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In this paper we analyze a logistic two-sex population model in which individuals do not form stable pairs (appropriate for certain animal populations). Using this model, we study the impact of sexually abstaining groups on persistence of a mild sexually transmitted infection(STI). In addition to presenting the main results of our paper, I will give a brief summary on how this REU project was born from earlier work done by the first author on population models with stable pairs. I will describe how switching from stable pairs to ephemeral pairs made the models suitable to certain mathematical techniques accessible to undergraduate students with minimal background. (Received September 18, 2011)