Published in final edited form as:

Am J Geriatr Psychiatry. 2010 January ; 18(1): 1–3. doi:10.1097/JGP.0b013e3181c3ef09.

Editorial: Positive Mental Aging

Dilip V. Jeste, MD^{1,2} and **Colin A. Depp, PhD^{1,2}**

¹ University of California, San Diego (UCSD), Department of Psychiatry

² Sam and Rose Stein Institute for Research on Aging, UCSD

The 18th volume of the American Journal of Geriatric Psychiatry (AJGP) begins on a positive note. In 2008 the Journal's Impact Factor, released by the Institute for Scientific Information, crossed the 4.0 mark for the first time in the AJGP's history. To put this number in context, fewer than 20% of all the 146 journals in psychiatry and psychology and the 36 journals in aging have Impact Factors above 4.0. Furthermore, the journals with higher Impact Factors are usually in fields that have long traditions and/or cover a broad field of research. It is unusual to find in that group a relatively young journal representing a small subspecialty such as geriatric psychiatry. Just a few short years ago the AJGP was a quarterly publication with about 100 submissions a year and an Impact Factor below 2.0. Now the Journal is a monthly, with approximately 300 submissions a year, with nearly 40% of them coming from outside the US, indicating that the AJGP has truly become an international journal.

These are not easy times for the field of geriatric psychiatry, what with low rates of Medicare and other insurance reimbursements for the mental healthcare of older adults, worsening shortage of trained geriatric psychiatrists, inadequate federal and non-federal funding for aging research, and the overall economic downturn, to name a few of the prominent issues. In this broad context, it is heartening that our Journal is doing well. The Journal's success is a result of the outstanding team work involving the Editorial Board, the Triage Editors, the reviewers, the authors, the leadership and staff of the American Association for Geriatric Psychiatry, and the staff of LWW, our publishing partner. More importantly, it also symbolizes advances in the science of geriatric psychiatry, and is a pointer to the bright future of our field.

In this issue of the AJGP, four papers exemplify the issue's theme of "Positive Mental Aging" and point toward important directions for the future of geriatric psychiatry. Although this collection of papers represents remarkably diverse arenas of study, disparate methodologies, clinical and non-clinical samples, they share several commonalities with recent work in promotion of cognitive and emotional health in later life.

First, although 'positive mental aging' would appear, by definition, mutually exclusive from conditions such as Alzheimer's disease and psychiatric disorders, the measurement and enhancement of cognitive and emotional health are not restricted to older adults who are free of diseases and disability (1;2). As reported in previous papers in the AJGP (3–5) and elsewhere (6;7), older adults frequently express positive appraisals of their own health and functioning, despite having illnesses and disabilities - including mental illnesses. The articles in this issue are aimed at understanding the pathways and interventions toward positive mental aging in people who are not prototypical candidates for 'successful aging'.

Second, among the most noteworthy and impactful discoveries in neuroscience in the past two decades has been the surprising capacity of the aging human brain to maintain plasticity (8). At the same time that diseases of the brain are affecting a growing number of older adults, we are learning through translational and epidemiological research that even among older adults with diminished cognitive reserve, pharmacological and psychosocial/behavioral interventions can provide important benefits to some (9). Given how much more needs to be known about the mechanisms of cognitive aging and how best to alter its trajectories (10;11), studies such as those reported in this issue bring cautious optimism that interventions could aid aging brains in compensating for neural damage or diminished cognitive reserve.

Third, in line with the roadmap for the future of medicine detailed in recent reports from the National Institutes of Health (12), positive mental aging will be better achieved with personalized and participatory medicine. Genes present risk factors for disease expression, as well as for altering response to treatment. The predictive utility of identified genes for treating geriatric mental illnesses is not yet advanced, but is beginning to catch up (13). Participatory medicine is one that respects and bases care on patient preferences, decisions, and educational needs; contrary to long-held notions, older adults with mental illness desire such participation (14). The first step toward participation is the definition and measurement of these constructs.

Fourth, articles in this issue exemplify ‘thinking outside the box’ in terms of psychological constructs and outcome domains. Positive mental aging is more than mere absence of depression or cognitive impairment, it is also the degree to which people can recover from illness, feel in control of their lives, and make decisions about their care. Thinking outside the box also applies to using old data in new ways, such as with new statistical and methodological approaches.

In one of the papers published in this issue of the AJGP, Lachman and colleagues (15) analyzed the Mid-life in the United States (MIDUS) dataset from 3,343 men and women between the ages of 33 and 84, examining the inter-relationships of participation in cognitively demanding activities, education, and cognitive ability. Consistent with cognitive reserve theory, education and cognitive activity predicted greater cognitive ability. More interesting was the finding that cognitive activity appeared to mitigate against the effects of low education on episodic memory. This relationship was not seen for executive functioning. Notwithstanding the limitations of a cross sectional study (e.g., it could be that higher cognitive performance increased predilection for cognitive stimulation), these results provide tantalizing evidence that deficits in early-life cognitive reserve, such as education, can be partially compensated for by later-life engagement in cognitively demanding activities – consistent with other prospective evidence for the continued plasticity of the aging brain (16).

Valen-Sendstad and colleagues (17) present data from a 12-month randomized controlled trial of low-dose hormone replacement therapy (HRT) in 65 women with Alzheimer’s disease. In light of the data from the Women’s Health Initiative study (18), HRT remains controversial as a friend versus foe of the aging brain. Although the Valen-Sendstad study was small and the overall effects of HRT were non significant, APOE genotype appeared to moderate treatment outcome such that women without the APOE-4 gene seemed to benefit in mood and memory performance, whereas APOE-4 carriers did not. Given the limitations of the study, these results point back to the laboratory to uncover the relationship among APOE, HRT, and depression.

In another paper, López and colleagues (19) developed and evaluated the psychometric properties of a new measure to assess patient empowerment in older adults: The Empowerment Questionnaire for In-Patients. Empowerment lies at the other end of the spectrum of translational research compared to most other studies in this issue – it is a positive psychological construct that influences acceptance and participation in treatment and self-care decisions.

Empowerment represents a novel and important construct relevant to gauging how we can best promote positive mental aging in the context of mental health services. The authors employed a rigorous approach to developing this instrument, employing the Delphi process as well as clinician and patient focus groups to develop items, and examining test-retest reliability and utilizing a multi-site sample. Future investigations will be needed to determine whether this instrument can be adapted for outpatient settings, where a majority of geriatric mental health consumers reside, as well as whether and in which ways empowerment is a separable construct from more general constructs such as personal mastery and perceived control.

Finally, Duff and colleagues (20) provide preliminary data on the potential meaningfulness of practice effects observed in the context of cognitive training. Traditionally perceived as a nuisance by researchers trying to interpret the meaning of change in repeated administration of neuropsychological tests, Duff et al. provide initial evidence that practice effects may actually be indicative of greater propensity to benefit from cognitive training *vis a vis* greater flexibility. This small uncontrolled study raises more questions than it answers; nevertheless, it shows how we can use existing data to learn about cognitive processes involved in benefiting from cognitive training, and possibility better target interventions as a result.

Where do we go from here? It is clear that longitudinal investigations with population-based samples are needed to truly understand causal relationships in the trajectories of the aging brain. However, given the expense of such studies, novel methodological/statistical approaches to longitudinal designs such as accelerated longitudinal design (21) can increase the potency and efficiency modeling developmental trajectories. In translational research, we know far more about the brains of mice and (younger) men than we do about the parameters and potential for neuroplasticity in older adults. Studies are needed to detect how cognitively stimulating activities (22) or novel pharmacologic agents influence the brains of older people with and without brain illnesses. Incorporating genetic markers into observational studies and clinical trials is an important route toward personalizing healthcare. At the other end of the translational research spectrum, as studies that define and reliably measure novel constructs such as empowerment, mastery, resilience, and wisdom emerge (23), we will be able to develop interventions to begin to positively influence these constructs.

The articles in this issue point out how far we have come as a journal covering geriatric psychiatry, as well as how far we have to go in moving toward a definitive science of assessing and promoting positive mental aging. Most importantly, these studies showcase the central role of geriatric psychiatry in the debates over the definitions, determinants, and interventions for positive mental aging – we hope the AJGP will continue to grow as a forum for describing advances in this and other relevant arenas.

Acknowledgments

This work was supported, in part, by grants from the National Institute of Mental Health (MH080002), and by the UCSD Sam and Rose Stein Institute for Research on Aging.

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