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## Rudeness and Ego Depletion

Daniel A. Zuardo

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# RUDENESS AND EGO DEPLETION

by

DANIEL ZUARDO

(Under the Direction of Janie H. Wilson)

## ABSTRACT

The present study sought to examine the effect that rudeness would have on ego depletion by having participants engage in a task where they would build Legos with a confederate who would be rude or neutral to them. Ego depletion was measured using a typing task on a computer where participants would type A+E+I+O+U+ until they wanted to stop. The results suggest that rudeness can cause ego depletion.

INDEX WORDS: Ego depletion, Self-control, Self-regulation, Rudeness

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DANIEL ZUARDO

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DANIEL ZUARDO

Major Professor: Janie H. Wilson  
Committee: Shauna Joye  
Lawrence Locker, Jr.

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## CHAPTER 1

### RUDENESS AND EGO DEPLETION

Ego depletion is the idea that when a task requires self-control, individuals are less able to exert self-control on a subsequent task (Baumeister, 2001; Inzlicht & Schmeichel, 2014; Tice, Baumeister, Shmueli, & Muraven, 2007). Currently, the prevailing model explaining ego depletion is the strength model (also known as the resource model; Baumeister, 2002). In the strength model, self-control is based on a limited resource, and when self-control is exerted, the resource is depleted. With multiple incidences of self-control, the ability to control reactions is diminished. In this model, self-control is viewed similar to a muscle. Exerting effort weakens the muscle. When weakening occurs, people have difficulty performing tasks that require self-control. For example, after a day of hard work, someone who is on a diet would probably find it increasingly difficult to maintain the diet, because presumably, the energy for self-control has been depleted. Without the ability to exert the requisite amount of self-control to resist temptation, the individual is more likely to succumb to the desire to eat unhealthy foods.

Diverse tasks that cause ego depletion include physical, cognitive, and emotional self-control. Physical tasks, such as running, playing a sport, or any other type of physical exercise can reduce subsequent self-control (Colzato, Szapora, Pannekoek, & Hommel, 2013). Exhibiting cognitive effort, such as when solving complex puzzles or making a decision, also has been shown to deplete the ego (Vohs, et al. 2014). Even emotional tasks, such as suppressing emotions to an event, can cause ego depletion (Schmeichel, 2007). Interestingly, ego depletion resulting from one type of task (e.g., physical) can impact tasks in a different domain (e.g., cognitive). The ego is a single repository of self-control energy that can be depleted in many

diverse ways. Because self-control is a single well of energy, it is relevant to consider some examples from each domain of ego depletion.

Physical ego depletion occurs when physical effort is exerted, and subsequent endeavors to engage in any sustained activity are hindered. For example, Colzato, Szapora, Pannekoek, and Hommel (2013) showed that exercise resulted in ego depletion, as evidenced by performance on convergent and divergent thinking tasks. Colzato and colleagues asked participants to ride a stationary bike for 6 min at a normal, intense, and no rate (resting by sitting on the bike). All participants completed each level of the exercise condition. Between each condition, participants were given a 3-min convergent thinking task, where they are given three words and asked to give a word that can be associated with all three, and a 3-min divergent thinking task, where they are given an object word and have to think of as many different uses for that object as possible. The authors found that non-athletes performed best on convergent thinking after resting, intermediately after normal exercise, and poorly after intense exercise. Further, divergent thinking was poorer after intense exercise as compared with resting. This study suggests that exercise depletes cognitive resources used in convergent and divergent thinking, perhaps indicating ego depletion from exercise and a resulting reduction in cognitive resources.

Conversely, Martin Ginis and Bray (2010) ego depleted participants using a cognitive task and assessed exercise as the outcome. Ego depletion was induced using the Stroop task, a well-documented ego-depletion task requiring participants to indicate the color of a color word (e.g., “red” in black ink is read as “black” rather than “red”). Before the Stroop task, they collected baseline data for exercise intensity by having participants use a stationary bicycle for 15 min, then they had them fill out a worksheet for exercises that they wanted to do. Afterward they used a Stroop task to ego deplete, then had them complete another worksheet and 15-min



bicycle ride. There was a significant difference between the control and the ego-depleted groups for the exercise that they planned to do. Both groups did less work in the second bicycle ride, but those who completed the Stroop task had a larger decrease in the amount of work, although this difference was not statistically significant.

In addition to physical depletion, taxing the domain of cognitive self-control causes ego depletion. Vohs, et al. (2014) assigned participants to three cognitive-effort conditions: implement, deliberate, and choice. In the implement condition, participants simply used a computer to click on preassigned choices of computer specifications on a webpage for purchasing a computer. In the deliberate condition, they looked at choices on a webpage and were asked to think about what options they would want, but they did not actually make a choice (i.e., they did not click on any buttons to choose). In the choice condition, participants were told to choose their own preferences by clicking on a webpage. Afterward, participants were given 80 five-letter solvable anagrams and were told to work on them until they completed them all, wanted to stop, or wanted to give up. They found that whether the participants actually made decisions (choice condition) or simply thought about decisions (deliberate condition), resulted in less persistence on the anagram task compared to simply “choosing” preassigned choices (implementation condition). These results indicate that the cognitive effort of making choices ego depletes.

Perhaps as an outcome of depletion, exerting cognitive effort may lead to a lack of confidence about performance in a subsequent task. DeBono and Muraven (2013) argued that mentally healthy people approach many situations with overconfidence, and overconfidence requires some amount of willpower, or effort. Given this supposition, ego depletion should reduce overconfidence because individuals have less ability to exert the necessary effort.

DeBono and Muraven asked participants to write about animals for five minutes. Those in the depletion condition were told not to think about a white bear, whereas those in the control condition were not given such instructions. Then, all participants played an Atari video game on the computer, "Sky Jinks." After playing 10 times, participants were told that their rounded, third best score was the average score that people get (i.e. the number was different for each participant) and they were asked if they thought they would be able to beat that score if they played another round of the game. Participants were then asked to predict their score for their next attempt and then they played the game one more time. Participants in the depletion condition more accurately predicted their score compared to the control condition. Also, participants in the depletion condition were less confident in their ability to beat the average score compared to the control condition. This study offers support for the idea that overconfidence requires effort, and ego depletion reduces overconfidence.

The third general domain of self-control involves emotional responses. The bulk of research on emotion and ego depletion focuses on suppressing emotion as an effortful activity. Friese, Binder, Luechinger, Boesiger, and Rasch (2013) had participants either suppress their emotions (i.e., control their facial reactions) while viewing negative pictures or had them simply view the pictures with no suppression. They found impaired performance on a Stroop task for the emotional suppression group, indicating ego depletion. Similarly, Wagstaff (2014) showed participants an upsetting video of a woman causing herself to vomit and subsequently eating it and had them either suppress their emotions (suppression), had them simply watch the video (non-suppression), or had them simply ride a stationary bike (control). Wagstaff reported poorer performance in both power output and perceived exertion during a cycling task for the emotion-suppression condition compared to both the control and non-suppression conditions. Taken

together, these studies show ego depletion following emotion suppression, indicating that emotional self-control reduces subsequent self-control.

In a unique approach for the ego-depletion literature, Gao et al. (2014) experimentally induced a negative emotion and assessed depletion. They showed that the emotion of regret is depleting. Participants engaged in a gambling task where one group was told what the choice they did *not* pick would have given them (in order to induce regret), and the other group was not told anything about the unrelated choice (no regret). The task had three rounds and was designed so participants always won one round and lost the other two rounds. Then participants solved several math problems that used double-digit numbers in the formula of  $a \times b / [(c + d) \times e]$ . They were told to continue for as long as possible but could stop when they wanted. Those who experienced regret persisted for a shorter duration than those who did not experience regret. Thus a negative emotion, regret, caused ego depletion.

Just as negative emotion can lead to ego depletion, positive emotion can counteract ego depletion. Ren, Hu, Zhang, and Huang (2010) induced ego depletion using a thought-suppression task during which participants wrote down what they were thinking but were told not to think about a white bear. Then they subliminally presented either pictures of people showing positive emotion or pictures showing no emotion and participants. Afterward participants were given a box of marbles and a stick and told to put as many marbles as they could on the stick (it was impossible to put all the marbles on it). They were told to raise their hand when they were finished or wanted to leave. Those who were subliminally presented with pictures of people expressing positive emotion persisted for a longer duration of time than those who saw pictures with neutral expressions. This result indicated buffering against ego depletion by inducing positive emotion.

### *Social Self-Control and Ego Depletion*

Traditionally, emotional self-control has been examined as ego depleting based on inhibiting emotional responses to stimuli such as videos. However, Zyphur, Warren, Landis, and Thoresen (2007) extended research in this domain by requiring participants to control their emotions in the presence of social demands. Participants in the experiment were asked to act as a customer-service representative and deal with either a negative- or a positive-acting “customer” (a confederate). Participants were asked to remain positive while dealing with the customer. They were also told that the customer’s goal was to “win” the negotiation by having them comply with their request. Those who dealt with the rude customer persisted for a shorter duration on a subsequent unsolvable puzzle task than those who dealt with the positive customer, suggesting more ego depletion in the former group. Based on this study, we argue that dealing with rudeness is ego depleting.

Even minor instances of rudeness may be sufficient to cause ego depletion, with the likelihood increasing as self-control is required across a longer period of time. Cunningham, Shamblen, Barbee, and Ault (2005) refer to small instances of annoying, repeated behaviors in romantic relationships as “social allergens.” These allergens, hypothetically, would have a cumulative effect on the partner who is annoyed by the actions, resulting in loss of self-control in response each time the action was performed. Cunningham and colleagues asked couples to complete several anonymous questionnaires about their partners designed to assess the relationship. A year after the participants completed surveys, the researchers called participants and asked if they were still dating. Couples who reported higher instances of intrusive behaviors, norm violations, and ill-mannered behaviors (i.e., social allergens) from their partner were less

likely to be with each other one year later. Thus, long-term but minor social problems are taxing and may result in a loss of self-control over time.

Even minor, short-term rudeness may cause ego depletion and result in a negative outcome. Allen and Leary (2010) found that people react negatively toward people who are selfish. They told participants that they were going to be looking at how managers assign tasks in work groups. The actual participant and another participant, a “work partner,” who did not actually exist, would decide who was going to do a boring task of counting recorded beeps on a tape at irregular intervals for 25 minutes. The participant was then shown a form with the work partner’s decision on it, which also contained a selfish explanation, a legitimizing explanation, a random selection explanation (the experimenter had them flip a coin), or no explanation. Participants who received a selfish explanation were angrier and perceived the work partner more negatively regardless of whether or not the participant thought that the work partner’s decision had any effect on them. Additionally, participants reported more feelings of wanting to aggress against the work partner when they received a selfish explanation compared to a legitimizing explanation. One potential explanation is that participants lost self-control following the negative social interaction, and as a consequence, they became aggressive.

In a more direct study of ego depletion and aggression, Finkel, DeWall, Slotter, Oaten, and Foshee (2009) asked couples to draw pictures in separate rooms and then watch a 6-min video without audio of a woman being interviewed. In the video, one syllable words appeared at the bottom of the screen. Participants in the ego-depletion condition were told not to look at the words and to avert their gaze if they did, whereas participants in the no-depletion condition were not given any instructions about the words. Afterwards all participants received false feedback from their partner about the creativity of their drawing (either negative feedback or positive).

Then they were given an assignment sheet and told that they were going to direct their partner to do some yoga poses that could be painful but would not result in long-term damage for a certain amount of time that they would choose for their partner. Couples in the ego-depletion condition who experienced negative feedback assigned longer durations to the yoga poses than non-depleted participants who received negative feedback. This suggests that being ego depleted could potentially make someone more likely to retaliate to a negative social situation with an aggressive response.

In a similar study, Leary et al. (personal communication, August 2014) created rudeness in the laboratory by asking participants to work together with a confederate to build a Lego™ structure. A participant and the confederate took turns placing four pieces of Legos™ at a time on a structure for 14 turns. There were two conditions: a control and a social-exchange, rule-violation condition. In other words, the confederate behaved rudely. In the rude condition, the confederate performed many acts of violating social norms during the experiment, such as spinning in the chair, texting someone, expressing impatience, and relocating pieces that were placed on the structure by the participant. They reported that people who interacted with a rude confederate lost self-control and expressed more anger and desire to respond in negative ways toward the person who is rude compared with the non-rude control condition. However, Leary did not assess ego depletion; aggression was the primary outcome of interest.

The present research seeks to utilize the strength model of ego depletion to explain how seemingly small instances of disrespect can lead to ego depletion. Leary et al. (2015) found that violating social-exchange rules during a paired task caused people to respond aggressively. We will examine the potential role of ego depletion in negative responding by having the participant engage in a task similar to the Leary et al. (2014) study followed by completing a boring typing

task on a computer. We hypothesized that individuals who experience rudeness would be less likely to persist on the subsequent typing task than those who did not experience any violation, revealing ego depletion based on maintaining emotional self-control during the social task. We further hypothesized that greater ego depletion would be related to aggressive thoughts concerning the confederate reported by participants.

## CHAPTER 2

### INDUCING EGO DEPLETION WITH RUDENESS

#### Method

##### *Participants*

Participants were 75 undergraduate students (46 women, 29 men) between the ages of 18 and 27 ( $M = 19.14$ ,  $SD = 1.49$ ) at Georgia Southern University, recruited using SONA, the university's online participant research recruitment tool. Participants were given course credit for participation in the experiment.

##### *Materials*

This study used standard-size, block Legos™ of 2 colors, red and yellow (the participant used yellow, and the confederate used red), and a 32 X 32 green Lego™ baseplate for the building of a Lego™ structure. Each participant had a pile of approximately 25 Legos™.

The emotion survey consists of ratings for 3 emotions for the participants' current state: anxiety, happiness, and anger on a 7-point Likert scale with 1 being *not at all* and 7 being *extremely*. We modified a scale from Leary et al. (personal communication, August 2014) to assess how the participant was feeling during the study (see Appendices A & B).

Participants also completed the Rosenberg Self-Esteem Scale (Rosenberg, 1965) to assess students' feelings of worth. The survey consists of 10 questions about participants' self-perceptions of worthiness on a 4-point Likert scale, with 1 being *strongly agree* and 4 being *strongly disagree*. The survey includes items such as: "I feel that I am a person of worth, at least on an equal plane with others." "I feel that I have a number of good qualities," and "All in all, I am inclined to feel that I am a failure." Five of the items were reverse scored, and then all of the items were totaled (see Appendix C).



The third survey was adopted from Leary et al. (personal communication, August 2014), in which participants were asked to rate their feelings toward their Lego™ partner on 8 different items (warmth, dislike, friendliness, anger, hatred, kindness, tenderness, resentment) on a 7-point Likert scale with 1 being *not at all* and 7 being *extremely*. Data were factor analyzed into two factors: positive feelings (warmth, friendliness, kindness, and tenderness) and negative feelings (dislike, anger, hatred, and resentment; see Appendix D).

The fourth survey, which was adopted from Leary et al. (personal communication, August 2014), asked the participant 3 questions: “How much could you imagine becoming friends with this person if you got to know him or her better?” “How much did you like the other person?” and “If you had to do another task, would you want to do the task with the same person?” The first two questions were rated on a 12-point Likert scale, with 1 being *not at all* and 12 being *extremely*. The third question was on a 12-point Likert scale as well, with 1 being *Definitely No* and 12 being *Definitely Yes* (see Appendix E).

The fifth survey, which was also adopted from Leary et al. (2015), asked about the participants’ perceptions of their Lego™ partner on 12 items (selfish, inconsiderate, unfair, disrespectful, irresponsible, uncooperative, unreasonable, undependable, creative, productive, efficient, and team player) on a 7-point Likert scale with 1 being *Not at all* and 7 being *Extremely*. Four filler items were removed from analyses (creative, productive, efficient, and team player), and the remaining items were averaged (see Appendix F).

The sixth survey was a semantic differential scale, adopted from Leary et al. (personal communication, August 2014), asking participants to place an X in one of the nine boxes between two words, closer to the one that best described the participants’ perception of their Lego™ partner. The items included were friendly and unfriendly, warm and cold, unlikeable and

likeable, competent and incompetent, unintelligent and intelligent, foolish and wise, ethical and unethical, moral and immoral, bad and good, unselfish and selfish, humble and conceited, and self-centered and other-centered. Data were combined into communal (friendly, likeable, other-centered, humble, selfish, moral, and warm) and competence (intelligent, competent, and wise) attributes (see Appendix F).

The seventh survey assessed how tempted participants' were to perform 10 actions toward their Lego™ partner (smile, humiliate, ignore, make them feel good, insult, make them laugh, throw something, complement, hit, and threaten) on a 9-point Likert scale, with 1 being *Not at all* and 9 being *Extremely*. This survey is adopted from Leary et al. (personal communication, August 2014). The temptations were split into pro-social (smile, make them feel good, make them laugh, complement) and anti-social behaviors (humiliate, ignore, insult, throw something, hit, threaten) and then averaged across the two sets of items to get a measure of both types of behaviors (see Appendix G).

The final scale that participants completed was the Multidimensional Perfectionism Scale (Hewitt & Flett, 1999). This scale assesses perfectionism on a 7-point Likert scale, with 1 being *Disagree* and 7 being *Agree*. The scale included items such as: "When I am working on something, I cannot relax until it is perfect," "I strive to be as perfect as I can be," and "I do not have very high standards for those around me." The scoring is broken into 3 sections: self-oriented, other-oriented, and socially prescribed. There are 15 items in each section, and each is totaled and averaged for a final score within that section (see Appendix H).

### *Procedure*

We trained two female undergraduate research assistants as confederates for this experiment. We tested participants one at a time and randomly assigned them to conditions.

Upon arrival, the experimenter asked the participant and confederate to place their belongings in an adjacent room and instructed them to turn off or silence their electronic devices. Then the experimenter sat the confederate and participant across from each other, with the participant sitting in a rigid chair and the confederate sitting in a chair that swivels. Once seated, the experimenter asked them both to read over and sign the informed-consent sheet.

After receiving consent, the experimenter explained to the participant and confederate that they would be creating a Lego™ structure by taking turns placing one Lego™ at a time on the baseplate, beginning with the confederate. Participants were told that the final product would not be judged in any way, and the researchers were simply interested in looking at teamwork. After addressing any questions, participants were asked not to talk during the task. The experimenter allowed them to begin constructing with Legos™ and relocated himself to an adjacent room to observe unobtrusively.

In the ego-depletion condition, participants were subject to mildly inconsiderate behaviors from the confederate throughout the task. These behaviors included: using Legos™ from the participant's pile, showing indecision on where to place Lego™ pieces, repositioning pieces that the participant had already added to the construction, appearing impatient while the participant places pieces (i.e., blowing out his breath in a rush), adding pieces indifferently to the construction, rotating distractingly in his chair, appearing impatient during one of the participant's turns (i.e., by tapping the table), and moving a large part of the construction to a different location. In the control condition, the confederate and the participant simply placed the Legos™ on the baseplate without the confederate doing any of the aforementioned "Rude" behaviors.

After 14 turns, the experimenter stepped back into the room and ended the Lego™ construction task. The experimenter addressed both the participant and confederate, saying that he was going to have them fill out a short survey: the emotion survey with three items (see Appendix A). The researcher handed one packet to the participant, and said he would have to move the confederate to another room so they could go on to the next individual task. The experimenter asked the confederate to gather his things and ostensibly took the confederate to another room, but he really left the study. Upon reentering the room, and once the participant was finished with the survey, the experimenter then directed the participant to a computer for the next task.

The task was presented to participants as an analysis of manual dexterity with the supposition that working with Legos™ can affect it. They were told that they were going to type the following string of characters: a+e+i+o+u+ into a word document without backspacing. Participants were asked to type for as long as they wanted, and the longer they persisted, the better data the experimenter could gather. But they could stop whenever they wanted. They were asked to type the sequence a few times so the experimenter could see that they understood the task. The experimenter then asked participants to delete the typed line and explained that they were going to be typing the string with the monitor turned off to avoid visual feedback. The experimenter reiterated again that they could stop whenever they wanted before turning off the monitor and asking them to begin. When participants began, the experimenter started a stopwatch to time the participant's persistence on the task and moved to an adjacent room so as not to interfere with the task. The room contained a one-way mirror where the researcher observed participants' behavior.

When participants signaled that they wanted to stop, the experimenter stopped the watch and recorded the time. Then participants were given a larger set of surveys which included all other surveys from the materials section. After participants completed surveys, they were debriefed and asked if they had questions, comments, or concerns. The experimenter addressed any comments and thanked them for their participation.

## CHAPTER 3

### RESULTS

#### *Preliminary Analyses*

In order to rule out participants' mood as a potential explanation for primary outcomes (in the next section), we analyzed participants' ratings of their anxiety, happiness, and anger. Using a one-way MANOVA for the three outcomes across the two IV levels (control and rudeness conditions), we found no difference in the omnibus  $F$ -test ( $p = .407$ ). Therefore, we did not consider mood in subsequent analyses.

Next, we ran Pearson's  $r$  correlations to examine overlap among variables in this study with the two remaining primary dependent variables: number of seconds typed and number of characters typed. We noticed that competence attributes were marginally correlated with seconds typed ( $p = .103$ ), and the next highest correlated variable was communal attributes with number of seconds typed ( $p = .198$ ). Therefore, we used both competence and communal attributes as covariates in the primary analysis.

The remaining variables not associated with the primary dependent variables were highly correlated with one another because they all measured similar constructs. (See Table 1 for intercorrelations among measures not associated with DVs.)

#### *Primary Analysis*

A MANCOVA was used to compare the rude and neutral groups with dependent variables (DVs): the number of seconds typed and number of characters typed during the typing task. Communal feelings and competence perceptions toward the confederate served as covariates due to overlap of these variables with outcome measures. (See Table 2 for correlations between each DV and additional variables.) The multivariate result was marginally significant

for group,  $F(1, 65) = 2.81, p = .067$ . Upon further analysis, the univariate test showed a significant outcome for characters typed,  $F(1, 65) = 5.34, p = .024$ , partial  $\eta^2 = .08$  (see Figure 1). Further, as shown in Figure 2, a marginal effect emerged for seconds typed,  $F(1, 65) = 3.03, p = .086$ . Levene's test of equality of variances was violated for both seconds typed,  $p = .04$ , and number of characters,  $p = .02$ . A wide spread of values was seen for the neutral group relative to the rude group. (See Table 3 for group descriptive statistics.)

## CHAPTER 4

### CONCLUSIONS

As expected, when people have to deal with someone who is being rude to them, they lose some of their self-control. This loss is evidenced by the fact that those who did not have to deal with a rude partner were able to type more characters than those who had a rude partner. Thus we have some evidence that experiencing rudeness causes ego depletion as defined by Baumeister (2002) as a loss of self-control. Certainly, prior research has shown that people get upset when they experience multiple instances of minor annoyance, and they sometimes lash out (Leary, 2015). Since no participant lashed out at the confederate, we can assume that they were using self-control to avoid doing so. Perhaps we could further explore the potential relationship between social experiences and ego depletion by introducing kindness from another person as an additional variable level in an experiment. Because kindness is associated with more resilience (Terry & Leary, 2011), we would expect kindness to increase subsequent persistence rather than ego deplete. To fully examine this effect, we would need to perform more studies on the relationship between ego depletion and rudeness, perhaps by using a 3-factor design with rudeness, neutrality, and kindness as independent variables.

Although number of characters typed demonstrated ego depletion after rudeness, the number of seconds typed reached only marginal significance. We should note that the two dependent variables were significantly correlated,  $r(73) = .88$ ,  $p < .001$ , and the mean differences between neutral and rude conditions were in the expected direction. One potential explanation for lack of true significance is lack of power. Power analysis indicates that we would have needed 128 participants to have a reasonable chance to find a moderate effect, if one existed. Further, if the actual effect is small, we would have needed 788 participants to reveal it.



An additional concern is based on variability within groups. Levene's test for equality of variances was significant for the two groups when examining both dependent variables, suggesting an interesting variation in individual differences across the groups. When examining the standard deviations (see table 2) of both groups, we see a great deal of variability within the neutral condition and much less variability within the rude condition. This difference suggests that in the neutral condition, individual differences among participants occurred, with some participants willing to type more characters than others (e.g., trait persistence). In comparison, participants in the rude condition consistently chose to stop typing soon, indicating that their experience with the rude confederate created somewhat of a floor effect. Experiencing rudeness negated individual differences and created a homogeneous group of participants; they were united in their agitation – and loss of self-control – with the rude encounter.

As additional evidence of a successful manipulation, negative feelings toward the confederate was negatively correlated with prosocial urges,  $r(72) = -.26, p = .02$ . When people are angry, they will tend to exhibit less prosocial behaviors and subsequently more antisocial behaviors (Cuadrado, Taberner, & Steinel, 2016). The present study sought to agitate participants in the ego-depletion condition by introducing rudeness. Judging from the results, we can assume that our manipulation was successful. That is, we can conclude that the manipulation produced negative feelings toward the confederate.

There were many significant intercorrelations among the secondary dependent variables, which should be expected since they are all measuring similar concepts. For example, positive feelings toward the Lego partner is highly correlated with prosocial urges. We can expect this outcome because the more positively we think of people, the more likely we would be to do nice things for them.

### *Potential Limitations*

One potential limitation in this study was that two confederates were used throughout the study, and we cannot deny that different people elicit diverse responses from others. We did attempt to choose confederates who were similar in appearance and of the same gender, but they were, after all, still different people. We examined DV differences between the confederates, and even though they were non-significant ( $p = .843$ ), it is still a potential limitation that could be a confound. If we were to run this study again, ideally we would employ only one confederate.

A second potential limitation is based on participants' ratings of the confederate. They repeatedly denied that the confederates were seen as rude, perhaps due to social desirability response bias (Fisher, 1993). It is likely that participants reported that the confederate was not rude so they did not seem intolerant of others. After all, getting upset over Legos<sup>TM</sup> may seem childish. Of course, it is also possible that the method may not have been able to produce an adequate amount of rudeness, although it should be noted that the participants in the neutral condition liked the confederate more than those in the rudeness condition.

A final limitation involved the typing task. We created the task used in this study, and it may not be the best task for measuring ego depletion. Perhaps typing allowed individual variability in typing ability among participants. In addition, during the task we did not restrict typing strategy, allowing participants to type the letters in either lower or upper case, placing their fingers in a strategic location on the keyboard, and other individual-different approaches to the task

### *Future Research*

Future research should examine how specific personality types differ among each other on the effects of ego depleting paradigms. Since the conscientiousness trait refers to a person's

self-discipline, and agreeableness refers to socially accommodating attributes (Fischer & Boer, 2015), we might expect people with high conscientiousness to be more resistant to ego depletion, and conversely, people with low conscientiousness should experience more ego depletion due to a lack of self-discipline. Further, people who are high in agreeableness are more cooperative, so they may persist longer on ego-depletion measurement tasks than people who score low on agreeableness, regardless of the social situation.

Regardless of the potential for personality traits to influence ego-depletion outcomes in the face of social challenges and a persistence task, we demonstrated in this study that experiencing rudeness was sufficient to evidence ego depletion. Losing self-control after experiencing a negative social situation could impact lives on a regular basis and warrants considering how to avoid negative social interactions or at least attempt to buffer against them.

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Table 1

*Pearson's r Correlations Among All Variables Examined as Potential Covariates*

	Negative Feelings Toward the Partner	Communal Attributes	Competence Attributes	Perceived Violation	Prosocial Urges	Antisocial Urges
Positive Feelings Toward the Partner	-.339**	.559**	.393**	-.274*	.367**	-.415**
Negative Feelings Toward the Partner		-.477**	-.263*	.682**	-.264*	.511**
Communal Attributes			.708**	-.489**	.328**	-.320**
Competence Attributes				-.339**	.313**	-.147
Perceived Violation					-.115	.394**
Prosocial Urges						-.107

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

*N* = 70-75

Table 2

*Dependent Variable Correlations with Potential Covariates*

Measure	Characters Typed	Seconds Typed
Rosenberg Self Esteem Score	-.108	-.128
Positive Feelings Toward the Lego Partner	.118	.082
Negative Feelings Toward the Lego Partner	-.076	.001
Communal Attributes	.065	.154**
Competence Attributes	.113	.191*
Perceived Violation	-.142	-.110
Prosocial Urges	-.002	-.023
Antisocial Urges	-.025	-.007
Self-Oriented Perfectionism	.007	.089
Other- Oriented Perfectionism	-.036	.076
Socially Prescribed Perfectionism	-.119	-.107

\*  $p = .103$ \*\*  $p = .198$



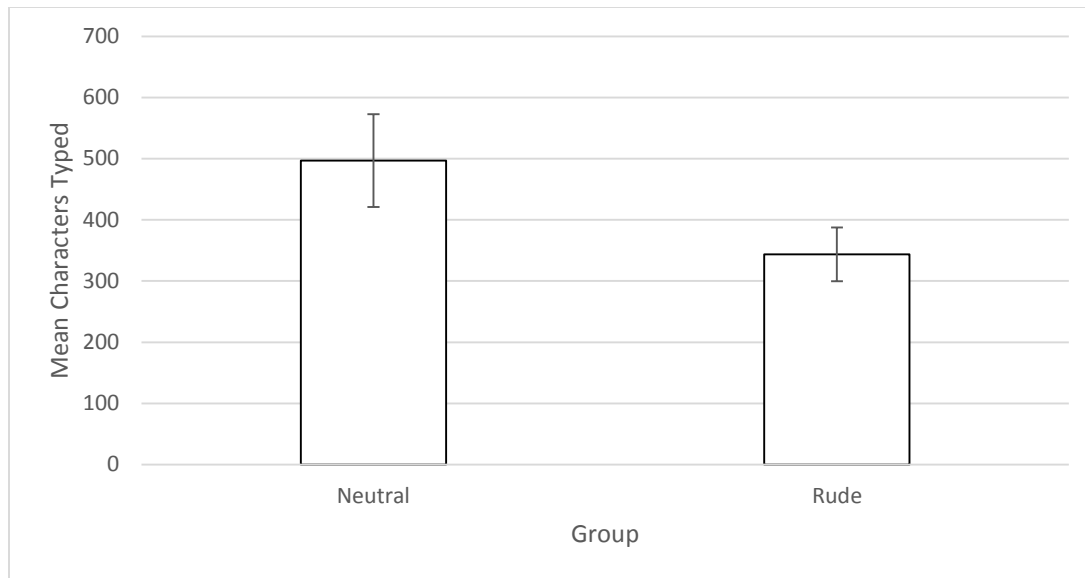
Table 3

*Descriptive Statistics*

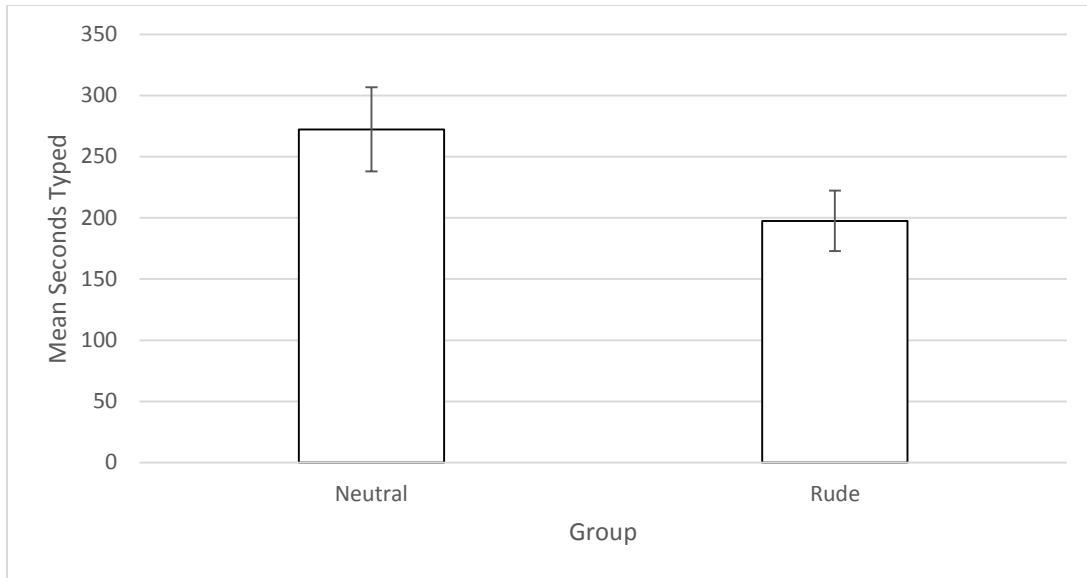
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Group	DV	Mean (SD)	n
Control	Seconds Typed	272.36 (203.97)	35
	Characters typed	496.79 (447.85)	35
Rude	Seconds Typed	197.56 (147.73)	36
	Characters typed	343.53 (262.72)	36

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*Figure 1.* The graph represents mean number of characters typed per group. Error bars represent standard error of the mean.



*Figure 2.* The graph represents mean number of seconds typed per group. Error bars represent standard error of the mean.

## Appendix A

For each of the three emotions below, please circle the number that best represents how you feel **right now**.

**I feel anxious.**

Not at all						Extremely
1	2	3	4	5	6	7

**I feel happy**

Not at all						Extremely
1	2	3	4	5	6	7

**I feel angry**

Not at all						Extremely
1	2	3	4	5	6	7

Appendix B

For each of the three emotions below, please circle the number that best represents how you feel **right now**.

**I feel anxious.**

Not at all						Extremely
1	2	3	4	5	6	7

**I feel happy**

Not at all						Extremely
1	2	3	4	5	6	7

**I feel angry**

Not at all						Extremely
1	2	3	4	5	6	7

---

Rate your everyday level of anxiety. **Most of the time**, I feel anxious

Not at all						Extremely
1	2	3	4	5	6	7

## Appendix C

Please respond to each item by circling one of the four numbers.

For example, if you strongly agreed that “I feel that I am a person of worth, at least on an equal plane with others,” you would circle the number 1 for item 1; if you strongly disagreed with this statement, you would circle the number four.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
I feel that I am a person of worth, at least on an equal plane with others.	1	2	3	4
I feel that I have a number of good qualities	1	2	3	4
All in all, I am inclined to feel that I am a failure	1	2	3	4
I am able to do things as well as most people	1	2	3	4
I feel that I do not have much to be proud of	1	2	3	4
I take a positive attitude toward myself	1	2	3	4
On the whole, I am satisfied with myself	1	2	3	4
I wish I could have more respect for myself	1	2	3	4
I certainly feel useless at times	1	2	3	4
At times, I feel that I am no good at all	1	2	3	4

## Appendix D

Please circle the number to the right of each item to indicate your feelings toward your Lego partner.

	<b>Not at all</b>						<b>Extremely</b>
1. Warmth	1	2	3	4	5	6	7
2. Dislike	1	2	3	4	5	6	7
3. Friendliness	1	2	3	4	5	6	7
4. Anger	1	2	3	4	5	6	7
5. Hatred	1	2	3	4	5	6	7
6. Kindness	1	2	3	4	5	6	7
7. Tenderness	1	2	3	4	5	6	7
8. Resentment	1	2	3	4	5	6	7

## Appendix E

How much could you imagine becoming friends with this person if you got to know him or her better?											
<b>Not at all</b>											<b>Extremely</b>
1	2	3	4	5	6	7	8	9	10	11	12

How much did you like the other person?											
<b>Not at all</b>											<b>Extremely</b>
1	2	3	4	5	6	7	8	9	10	11	12

If you had to do another task, would you want to do the task with the same person?											
<b>Definitely No</b>											<b>Definitely Yes</b>
1	2	3	4	5	6	7	8	9	10	11	12





## Appendix G

As you worked on the task with the other participant, to what extent did you feel an urge or temptation to do each of the positive or negative behaviors below? Keep in mind that we are *not* asking whether you would have actually done the following behaviors, but rather how *tempted* you were to do each one.

The number 1 represents “Not at all,” and 9 represents “Extremely.”

1. Smile at the other person	1	2	3	4	5	6	7	8	9
2. Humiliating the other person	1	2	3	4	5	6	7	8	9
3. Purposely ignoring the other person	1	2	3	4	5	6	7	8	9
4. Making the other person feel good	1	2	3	4	5	6	7	8	9
5. Insulting or swearing at the other person	1	2	3	4	5	6	7	8	9
6. Trying to make the other person laugh	1	2	3	4	5	6	7	8	9
7. Throwing something at the other person	1	2	3	4	5	6	7	8	9
8. Complementing the other person	1	2	3	4	5	6	7	8	9
9. Hitting the other person	1	2	3	4	5	6	7	8	9
10. Threatening the other person	1	2	3	4	5	6	7	8	9

## Appendix H

Please circle the number that best represents your rating for each item.

	Disagree						Agree
When I am working on something, I cannot relax until it is perfect	1	2	3	4	5	6	7
I am not likely to criticize someone for giving up too easily	1	2	3	4	5	6	7
It is not important that people I am close to are successful	1	2	3	4	5	6	7
I seldom criticize my friends for accepting second best	1	2	3	4	5	6	7
I find it difficult to meet others' expectations of me	1	2	3	4	5	6	7
One of my goals is to be perfect in everything I do	1	2	3	4	5	6	7
Everything that others do must be of top-notch quality	1	2	3	4	5	6	7
I never aim for perfection on my work	1	2	3	4	5	6	7
Those around me readily accept that I can make mistakes too	1	2	3	4	5	6	7
It doesn't matter when someone close to me does not do their absolute best	1	2	3	4	5	6	7
The better I do, the better I am expected to do	1	2	3	4	5	6	7
I seldom feel the need to be perfect	1	2	3	4	5	6	7
Anything that I do that is less than excellent will be seen as poor work by those around me	1	2	3	4	5	6	7
I strive to be as perfect as I can be	1	2	3	4	5	6	7
It is very important that I am perfect in everything I attempt	1	2	3	4	5	6	7

Please circle the number that best represents your rating for each item.

I have high expectations for the people who are important to me	1	2	3	4	5	6	7
I strive to be the best at everything I do	1	2	3	4	5	6	7
The people around me expect me to succeed at everything I do	1	2	3	4	5	6	7
I do not have very high standards for those around me	1	2	3	4	5	6	7
I demand nothing less than perfection of myself	1	2	3	4	5	6	7
Others will like me even if I don't excel at everything	1	2	3	4	5	6	7
I can't be bothered with people who won't strive to better themselves	1	2	3	4	5	6	7
It makes me uneasy to see an error in my work	1	2	3	4	5	6	7
I do not expect a lot from my friends	1	2	3	4	5	6	7
Success means that I must work even harder to please others	1	2	3	4	5	6	7
If I ask someone to do something, I expect it to be done flawlessly	1	2	3	4	5	6	7
I cannot stand to see people close to me make mistakes	1	2	3	4	5	6	7
I am perfectionistic in setting my goals	1	2	3	4	5	6	7
The people who matter to me should never let me down	1	2	3	4	5	6	7
Others think I am okay, even when I do not succeed	1	2	3	4	5	6	7
I feel that people are too demanding of me	1	2	3	4	5	6	7
I must work to my full potential at all times	1	2	3	4	5	6	7

Please circle the number that best represents your rating for each item.

Although they may not say it, other people get very upset with me when I slip up	1	2	3	4	5	6	7
I do not have to be the best at whatever I am doing	1	2	3	4	5	6	7
My family expects me to be perfect	1	2	3	4	5	6	7
I do not have very high goals for myself	1	2	3	4	5	6	7
My parent(s) rarely expected me to excel in all aspects of my life	1	2	3	4	5	6	7
I respect people who are average	1	2	3	4	5	6	7
People expect nothing less than perfection from me	1	2	3	4	5	6	7
I set very high standards for myself	1	2	3	4	5	6	7
People expect more from me than I am capable of giving	1	2	3	4	5	6	7
I must always be successful at school or work	1	2	3	4	5	6	7
It does not matter to me when a close friend does not try their hardest	1	2	3	4	5	6	7
People around me think I am still competent even if I make a mistake	1	2	3	4	5	6	7
I seldom expect others to excel at whatever they do.	1	2	3	4	5	6	7

## Appendix I

**Demographics**

Gender \_\_\_\_\_

Age \_\_\_\_\_

Ethnicity \_\_\_\_\_

Year in school \_\_\_\_\_