Quadrant II – Transcript and Related Materials

Programme: Bachelor of Arts

Subject: Psychology

Course Code: PSD 105

Course Title: Developmental Psychology

Unit: III – Cognitive Development

Module Name: Middle Adulthood: Expert Cognition, Expertise and Age – Part 02

Module No: 27

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Notes

MIDDLE ADULTHOOD: EXPERT COGNITION, EXPERTISE AND AGE

Information Processing

Among the information-processing changes that take place in middle adulthood are those involved in speed of processing information, memory, expertise, and practical problem-solving skills.

***Speed of Information Processing*:** - Perceptual speed begins declining in early adulthood and continues to decline in middle adulthood. A common way to assess speed of information is through a reaction-time task, in which individuals simply press a button as soon as they see a light appear. Middle-aged adults are slower to push the button when the light appears than young adults are. A current interest focuses on possible causes for the decline in speed of processing information in adults. The causes may occur at different levels of analysis, such as cognitive ("maintaining goals, switching between tasks, or preserving internal representations despite distraction"), neuroanatomical ("changes in specific brain regions, such as the prefrontal cortex"), and neurochemical ("changes in neurotransmitter systems") such as dopamine.

Memory: - Verbal memory peaked in the fifties. However, in some other studies verbal memory has shown a decline in middle age, especially when assessed in cross-sectional studies. For example, in several studies when asked to remember lists of words, numbers, or meaningful prose, younger adults outperformed middle-aged adults. Although there still is some controversy about whether memory declines in the middle adulthood years, most experts conclude that it does decline. However, some experts argue that studies that have concluded there is a decline in memory during middle age often have compared young adults in their twenties with older middle-aged adults in their late fifties and even have included some individuals in their sixties. In this view, memory decline is either non-existent or minimal in the early part of middle age but does occur in the latter part of middle age or in late adulthood. Cognitive aging expert Denise Park (2001) argues that starting in late middle age, more time is needed to learn new information. The slowdown in learning new information has been linked to changes in working memory, the mental "workbench" where individuals manipulate and assemble information when making decisions, solving problems, and comprehending written and spoken language. In this view, in late middle age working memory capacity—the amount of information that can be immediately retrieved and used—becomes more limited. Think of this situation as an overcrowded desk with many items in disarray. As a result of the overcrowding and disarray, long-term memory becomes less reliable, more time is needed to enter new information into long-term storage, and more time is required to retrieve the information. Thus, Park concludes that much of the blame for declining memory in late middle age is a result of information overload that builds up as we go through the adult years.

Memory decline is more likely to occur when individuals don't use effective memory strategies, such as organization and imagery. By organizing lists of phone numbers into different categories, or imagining the phone numbers as representing different objects around the house, many individuals can improve their memory in middle adulthood.

Expertise: - Because it takes so long to attain, expertise often shows up more in the middle adulthood than in the early adulthood years. Expertise involves having extensive, highly organized knowledge and understanding of a particular domain. Developing expertise and becoming an "expert" in a field usually is the result of many years of experience, learning, and effort. Strategies that distinguish experts from novices include these: - Experts are more likely to rely on their accumulated experience to solve problems. Experts often process

information automatically and analyse it more efficiently when solving a problem in their domain than novices do. Experts have better strategies and shortcuts to solving problems in their domain than novices do. Experts are more creative and flexible in solving problems in their domain than novices are.

***Practical Problem-Solving:* -** Everyday problem solving is another important aspect of cognition. Nancy Denney observed circumstances such as how young and middle-aged adults handled a landlord who would not fix their stove and what they did if a bank failed to deposit a check. She found that the ability to solve such practical problems improved through the forties and fifties as individuals accumulated practical experience. However, since Denney's research other studies on everyday problem-solving and decision-making effectiveness across the adult years have been conducted. A meta-analysis of studies indicated that everyday problem-solving and decision-making effectiveness remained stable in early and middle adulthood, then declined in late adulthood.

References

1. Santrock, J.W. (2011). Life Span Development. (13th Ed). New Delhi: Mc Graw-Hill College.