

## Effects of Later Life Change in Cognitive Function on Consumer Economic Decision-Making

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Effective decision-making is central to maximizing consumer well-being. Research indicates mental abilities can deteriorate with age, especially in advanced years. Current upward trends in population aging and longevity have raised concern regarding the quality of the decision-making process in later life (i.e. 65 and older). An interdisciplinary, integrative review of current research in psychology, economics, behavioral economics, neuroscience, and neuro-economics was conducted to assimilate findings regarding relationships between later life neurological and physical brain changes and decision-making processes (e.g. attention, processing speed, various aspects of memory, executive function, learning, reaction to gain and loss, inter-temporal and probabilistic decisions, susceptibility to framing, propensity for overconfidence, and strategies to compensate or adapt). Differences between normal and concerning cognitive changes were also identified.

The review indicated that a multidisciplinary review of research on the aging brain yields a more nuanced view of the effects of age-related neurological and physical brain changes on consumer economic decision-making than that offered within a single discipline. Aging results from complex interaction of neurological, biochemical, and physical systems, mediated by culture, environment, personal history and lifestyle. Aging, per se, does not cause inevitable cognitive decline and cognitive change is not uniform. Over a lifetime, some cognitive functions remain relatively stable, others start decline in the second decade of life, and still others decline only in later life. Neuroimaging, laboratory, and survey research indicate attention, processing speed and memory decline with age, but compensatory or adaptive strategies are often developed. Mathematic ability starts decline in midlife. Language and learning remain intact over time. Relatively little difference exists between young and old in reaction to gain or loss, but older individuals are more willing to wait for a reward. Research on age difference in risky decisions is inconclusive. Older individuals can succumb to and be adversely affected by framing and overconfidence. Interestingly, culture can profoundly affect crystallized intelligence, an enduring aspect of cognition.

Consumers face many significant and complex decisions in later life, e.g. when to retire, whether to make housing or lifestyle changes, and selection of medical insurance and type of care. Decision-making errors can be very costly in terms of money, time, stress, or opportunity cost. Recognizing typical types and timing of later life cognitive changes and effect of those changes on economic decision-making can help consumers and professionals that work with them: (1) recognize cognitive decline does not affect all types of economic decisions in the same way, (2) identify potential points of vulnerability in the decision-making process, (3) reduce risk of vulnerability to mental processing errors or exploitation, (4) reduce worry by distinguishing normal from concerning cognitive changes in later life, (5) proactively plan response in the event cognitive decline occurs, and (6) recognize when cognitive decline necessitates appropriate intervention.

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