

## Summary of Previous Multinomial Logistic Regression Analysis

A multinomial logistic regression analysis predicted self-reported marijuana use (0 = never tried, 1 = tried 1–2 times, 2 = tried 3–19 times, 3 = tried 20 or more times) from student achievement test scores, which centered via conversion to z-scores prior to analysis (zACH). Entry of zACH significantly improved model fit ( $\chi^2_{(3)} = 129.49, p < .0001$ ), allowing us to examine the effects of the IV for each group. As you can see in Table 6.4, zACH was a significant predictor for each group, with unstandardized regression coefficients ranging from  $-0.20$  to  $-0.29$  (all  $p < .0001$ ). These equate to odds ratios of  $0.75$ – $0.82$ . In general, what that means is that as student achievement increases 1 standard deviation, the odds of trying marijuana are  $0.75$ – $0.82$  that of students who are 1 standard deviation lower. To illustrate these effects graphically, we predicted scores for students with achievement scores 1 standard deviation below the mean and 1 standard deviation above the mean, converting those predicted values to conditional probabilities, and we present them in Figure 6.1. As you can see in Figure 6.1, higher student achievement is associated with substantially lower probabilities of being in any of the three groups who have reported trying marijuana.