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Rebecca A Everett*, reverett@haverford.edu, and **Alexis Kuerbis, Allison Lewis, Jing Li** and **Angela Peace**. *Data-Driven Mathematical Modeling of the Dual Process Framework of Addiction Among Problem Drinkers*.

Alcohol use disorder (AUD) is a costly, heterogeneous disorder that comprises a continuum of symptoms and severity of associated problems. Problem drinkers make up about half of all individuals with AUD, and tend to be characterized as having mild to moderate levels of AUD severity and higher psychosocial functioning compared to those with severe AUD. We are interested in identifying mechanisms of change in drinking behavior among problem drinkers. We apply a discrete dynamical system model to clinical data using mixed effects parameterization in order to identify both population and individual level parameters. (Received September 15, 2020)