

## The Effect of "Trait" Variance of Personality on Depression: Application of the Trait-State-Occasion Modeling

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**Abstract :** Both preexisting cross-sectional and longitudinal studies of personality-depression relationship have suffered from one main limitation: they ignored the stability of the construct of interest (e.g., personality and depression) can be expected to influence the estimate of the association between personality and depression. To address this limitation, the Trait-State-Occasion (TSO) modeling was adopted to analyze the sources of variance of the focused constructs. A TSO modeling was operated by partitioning a state variance into time-invariant (trait) and time-variant (occasion) components. Within a TSO framework, it is possible to predict change on the part of construct that really changes (i.e., time-variant variance), when controlling the trait variances. 750 high school students were followed for 4 waves over six-month intervals. The baseline data (T1) were collected from the senior high schools (aged 14 to 15 years). Participants were given Beck Depression Inventory and Big Five Inventory at each assessment. TSO modeling revealed that 70~78% of the variance in personality (five constructs) was stable over follow-up period; however, 57~61% of the variance in depression was stable. For personality construct, there were 7.6% to 8.4% of the total variance from the autoregressive occasion factors; for depression construct there were 15.2% to 18.1% of the total variance from the autoregressive occasion factors. Additionally, results showed that when controlling initial symptom severity, the time-invariant components of all five dimensions of personality were predictive of change in depression (Extraversion:  $B = .32$ , Openness:  $B = -.21$ , Agreeableness:  $B = -.27$ , Conscientious:  $B = -.36$ , Neuroticism:  $B = .39$ ). Because five dimensions of personality shared some variance, the models in which all five dimensions of personality were simultaneous to predict change in depression were investigated. The time-invariant components of five dimensions were still significant predictors for change in depression (Extraversion:  $B = .30$ , Openness:  $B = -.24$ , Agreeableness:  $B = -.28$ , Conscientious:  $B = -.35$ , Neuroticism:  $B = .42$ ). In sum, the majority of the variability of personality was stable over 2 years. Individuals with the greater tendency of Extraversion and Neuroticism have higher degrees of depression; individuals with the greater tendency of Openness, Agreeableness and Conscientious have lower degrees of depression.

**Keywords :** assessment, depression, personality, trait-state-occasion model

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