Self-regulation (SR) may rely on limited energy stores that are depleted with use. Depletion can impair subsequent SR performance. This study examines the aftereffects of SR depletion occurring in social or non-social situations. Theory and empirical research suggest a link between SR and personality. We expected Agreeableness, a Big Five personality trait, to moderate performance on a subsequent non-social SR task following social frustration. College students completed personality and verbal measures, then began a cooperative task via computer. An “error” occurred and students were asked to redo the verbal measure and partner task. The error was blamed on either the partner or the computer. Next, students rated their partner’s performance on the task. A random half of the students were encouraged to “be nice” in their evaluations. Afterward, students completed anagrams. Performance on the anagram task served as a measure of depletion. Results are discussed in terms of self-regulation theory.