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Poster

Applying Growth Mixture Models to the longitudinal study of depressive symptomatology

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Abstract

Background. Depressive symptomatology is highly prevalent among older adults and lack of treatment perpetuates its negative consequences on older adults'functional ability over time. Aside from older adults'vulnerability to depressive disorders, subclinical symptoms have been also shown to be associated with functional disability, as well as to worse prognosis of certain health conditions. The longitudinal study of depressive symptomatology and its associated factors from a person-centered perspective can inform which factors make individuals vulnerable to less favorable trajectories over time. In this work, we aim at identifying different trajectories of depression over a 10-year period and testing the effect of relevant predictors documented in the literature. Method. We employed data from waves 4, 5, 6, 7, 8 and 9 of the Survey of Health, Ageing and Retirement in Europe (SHARE), a biannual, longitudinal, panel study aimed at adults of at least 50 years of age. The sample was formed by 56600 individuals who entered the study in wave 4, most of which were female (56.0%) and married (68.3%). Mean age was 65.93 (SD = 10.01). We employed Growth Mixture Modelling (GMM) to test up to five classes of depression trajectories conditioned on the effects of age, gender, widowhood and socioeconomic status. After the best fitting model was retained, we examined the effect of covariates onto the intercept and slope of each trajectory as well as onto latent class membership. Results. The best-fitting GMM presented three trajectories of depression: AIC= 489365.68, BIC= 489886.62, ABIC= 489692.76, Entropy= .668, ALMR LR test= 9612.01 (p< .001), BLRT= -249439.84 (p< .001). Although the entropy value was not as high as the two-class GMM, the significant ALMR LR test and BLRT favored the three-class GMM. Moreover, the average latent class probabilities for most likely latent class membership of the corresponding latent class were above the .70. Class 1 (n= 9986, 26.42%) had an intercept of 4.08 (p< .001) and a slope of -0.10 (p= .036). Class 2 (n= 23492, 62.15%) had an intercept of 1.05 (p< .001) and a slope of 0.34 (p< .001). Class 3 (n= 4323, 11.43%) had an intercept of 6.71(p< .001) and a slope of 0.14 (p= .019). The observed class-varying effects of age, gender and socioeconomic status indicated that latent class membership moderated the relationship between these covariates and the within-class trajectories. Discussion. In contrast to other research, we included the covariates within the GMM. Not doing so could affect model specification, retained number of classes, and estimation of class proportions and class membership. Specifically, older age, female gender and socioeconomic difficulties were associated to increased likelihood of belonging to a less favorable trajectory. Having widowed was consistently associated to higher initial depressive symptomatology in all classes. Differences among latent classes'intercepts indicated that each trajectory characterized by having a low, medium or high initial level of depressive symptomatology. Differences among latent classes'slopes suggested that depressive symptomatology of individuals classified in Class 1 decreased over time, while it increased for those individuals classified in Class 2 and Class 3.

Keywords

Depression, SHARE, GMM, person-centered techniques

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