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**Rachael Miller Neilan\*** (millerneilanr@duq.edu), **Josef Di Pietrantonio** and **James Schreiber**. *Assessing the impact of motivation and ability on team-based productivity using an agent-based model.*

It is common for organizations to hire workers based on their knowledge, skills, and abilities. However, despite capable workers being hired, productivity may suffer if employees' motivational needs are not satisfied. We developed an agent-based model to simulate the completion of tasks by teams of workers with different motivational strengths and abilities. Each worker is described by an ability value (1 through 5) and a 3-parameter motive profile expressing the individual's needs for affiliation, achievement, and power. During each time step, workers contribute to their assigned task at rates based on ability, motive profile, and the incentive value of the task. At the end of 365 time steps, the model outputs the total number of completed tasks, which is the primary measurement of productivity. We use the model to investigate which worker populations result in highest measures of productivity. Additionally, we use the model to illustrate the benefit of identifying failing tasks in real-time and re-assigning new teams to these tasks. (Received September 12, 2018)