# Understanding social-class differences in the transition to adulthood using Markov chain models

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Recent theories about social and demographic change, such as individualization theory and Second Demographic Transition theory, suggest the emergence of a type of late, protracted and complex pathway to adulthood. In recent years, studies offer qualified support for the emergence of this new pattern of transition to adulthood in most European countries. However, the transition to adulthood is a complex process of a series of events that are often interlinked. Even though life courses are greatly varying sequences of roughly the same life course events, the complexity is caused by the fact that these sequences consist of correlated events and spells and these correlations depend on gender, social class, cohort and cohort-related macro events. Our previous work demonstrated that the application of stochastic models like the Latent-Class model helps to describe the variation in life courses and its correlation with gender and social class. But the Latent-Class model cannot account for correlated events within life courses nor can it account for switches between latent types during the life course. We argue that (Hidden) Markov models, as a simple generalization of the Latent-Class model, has the ability to account for correlations between events and spells and also allows for switches between latent types or “model life courses”. Therefore, this study will use (Hidden) Markov models to produce a typology of trajectories of the transition to adulthood. Furthermore, we will test hypotheses on social class- and gender differences in observed life courses and latent types or “model-life courses”, using data from the Gender and Generation Programme (GGP), which provides full monthly life course sequence data between age 15 to 40.

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