

EDITORIAL

Cognitive Advancements across the Globe: Intelligence Research and Piagetian Psychology in Comparison

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1. Two approaches to studying intelligence and cognition

It is widely accepted that there are two main approaches to studying “intelligence” and “cognition”, psychometric intelligence research and Piagetian developmental psychology. While the psychometric approach measures intelligence without having a true theory of intelligence, ascribing different scores to test persons according to their respective mastering of tests, thus measuring abilities regarding abstract and logical capabilities, the Piagetian approach comprises a complete theory of human development, a comprehensive theory of stage developments from infancy over adolescence to adulthood, including a detailed description of the development of psyche, consciousness, personality, and understanding of logic, physics, social affairs, law, religion, politics, morals, and arts. While intelligence research gages and assigns numbers (the average number is 100) to

test persons, the Piagetian approach identifies their test person’s belonging to certain developmental stages.

2. Historical advancements in intelligence

Some scholars of both approaches have recognized already early that people’s performance on tests depends on historical, social, and cultural conditions. Test performance is not simply a biological phenomenon but is germane to divergent social settings and environmental influences. Especially the immigration office at Ellis Island, New York, recognized huge ethnic differences concerning IQ, when administering intelligence tests to immigrating people, already very early in the 20th century. Immigrants from Asia or from Eastern and Southern Europe scored much weaker than those coming from Western and Northern Europe. Later on, it was found

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that already the first generation born in the USA, descending from the Eastern and Southern Europeans, tended to achieve the same scores as those descending from Western and Northern Europeans ^[1]. Chinese and Japanese living in the US scored likewise weaker than the Whites during the 1960s and 1970s, while since the 1980s Americans from these groups usually have been scoring better than Americans with European background ^[2].

It was a general discovery that ethnicities living in traditional, preindustrial, or premodern societies score lower than ethnicities of industrial and modern societies. This result was confirmed right across the whole world irrespective of race, culture, and region. People living in developing nations scored weakly in comparison to people raised in modern, industrial societies. Whenever agrarian societies changed to industrial societies, their national intelligence increased over time. Whenever people from developing nations or traditional societies immigrated to modern, industrial societies, their children, exposed to modern environments, surpassed scores of their parents, coming close to scores prevailing in the new environment ^[3,4].

As intelligence research had almost forgotten this cultural context of intelligence development, James Flynn surprised the research community with something they should and could have known for long. He showed that industrial nations such as those of Europe but also the USA, Russia and Japan had increased their scores by about 25 points in the time span from about 1914 to about 1980. The increase in school education, job enrichment, and cultural modernization were discovered as the main factors in climbing intelligence scores. Accordingly, it was found that modernization and industrialization in developing nations were likewise accompanied by rising scores. The vaunted Flynn effect is, more or less, a worldwide phenomenon, with from time to time changing forerunners and backbenchers. On the whole, racial-biological factors play obviously no part, while culture and environment shape the intelligence level of people decisively.

3. Historical advancements in stage development

Flynn was insecure about whether these test results take root in conventions or real intelligence differences over decades. As he met with my Piagetian research, he finally found that neither measurement problems nor conventions but real differences in intelligence account for the divergent scores ^[3]. Child or developmental psychologists knew from the beginning of their discipline that stages typical for children may be shared by adults living in the past or in premodern respectively traditional societies. H. Werner wrote in 1926 the first great monograph to show the resemblances and C. Hallpike ^[5] wrote the second important one, albeit the hint at these correspondences was omnipresent in literature beforehand.

Jean Piaget delved into this tradition and became a child psychologist in order to find a tool to reconstruct the history of mind, culture, philosophy, and sciences. He described parallels between ancients and children concerning a wide range of psychological patterns, however mostly dispersed and interlaced in some short sections of his books only. Only his book on the history of sciences was completely devoted to the description of the parallels ^[6]. Nonetheless, Piaget swayed between a biological clock work model and a historical model of his stage theory during his lifetime. His position related was unequivocally contradictory. Accordingly, he never understood the relevance and the findings of that branch of research that has been called Piagetian Cross-Cultural Psychology.

This branch conducted empirical research right across continents, cultures, and milieus, carrying out thousands of surveys during the past 80 years. It evidenced that assumption the founders of child psychology had already imputed in the 19th century. People living in premodern or traditional societies stay on the preoperational or concrete-operational stage, and do not develop the stage of formal operations that teenagers living in modern, industrial societies attain during the second decade of life. This

result comprises an understanding of logic, physics, social affairs, law, morals, etc. It was likewise shown that not hereditary but educational and cultural factors account for these differences. People from whichever origin can attain the formal operational stage when exposed to modern education and culture early in life, while people of premodern culture, from whichever race or region, do usually not surmount the preoperational or concrete operational stages^[7,4,8].

4. Conclusions

Intelligence scores below 75 exhibit the same “developmental age” or “intelligence age” as stages below the formal operational stage. Conversely, higher intelligence scores match the formal operational stage. Piagetian psychology and intelligence research have come to conclusions that support each other. It becomes now possible to accomplish the task Piaget had envisaged all his lifetime but has only groped for. There does not exist any better scientific tool to reconstruct the history of humankind than that stage theory provides. Accordingly, S. Gablik has reconstructed the history of the fine arts by using stage theory, D. LePan the history of British literature, C. Radding the history of the Middle Ages, L. Ibarra the history of Pre-Columbian cultures in America, C. Hallpike the history of morals, and Oesterdiekhoff the history of society, worldview, mind, logic, sciences, philosophy, morals, politics, law, and arts (references also concerning the other

authors mentioned to find in Oesterdiekhoff.

Conflict of Interests

There are no conflicts to report.

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