

## Investigating Error Management Strategies In Cooperation

Jolene H. Tan

Max Planck Institute for Human Development

**Aim.** Whether to resume cooperation after partner defection (i.e., forgive) is an evolutionarily recurrent error-management problem. Decision errors come in two forms: forgiving when it would have resulted in net fitness costs, or not forgiving when it would have resulted in net fitness benefits. What decision strategies do individuals use to decide whether to forgive? Do they reduce the likelihood of the more costly error in a way that enhances fitness?

**Method.** We will use a computerized conflict game where participants would have to solve a conflict of interest with an opposing player (OP). After each round, participants will have to decide whether to forgive the OP and play again with him/her in the immediate next round, or to play with a new OP. OPs will be randomly assigned relationship values that are low, medium, or high, which corresponds to the size of reward that the participant could potentially gain by playing with that OP again, and therefore the cost of decision errors.

**Expected results.** Participants' decisions will be compared to different decision models, each representing distinct approaches to error management. The model that best fits each participant's data would be categorized as the descriptive model for that participant. We expect that models that manage the cost of errors—i.e., that are biased towards forgiving OPs with high relationship value and biased against forgiving those with low relationship value—will be able to describe participants' decisions better than models that do not account for the cost of errors.