

Cognitive scores among retired adults as a mediator on the risk of depression

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Research Question: Do cognition scores mediate the association between retirement and depression?

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BACKGROUND

Depression is a major global health concern (Vos et al., 2017), especially in the aging population. There is evidence that retirement increases risk of depression (Lie et al., 2021), though this relationship has had mixed results (Odone et al., 2021). Cognitive decline has been associated with risk of future depression (Mogle et al., 2020). In addition, the cognitive decline that occurs with age was shown to become steeper after retirement (Nilsen et al., 2021). In this study, we examined one possible mechanism of retirement's effect on mental health by exploring the mediating effect of cognition on the association between retirement and risk of depression in the United States.

DESCRIPTION OF ORGANIZATION

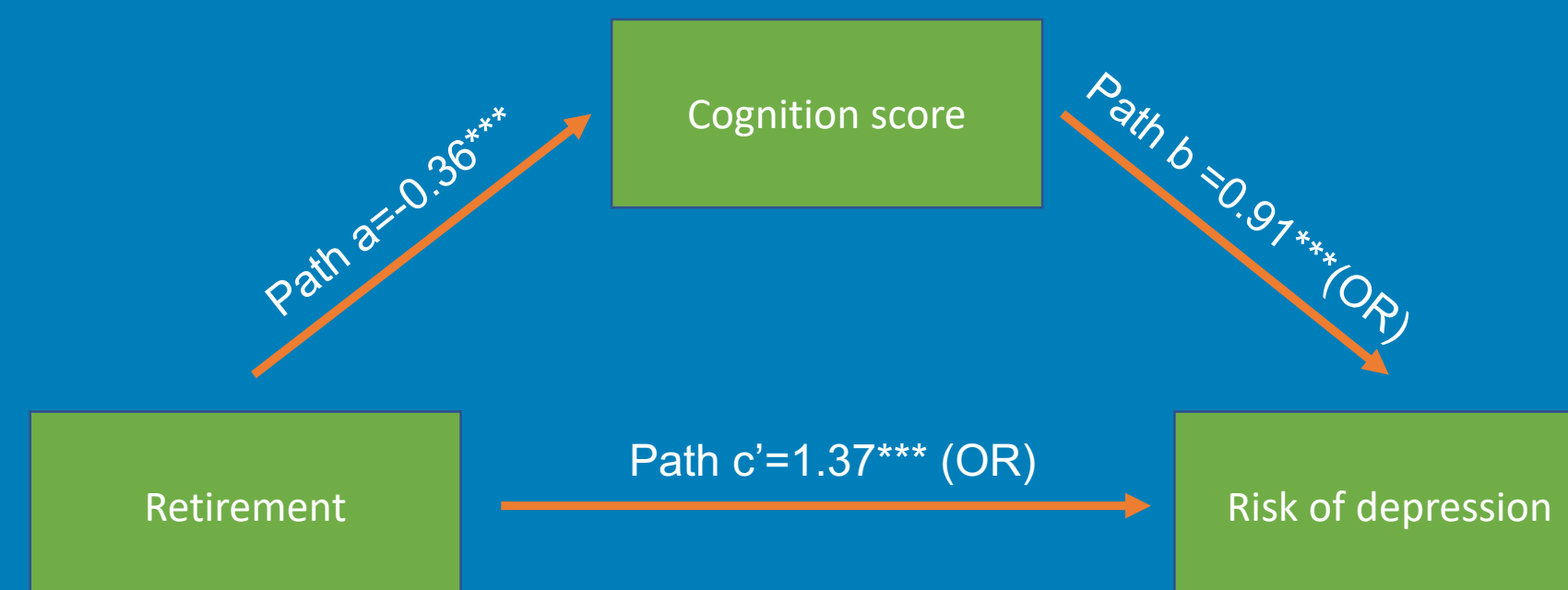
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TABLES

Figure 1. Mediation Model of Cognition on Retirement and Risk of Depression.



Being retired decreased the cognition score by 0.36 ($b=-0.36$, $p<0.05$) points, while one additional point of the cognition score was associated with a decrease of 9% ($OR=0.91$, $p<0.05$) on the probability of presenting risk of depression. Additionally, being fully retired increased the probability of risk of depression by 37% ($OR=1.37$, $p<0.05$). The indirect effect of being retired on risk of depression was significant and indicated a decrease on risk of depression ($IE=-0.03$, $p<0.05$). There is mediation of cognition score on the association between retirement and risk of depression.

METHODS

Data were obtained from the 2018 wave of the Health and Retirement Study in the United States, which is the most recent wave that contains cognition data. Non-institutionalized respondents who were over 50 years old were selected, yielding a sample of 7,766 respondents with valid data in all variables. 59% of respondents were females and 72% were White, and the mean age was 75.8 years old ($SD=7.96$). We examined the cross-sectional association between retirement status (retired vs. not retired) and depressive symptoms, measured by the CESD-8 scale (coded as risk of depression for CESD-8 scores >3). Then, mediation analyses were conducted for the cognition scores, controlling for age (years), sex (1=female; 0=males), and race (1=White; 2=African American/Black; and 3=others). 13% of respondents presented with risk of depression and the mean of cognition was 21.52 ($SD=5.40$). First, a multiple regression model with cognition scores regressed onto being retired and covariates was conducted. Second, a logistic model – odds ratios, with depression regressed on being retired, cognition, and covariates was conducted.

DISCUSSION

Given that cognition score mediates the relationship between retirement and risk of depression, this could serve as one mechanism for the increased risk of depression in retired individuals. Future studies should examine longitudinal data since cognition has been shown to decline linearly with time (Nilsen et al., 2021). Importantly, cognitive screenings could be a useful tool along with screenings for depression to better encapsulate risk of mental health issues in the aging population.