement of readiness potential before inner mind movement could identify the persona specifically.

On the opposite opinion of above-mentioned approach, we could also show the adversarial opinion. When the perceptual information enter to the brain via sensory organs, we could know the low road where the perceptual information to contact the nucleus of tonsillar directly via thalamus after primary sensory cortex and high road to contact of the nucleus of tonsillar via the frontal lobe. The memory of previous trauma transmit via low road(7). As the different interpretation, the perceptual information via high road could not reach to the conscious level and it might be that each people behave without conscious will and give reasons via retrospective following unconscious behavior(7). As for this retrospective following unconscious behavior, in the quantum theory, it could exist that future matters could effect to present matters as the reverse causality. When quantum wave spread to one point, conjugate wave oc-

⁽⁶⁾ Jensen L et al, in *Gifts of Grace*. New York. Harper Collins, 1995.

⁽⁷⁾ K. Okano. *DID-Clinical comprehension & Treatment*. Tokyo. Iwasaki-Gakujuutsu Publisher. 2007.

How should we identify the development of human mind?

curs, reverses the time and destructs after returning to the original point where quantum wave has been produced. Here, quantum theory is not macroscopic of course. However, in the living Biosystems with nested structures, in the both of the different nests in the different levels, which mean in the quantum level and also in the more- macro level than the quantum level such as DNA level, sometimes the same phenomenon, the same structures and the same combination could exist and nobody could deny this possibility.

Because, for example, the helical structure in DNA could also be seemed as the circular helical structure of high density Magnesium ion in the quantum level.

Associate Lecturer at this college