According to the self-determination theory, students provided with choice, a rationale, and acknowledgment should report higher levels of motivation and test performance on a low-stakes exam compared to other students. However, there is also some evidence that financial, performance-contingent incentives may facilitate students' test-taking motivation and performance. This experimental study investigated differences in test-taking motivation and test score on a math achievement test due to three interventions: autonomy-support, lottery, or control. The autonomy support group received instructions that included a meaningful rationale, acknowledgment that the task might not be interesting, and avoidance of controlling language. The lottery group received 0, 1, or 2 chances in the lottery, depending on their test scores.

For the autonomy and control groups, test taking effort had a significant impact on test performance. However, students who received autonomy support reported higher levels of test effort, but scored significantly lower than students in the lottery group. The performance-based lottery system improved test scores, but only for male test-takers.

Based on the results it appears that the two interventions activate different relationships of key variables during a testing situation. The lottery intervention significantly favored males during the math exam. On the other hand, the autonomy intervention minimized gender differences, and facilitated the role of interest and effort during the exam.