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The Instant Habit of Thought: Perceptual Priming in Slogans

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The Instant Habit of Thought: Perceptual Priming in Slogans

Ann M. Lewis

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Master of Arts

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ABSTRACT

The Instant Habit of Thought: Perceptual Priming in Slogans

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Benjamin Whorf proposed a relationship between habitual language use and automatic behavior. His work has since led to a great deal of linguistic research, but the field thus far has neglected to explore the relationship between individual lexical items and their connotational effects. This work explores the relationship between exposure to altruism-related words and the subsequent lexical accessibility of aggressive words, then applies that research to real-life situations by exploring the consumer entitlement paradigm with the manipulation of slogans. I found that in a response time study, priming with altruistic items facilitated the lexical accessibility of aggressive items; however, in an untimed ambiguous word completion task, exposure to an altruistic prime decreased the number of aggressive responses. This may suggest an additional level of processing beyond that of phonological, grammatical, and prosodic elements, in which cultural and usage-based connotation affects the output as well. Finally, tests of a customer service scenario found that slogan manipulation did result in several significant effects, which effects were most commonly found in subjects outside the 18-25 age range, and male subjects. An entitled slogan generally resulted in more negative attitudes towards a hypothetical store associate in a potentially-antagonistic customer service encounter and a higher reported likelihood of further action on the matter, while an altruistic slogan generally resulted in the opposite. However, these results were highly dependent on question framing. Implications for linguistics, psychology, and practical applications are discussed.

Keywords: psycholinguistics, slogans, aggression, altruism, marketing

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1 Introduction

1.1 Background

The Sapir-Whorf hypothesis, as exemplified in Benjamin Whorf's 1956 seminal work, proposed a relationship between broadly-distributed, highly repeated structures in a language and the habitual behavioral patterns or metacognitive expressions of its users. Whorf's proposal has since been taken in several different directions, many more or less extreme than that which he originally set forth, varying from those works that propose strict restrictions on creative thought and those that merely suggest an unconscious influence that could be overcome (e.g. Papafragou, 2005; Slobin, 2003; Makuza & Friedman, 2000). That "unconscious influence" brings us to work in the psychological field regarding automaticity. In brief, many scholars believe that our minds are designed to handle large amounts of information by filing new data into broad categories, characterized by certain expectations and leading to certain well-practiced reactions (Bargh & Ferguson, 2000; Bargh & Chartrand, 2000, 1999; Wegner & Bargh, 1998; Wyer & Bargh, 1997). Thus, as our habit of seeing a red stop sign leads us to brake without conscious thought, the repetitive association between color and behavior leads us to unconsciously hesitate whenever we see the color red, gracing an octagonal sign or not. Stereotypes are believed by many scholars to be a product of this processing bias – generalizations are created to form efficient ways of responding to people (e.g. Gilbert & Hixon, 1991).

But the psychological concepts of automaticity can be applied beyond the limited realm of stereotypical response, or even traditional linguistic relativity. Whorf (1956) opened his paper

with a nod to the general assent that language could have a limited effect on behavior through “...the hypnotic power of philosophical and learned terminology on the one hand, or of catchwords, slogans, and rallying-cries on the other” (p.197). Whorf did not explore this concept himself, preferring to explore long-term habitual linguistic patterns over exploring these short-term effects; however, this concept may lie at the heart of automaticity in language. Perhaps at the time, slogans, catchphrases, and learned terminology (an equivalent to today’s “buzzwords”) were seen as minor techniques of politicians and the Sears-Roebuck Corporation, but in today’s atmosphere of intense political correctness, a greater interest has been taken in subconsciously charged speech and how it may manipulate its listeners.

Political terms have always been a great source for examples of the power of terminology. Frank Luntz, the mind behind the change from “estate tax” to “death tax,” described his experience thus:

“The public wouldn’t support [repealing the estate tax] because the word “estate” sounds wealthy. Someone like me comes around and realizes that it’s not an estate tax, it’s a death tax because you’re taxed at death. And suddenly, [repealing the tax] achieves the support of 75 percent of the American people.” (Stockdale, 2006, p.103)

The terms we use come loaded with a specific set of emotional and social connotations, derived from our repeated experience with its linguistic and contextual collocates. Talented public speakers, politicians, marketing executives, and writers use these instinctively, driving the emotions and thoughts of their viewers with incisive word choice.

This thesis will explore the positive and negative effects those choices may have, both in general and in specific contexts.

Methods have already been established to test the effect linguistic input has on the connections our mind makes. Dewall and Bushman (2009) conducted a study where they exposed participants to hot- and cold-temperature-related words, then tested the lexical accessibility of aggressive words (that is, how easy it was for participants to think of aggressive things – the words for weapons, injurious actions, or other related concepts, such as *kill*, *knife*, *poison*, or *prison* – after that exposure). They found that hot-temperature-related words resulted in increased lexical accessibility, by using the same lexical accessibility task proposed for use in the current study. Anderson, Carnegey, and Eubanks (2003) found similar effects from listening to songs with violent lyrics. Dewall and Bushman also use a measure of hostile perceptions by adopting the short story/evaluative response methods of Srull and Wyer (1979).

However, preliminary results using these methods have indicated the opposite effects from those that traditional linguistic research would have suggested. A pilot test in which participants were exposed to altruistic words (words intuitively selected to suggest “the principle or practice of unselfish concern for or devotion to the welfare of others” (altruism, n.d.) – *help*, *donate*, *responsibility*, *sacrificed*, *empathize*, *sympathetic*, and *compassionate*), then put through a measure of aggressive lexical accessibility, similar to the study by Dewall and Bushman described above, resulted in a decrease in aggression-related responses. Even if altruism and aggression are antonymic, linguistic researchers have heretofore found that antonyms should facilitate activation, not block it (Cutler, McQueen, Norris, & Butterfield 2000, Becker, 1980). To further complicate matters, Greitemeyer (2008) found that participants who listened to songs

with altruistic lyrics also demonstrated a decrease in aggression-related terms on such a test, a study as similar to the pilot test conducted, indicating that the pilot was not likely a testing error.

Altruism and aggression, and the interplay between the two as related to media exposure, are concepts deeply relevant to modern society. If using altruistic language can inhibit aggressive response and hostile perceptions in those who hear it, every area of language use from public to private life should be re-evaluated. However, if the suggestions of classic linguistic thought are affirmed, and these contraindicative concepts in fact prime one another, a change would facilitate nothing.

To explore this, I will compare the ambiguous response methods used by Dewall and Bushman with the more controlled methods measuring response times used by psycholinguists. In addition, I will extend my studies to the question of real life behavior by embedding similar material in a more real-life scenario. If altruistic language has a linguistically relativistic effect on automatic behavior, that effect should influence public speakers and media producers everywhere. In recent years, researchers have become concerned about the culture of entitlement in American society. For the last several decades, many have claimed that Americans are becoming increasingly concerned with their rights, and have increasing feelings of entitlement towards those things they want in legal matters, school, business relationships, and even everyday interpersonal contact (e.g. Twenge, Konrath, Foster, Campbell, & Bushman, 2008; Halpern, 2004; Newson, 2004; Banks, 1997; Glendon, 1993, Milner, 1989; Haskell 1987). Colloquial evidence would indicate that one of the primary areas of concern is in the customer service arena – asking any current retail employee about the phrase “The Customer is Always Right” may well result in eye-rolling, frowns, or outright hostility. The customer is not always

right. Often, the customer is wrong. Often, the customer is demanding something they don't deserve, and wielding that consumer-treasured phrase like a weapon to achieve whatever it is their conceited heart desires.

Business scenarios, like any interpersonal contact between strangers, are laced with ambiguity. At every step, participants must judge the other's behavior in order to decide on their own course of action in response. An increase in self-entitled attitudes, taken from recent exposure to an entitled slogan, may jeopardize that contact, or heighten hostility during an encounter that may have been easier to move through with a more altruistic and amenable affect. If exposure to an altruistic slogan can be shown to have positive effects on the subject's judgment of an unresolved customer service complaint scenario, to the reverse of the effects of an entitled slogan, we may be able to reverse the trend of consumer entitlement in modern society. Furthermore, the ability to streamline a contact between potential antagonists, improving judgments one makes of the other, holds positive benefits for society as a whole. If we can avoid counterproductive hostile predilections, improving positive judgments of others and prosocial biases, we may improve interpersonal relationships and reduce many negative effects in more formal contexts.

1.2 Purpose

This thesis is a study of the effects of altruistic linguistic priming on aggressive thoughts, perceptions, and behavior. In addition, it will explore the relationship of altruistic/entitled slogans and consumer judgments in ambiguous situations.

1.3 Hypotheses and Justification

1. Subjects who are primed with an altruistic word will respond with fewer aggressive words in an ambiguous word-completion task than those subjects who complete a priming task with only neutral words.

As part of a class project in my primary year of graduate work, I designed a study to test the effects of entitled and altruistic priming on aggression. It was based on the assertions of certain scholars that a certain type of language (“Rights Talk”) will increase aggression (see Glendon, 1993). That design resulted in an experiment in which participants were exposed to certain words associated with the speech genre of interest, after which they were tested for lexical accessibility of aggression-related words through the ambiguous word-completion task of Anderson, Carnegey, and Eubanks (2003). Contrary to expectations, the entitled/”Rights Talk” group showed no change from the control in lexical accessibility, while the altruistic group demonstrated a significant decrease in the same ($p = .003$). This seemed to indicate necessary restructuring, focusing on the cognitive effects of altruistic lexical items and relegating the question of entitlement to methods with greater context. To focus on the most relevant and interesting implications of this pilot, the current thesis was designed.

2. Subjects who are primed with an altruistic word will respond slower when asked to identify an aggressive word than when asked to identify a neutral word.

The class project described above was designed on the assumption that an ambiguous word completion task is a valid measure of lexical accessibility, but this method has not been compared with other, validated measures commonly used in psycholinguistic studies. This hypothesis assumes that it is a valid measure, and results will follow from one method to the other. However, linguistic research regarding associative priming suggests results contradictory to this assumption (to be discussed further in Chapter 2, Review of Literature), making this a pivotal point in the current research.

3. Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a cooperative/altruistic store slogan. (ENTITLED VS. ALTRUISTIC CONDITION)

If Hypotheses 1 and 2 are confirmed, and exposure to altruistic lexical items decreases the accessibility of aggressive words, this relationship should then be tested for relevance to real-life scenarios. Anecdotal evidence holds that there is a problem with selfish, self-entitled behavior in modern American consumers. Certain slogans appear even to encourage such behavior, perhaps because it is assumed that consumerism is inherently selfish, and so customers must be convinced they “deserve” the products the retailer would have them buy to increase revenue. Other slogans use some of the items used in the previously-described altruistic conditions, under a general mien of cooperation, a generally prosocial activity. This hypothesis tests the

assumption that slogans will affect consumer behavior in the context of these two linguistic themes (entitlement and altruism), extending anecdotal evidence to predict more antisocial perceptions/behaviors under the entitled condition, while extending Hypotheses 1 and 2 to predict a decrease in antisocial response.

4. Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a neutral store slogan. (ENTITLED VS. NEUTRAL CONDITION)

This hypothesis isolates the effect of an entitled slogan by comparing the entitled condition to one of prosocially/antisocially neutral content.

5. Subjects who are exposed to a cooperative/altruistic store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it less negatively than those who are exposed to a neutral store slogan. (ALTRUISTIC VS. NEUTRAL CONDITION)

This hypothesis isolates the effect of an altruistic slogan in the same way as Hypothesis 4 did the entitled.

6. Scores on the Narcissistic Personality Inventory will interact with the main effect

described in Hypotheses 3 and 4, causing a greater increase in negativity when the subject has a higher NPI score.

The behavior generally referred to as “entitled,” that which demonstrates the actor's belief that they are deserving of a particular asset, reward, or other benefit, when used in the pejorative sense, seems to imply that the actor's sense of entitlement is unwarranted and/or illogical. That is, that the actor is in fact demonstrating narcissistic entitlement, the belief that they are more deserving than others (and thus that policies, rules, or even standard etiquette and social conduct guidelines to not apply to them). Under the assumption that self-entitled behavior is connected to narcissistic entitlement, those individuals who already exhibit higher levels of narcissism (the overall quality of which narcissistic entitlement is one facet) may be more susceptible to media (i.e. slogans) that confirm their pre-established schemata, and will demonstrate more dramatic increases in antisocial perceptions after exposure to the entitled condition.

7. Subjects with a higher score on the Social Vigilantism Measure will indicate a higher likelihood of pursuing further action to resolve their customer service problem, but even more so in the selfish slogan condition described in Hypotheses 3 and 4.

An alternative psychological construct to narcissism that may affect participant response is that of Social Vigilantism. In seeking to return a defective item to a store, it seems natural that the customer's motives would be highly influenced by concepts of justice. When a product was advertised in a certain way, and it was revealed to be of lesser quality, the store may even be

viewed as dishonest, and returning the money spent may even be colored by ideas of morality. High levels of social vigilantism, the drive to establish one's belief superiority, the belief that one has a moral duty to educate others on the correctness of the social vigilante's beliefs, may lead to increased frustration at being told a return is impossible. When exposed to an entitled slogan, the social vigilante may feel even more justified in pressing their correctness on the associate; when stymied, the social vigilante should be less likely to give up, feeling that moral duty to reach what they see as the correct result.

1.4 Thesis Structure

This thesis will contain, in addition to this introduction, a review of literature, the methodology of the current experiments, a summary of results from those experiments, conclusions drawn from those results, and recommendations for further research.

1.5 Assumptions and Delimitations

This project was born of an interest in altruism, aggression, and entitlement. Because entitlement is generally considered a facet of narcissism, I have included narcissism as a possible interactive variable in my results (I have also included social vigilantism as a factor, that personality trait encompassing a sense of the superiority of one's own beliefs and a need to educate others regarding those beliefs' superiority).

However, the term “narcissist” traditionally refers to a diagnosable psychopathology. The

measure used herein, the Narcissistic Personality Inventory, does not determine whether one is a narcissist or not by the standards of diagnosis. Instead, it measures what is referred to as “healthy narcissism,” an element extant in most psychologically healthy individuals to varying levels. It is this quality in excess that leads to the clinical pathology.

When referring to narcissism, for the sake of this study, I am only referring to that level of healthy narcissism a subject possesses. I do not intend to imply that the subjects are psychologically extreme or should be diagnosed with any disorder.

2 Review of Literature

The study that initiated this research, “Hot Under the Collar in a Lukewarm Environment: Words Associated with Hot Temperature Increase Aggressive Thoughts and Hostile Perceptions”, by Dewall and Bushman (2009), is part of a greater line of research, encompassing the work of many scholars, which examines the relationship between exposure to aggressive media and subsequent aggressive thoughts and behaviors. Because the effects of violent television and video games have been a matter of great concern in the technology boom of the millennium's turn, much of the media studied has been part of those genres. However, as video games and television both incorporate linguistic elements as well as visual/behavioral, so their research remains relevant to a study of language effects.

Although aggression research has been so consuming as to provide the sole basis for several academic careers, only recently has interest begun to seriously arise in the complementary field of altruism's effects. Greitemeyer has taken the questions posed by

aggression researchers and applied the same techniques to altruistic media in order to test the universality of the conceptual-linguistic/linguistic-behavioral relationship. He explored the relationship between specifically linguistic media and resultant hostility for the first time through the altruistic lens in 2008. In three experiments, participants were exposed to songs with prosocial or neutral lyrics, then tested for prosocial cognitions (in a mirror of the aggressive cognitions metaphor posed by Anderson, Carnagey, and Eubanks (2003) and used by Dewall and Bushman in 2009), empathy (reported empathy with people who were described in two short essays), and prosocial behavior (whether they voluntarily donated their participation compensation to a non-profit organization when left alone). All three experiments returned significant results. These studies show that decreased accessibility of aggressive cognitions co-occurs with both increased empathy and increased prosocial behavior, indicating a possible correlation between thought (language) and behavior. In addition, since the songs used as stimuli were tested for extraneous confounding factors such as arousal levels, the difference between altruistic and neutral stimuli was focused on the purely linguistic aspect of lyric choice.

Greitemeyer continued his train of study in 2009 in a series of tests exposing participants to music with either prosocial or neutral lyrics, then measuring them for various helping behaviors and possible mediators. In Experiment 1, participants were tested for spontaneous helping behavior by having the proctor spill a cup of pencils and pause to see if the subject assisted in collecting them. Prosocial lyrics demonstrated a significant effect on the number of pencils a subject would gather. In Experiment 2, subjects were tested for possible mediating effects of prosocial cognitions (using a new version of the word-completion task from the previous study) on whether they would be willing to help with future unpaid research, and how

much time they would devote. While prosocial lyrics demonstrated a positive significant effect on both tests, the availability of prosocial cognitions did not have a significant mediating effect on later behavior. In experiment 3, participants were told of a struggling family and orphaned children, then asked various questions about how much empathy they felt, and how they might be willing to help them. Empathy was found to mediate behavior (although admittedly such interconnected measures may have influenced the results). The researcher notes that although empathy is referred to as affect in his analysis, and used to test the affectual branch of his theoretical model, it is not the same thing as mood, which was controlled for. In experiment 4, participants noted how empathetic they felt towards others that were described in two essays, then asked to participate in an economic dictator game where they decided how much money another participant would receive. Again, empathy was found to significantly mediate the (significant) effect of lyrics on behavior.

Finally, Greitemeyer and Osswald (2009) tested the relationship between exposure to behavior and resultant cognition in an experiment testing lexical access after playing prosocial video games, testing effects on language while bypassing the linguistically-based prime for the fully contextualized interactive media. Hostile expectation bias and accessibility of antisocial thoughts decreased after playing the altruistic game. A second set of studies in 2010 revealed similar positive effects from prosocial video games, but with the added note that prosocial thoughts posed a mediating effect between the gaming experience and prosocial behavior.

To add further support to Greitemeyer's findings, Jacob, Gueguen, and Boulbry took the effects of prosocial lyrics out of the laboratory and into the field. In their 2010 study, background music was manipulated in a restaurant in France (where tipping your server is not

socially mandated and is rather out of the norm). Music with prosocial lyrics, music with neutral lyrics, or the usual music the restaurant would normally play was broadcast throughout the eatery, while tipping behavior was recorded for the customers of two female servers (the servers were kept blind to the musical element of the experiment). The researchers found that prosocial music resulted in significantly more frequent tipping, and tipping in higher amounts, than either of the two controls.

The relationship between altruistic media and subsequent positive behavior or, at least, the increased accessibility of positive constructs, as already established, is particularly relevant in the field of business. Boyd and Helms (2005) wrote a discussion of the consumer entitlement matter where they generally established the lack of work that has been done in the field at the buyer-seller interface, then detailed their development of a measure of the entitled-consumer mentality. Butori (2010) continued the quest to quantify the qualities of demandingness and uncompromise in customers by proposing an improved version of the Boyd/Helms inventory. Sedikides, Gregg, Sisek, and Hart (2007) asserted that narcissism is a likely predictor of certain image-reinforcing behaviors a consumer may display, as some forms of consumerism could stem from superiority, exhibitionism, and vanity. Saucier and Webster (2010) proposed an entirely new measure, social vigilantism, as a predictor for the type of behavior, in my opinion, entitled customers display. These very recent and exploratory papers, however, highlight the lack of depth currently extant in entitled-consumer research. Many of their conclusions are theoretical, pointing towards future studies to be conducted. They also make little effort to include the idea that personalities may shift temporarily based on recent situational factors, treating entitled behavior as a consistent, definitive personality trait, rather than one of the many possible faces an

individual may adopt or have magnified under appropriately conducive contexts.

Temporary magnifiers of entitlement are greatly in need of additional study. Reidy, Zeichner, Foster, and Martinez (2007) administered the NPI to male subjects, and then had them participate in a falsely competitive “game” where aggressive behavior could be observed in practice. Entitlement, Exploitativeness, Authority, and Exhibitionism on the NPI demonstrated the strongest connection to aggression. Entitlement and Exploitativeness were the strongest, and the only consistent indicators. They were the only significant indicators of initial aggression when controlling across factors. Moeller, Crocker, and Bushman (2009) found a relationship between entitlement and adopting self-image goals both chronically and in limited situations (both diachronic and synchronic traits). Their second study, a longitudinal design, also indicates that chronic self-image goals adopted by entitled people predict conflict and hostility. A connection between entitlement and difficulty forgiving was found by Exline, Baumeister, Bushman, Campbell, and Finkel in 2004, when a series of three studies were all found to support the idea that subjects with higher levels of entitlement make forgiveness contingent on repayment. All three studies indicated that entitled narcissists are less likely to forgive, independent of religiosity, teachings within their religion, or self-esteem. Study 1 indicated that entitled narcissists characterize unwillingness to forgive as a matter of principle, while study six indicated entitlement as a predictor of greater offense taken and less forgiveness over time. These studies characterize entitlement as an attitude towards or a feature of social exchange, and thus indicate it may be a particularly important element in consumer/vendor communications. The authors also note that entitlement is likely connected to an intense desire to save face, indicating a possible connection to face-saving linguistic strategies and a possible method of

resolving difficulties by creating a cooperative, instead of threatening, environment. If slogans can have even a temporary effect in setting the expectations of the consumer and priming or diminishing entitled behavior, they can wield a great deal of power over the success or failure of consumer-business interactions.

Words and emotional states have also been connected. Niedenthal, Halberstadt, and Setterlund (1997) found that a current emotional state could facilitate processing of words of the same category. Classical music was used to induce a happy or sad affective state, and then subjects participated in a lexical decision task and a word-naming task. Participants responded on average faster to words of the same category (happy words or sad words), but not words of a different category in the same valence (e.g. love words), which may indicate a strict, tightly bound relationship between word and emotion is necessary. A different sort of emotional connection to words was found by MacKay, et al. (2004) in a series of Stroop tasks: exposure to taboo words, words related to a subject's clinically diagnosed phobia, and negative emotion words all resulted in a delay when compared to the speed with which subjects could name the color of similar, neutral words. As no facilitating effect was found in the color-naming of positive words, the authors conclude that the negative-word-inhibition is explained under a "global resource theory of emotion and attention." Under this theory, they state, emotional reactions take cognitive processing power, a limited resource. When the stimulus that triggers the reaction is threatening in some way, it consumes more processing power and detracts from our ability to direct attention towards other stimuli.

However, the connections between words in the mind have been a subject of long study, with or without reference to emotional content. Various response time measures of lexical

accessibility have been used to study the nature of the bilingual mind (Bialystok, Craik, & Luk, 2008, 2007; Conklin & Maunder, 2005; Costa & Santesteban, 2004; Kohnert, Bates, & Hernandez, 1999) , context effects (Rapp & Samuel, 2002; Peleg, Giora, & Fein, 2001; Long, Oppy, & Seely, 1994; McKoon & Ratcliff, 1994; Schwantes, 1983), and implicit attitudes toward commonly stereotyped groups (Galinsky & Moscovitz, 2008, 2000 ; Ramasubramanian, 2007), among other things. Furthermore, work in response times has shown that semantically-related words prime each other; specifically, that presentation of an antonym facilitates retrieval of its sister word. We should note, however, a competing idea that exists in the area regarding the presentational context of the priming items. Cutler, McQueen, Norris, and Butterfield (2000) found that, while antonymic primes presented in isolation facilitated word retrieval, the same primes embedded within somewhat long but full, otherwise semantically unrelated, sentences, no facilitating effect was found. This would indicate that individual words do not prime sufficiently within sentential context, like that of the task used in my pilot study, to affect subsequent performance. Yet, an earlier study by Colombo and Williams (1990) found that facilitation is possible from sentence-embedded antonymic primes if the association is strong enough. Notwithstanding, neither of these studies indicate the possibility for a negative, inhibitory priming effect in the face of conceptual antonyms, that effect which was found in the pilot.

To wit, as earlier established, further research needs to be conducted. Although psychologists have established a connection between altruistic language and decreased aggression, and some work on emotions and color-naming would indicate a possible reason for a decrease in aggressive responses under pressure, the question of antonym priming remains. This thesis will seek to resolve the questions set forth by these contradictions in the literature, as well

as continuing in the footsteps of Jacob, Gueguen, and Boulbry (2010) in bringing the work closer to the conditions of the field. I will compare multiple methods of supposed “lexical accessibility” to determine the true nature of the altruism/aggression interface, and apply that to a more personalized scenario in the context of a customer service encounter.

3 Methodology

This chapter will set forth the methodology to be used in a materials development procedure, as well as three experiments surrounding the topic of altruistic and aggressive words, the way they are connected in the mind, and how they affect behavior in everyday business contexts. In performing these experiments I will test the seven hypotheses discussed in Section 1.3 in preparation for resolving tension between the fields of psychology and linguistics, as well as informing future language research in attitudinal priming.

3.1 Pre-Study Materials Rating Task

3.1.1 Purpose

The words in this task will be used in the Ambiguous Word-completion Task and the Response Time Task to prime whatever habitual response their connotations may be associated with. By facilitating these studies, I will test their related hypotheses, namely, that altruistic

primes will increase response time and decrease aggressive response, thereby addressing the assertions of the psychological literature.

3.1.3 Participants

Twenty-seven subjects were recruited from social contacts on the social networking site Facebook. I posted a status message with an approved call for participants (see 7.1.1.1), to which 27 subjects responded by completing the survey. Each word was rated an average of 11.5 times across both question conditions. The consent form specified native American English speakers were required, but no demographic information was taken from the participants.

3.1.4 Materials

Materials for this task consist of an online survey hosted by the survey provider Qualtrics. The survey was accessible from any internet-capable device with a hardline or wireless connection. The complete survey can be found in 7.1.2.

The pool of words in this task consists of 101 words, both those that were expected to return neutral altruistic and high altruistic scores based on researcher intuition. Each item was paired with one of two possible sets of questions. Words were either paired with the questions:

How associated with altruism is this word?

Extremely self-serving			Neither altruistic nor self-serving			Extremely altruistic
1	2	3	4	5	6	7

How associated with aggressiveness is this word?

Extremely unaggressive			Neither aggressive nor unaggressive			Extremely aggressive
1	2	3	4	5	6	7

How positive/negative is this word?

Extremely positive			Neither positive nor negative			Extremely negative
1	2	3	4	5	6	7

Or the questions:

How associated with altruism is this word?

Extremely altruistic			Neither altruistic nor self-serving			Extremely self-serving
1	2	3	4	5	6	7

How associated with aggressiveness is this word?

Extremely aggressive			Neither aggressive nor unaggressive			Extremely unaggressive
1	2	3	4	5	6	7

How positive/negative is this word?

Extremely negative				Neither positive nor negative				Extremely positive
1	2	3	4	5	6	7		

When a participant began the survey, 60 of the possible words were selected from the general pool; then, for each word, one of the two possible question sets was selected randomly for presentation. All randomizations were automated by Qualtrics, according to their own algorithm.

3.1.5 Procedures

1. Participants were sent a link to the Qualtrics-hosted survey.
2. Upon accessing the survey from an internet-capable computer, potential subjects viewed an approved informed consent form. They were required to accept the terms of the form to move on with the survey; potential subjects who did not wish to accept the terms were instructed to close the window or navigate away.
3. Following the consent form, participants were presented with 60 random words from the pool described in 3.1.3. Only one word was presented at a time.
4. Participants rated each word on the scales described in 3.1.3.
5. Following the word ratings, participants were asked several questions regarding their demographics (see 7.1.3.2.4), then thanked for participation.

3.2 Ambiguous Word Completion Task

3.2.1 Purpose

This tests the ability of words containing self-centered or altruistic concepts to influence behavior when appearing in isolation. This returns to the concept of “lexism” introduced earlier, and separates the qualities of words appearing without naturalistic pragmatic contexts from those used with other social cues.

3.2.2 Related Hypothesis

1. Subjects who are primed with an altruistic word will respond with fewer aggressive words in an ambiguous word-completion task than those subjects who complete a priming task with only neutral words.

3.2.3 Participants

26 males and 66 females participated in the experiment. Of these, 68 participants aged

180-25, 16 aged 26-35, 3 aged 36-45, and 5 aged 56-65. Participants were recruited from undergraduate classes at Brigham Young University (some participants were offered extra credit for their participation), and through social contacts.

3.2.4 Materials

The survey was hosted on the online survey software Qualtrics, and was accessed from a computer available to the subject via that computer's internet connection. The full survey may be found in 7.1.3.

3.2.5 Procedures

1. Participants were sent a link to the Qualtrics-hosted survey.
2. Upon accessing the survey from an internet-capable computer, potential subjects viewed an approved informed consent form. They were required to accept the terms of the form to move on with the survey; potential subjects who did not wish to accept the terms were instructed to close the window or navigate away.
3. Following the consent form, subjects participated in one of three possible sentence-creation tasks. Each task contained 13 sets of five words; the participant was asked to select four words from each set to form a complete sentence, for a total of 13 sentences. One task included sets containing only neutral words (e.g. broom, swept, chair, casserole), one included seven sets containing only neutral words and six sets containing

words most associated with positive, altruistic connotations as indicated by the Pre-Study Materials Rating Task (referred to in this paper as “new prime”; all words averaged six or more on a 7-point scale, e.g. sacrifice, compassionate, empathize), and one task included seven neutral sets and six sets containing words intuitively selected by the researcher as altruistic for the pilot study (referred to in this paper as “original prime,” e.g. help, responsibility, donate).

4. Following the sentence-creation task, participants completed an ambiguous word-completion task. They were presented with 98 words with missing letters, and asked to write the actual word, with missing letters filled in, as quickly as possible. 49 of those words had both aggression-related and neutral possible answers, while the other 49 words had only neutral possibilities and served to distract the participant from the study’s purpose. For example, participants would be presented with the stimulus “i n _ u r e” and could write either “injure” or “insure/”
5. Following the experiment, participants underwent a simple awareness check, and then completed a short demographics questionnaire (see Appendices A.3.2.3 and A.3.2.4).
6. Finally, subjects were thanked for their participation.

3.3 Response Time Task

3.3.1 Purpose

This experiment helps determine the source of any effect found in the untimed

Ambiguous Word Completion Task. Because that experiment is much less controlled, any difference in the number of aggressive words could be due to a decrease in lexical accessibility, but it could also be due to a subconscious desire not to use a word related to aggression when others spring to mind within a reasonable time frame. If the same effect is found here, with increased pressure to respond as quickly as possible (without the ability to select from multiple options) it will indicate a true change in the cognitive processes, but if the effect is lost, we can see more potential for conscious control.

3.3.2 Related Hypothesis

1. Subjects who are primed with an altruistic word will respond slower when asked to identify an aggressive word than when asked to identify a neutral word.

3.3.3 Participants

43 subjects, 6 male and 37 female, participated in this experiment. 5, two male and 3 female, were excluded from this analysis, as over 25% of their responses timed out (Upon informal analysis, it appears that nearly every item for these participants timed out – it may be assumed they had they were positioned over incorrect keys and the program did not measure their response. To avoid practice effects, the participants were not asked to perform the study again).

3.3.4 Materials

For 35 of the included participants, the test was taken using the DMDX software on identical desktop computers running the Windows operating system in a reserved computer classroom on the BYU campus. For 3 participants who were unable to attend the open research sessions, the study was run on a Dell 1525 Inspiron laptop running Windows in a quiet computer lab for graduate students.

3.3.5 Procedures

1. Subjects who participated in the study in a computer lab on campus computers entered the room to find these instructions written on the board:

Please do not talk while completing the experiment!

Please read instructions carefully. The software may freeze if you do not.

- 1) Read and submit consent form.
- 2) Click the DMDX icon on the desktop.
- 3) Enter the subject ID # you were given.
- 4) Before you start the experiment -- know that you will need to click yes at the end to save the data!

- 5) Click Run and follow the instructions.
- 6) Click yes to save your data.
- 7) Fill out extra credit and demographics sheet on your way out.

Thank you!!

For subjects who participated in the graduate teaching assistant lab, instructions were given verbally.

2. Prior to beginning the experiment, each student was verbally issued a unique subject ID number.
3. Participants were presented with computers with the Qualtrics-hosted consent form pre-loaded. They completed the form and minimized the window.
4. On each computer, DMDX was prepared with the correct script loaded. Participants opened the program, entered their subject ID number, and ran the program.
5. DMDX initially ran a screen with these instructions:

In this study you will see words on the screen.

Some will flash very quickly, some will stay on the screen for a moment.

Your job is to decide if the word that stays is a real English word or not.

If it is a real word press the RIGHT SHIFT key.

If it is not a real word press the LEFT SHIFT key.

Now, put your left index finger on the LEFT shift key

and your right index finger on the RIGHT shift key.

Let's do some practice words so you know what to expect.

Please try to answer as quickly and as accurately as possible.

READY?

Press the spacebar to start the practice words.

Participants then continued through two sets of four practice trials before beginning the experimental trials. 180 experimental trials were presented in total, in randomized order. For each experimental trial, an altruistic (e.g. love, aid, sympathetic) or non-altruistic (e.g. accountant, store, buy) priming word was presented for approximately 133 milliseconds, followed immediately by an aggressive (e.g. hit, kick, injure), non-aggressive (e.g. dog, chair, kitchen), or nonce (e.g. prote, mipped, barson) target word for approximately 1.17 seconds. Response times were recorded in milliseconds by the program. If no response was made within 2.5 seconds, DMDX moved on to the next trial (i.e. the next pair of words). See 7.1.4.2.1 for the full script.

6. Following the DMDX experiment, participants saved their results and completed a demographics questionnaire. Participants enrolled in classes with professors who offered extra credit for participation indicated their real name and relevant class/professor on a separate sheet, without indicating their subject number.

In layman's terms, the subject sat at a computer and saw words appear on the screen. The first word of each pair appeared very quickly, allowing their minds to see and comprehend it, then the second word appeared. The second word remained on the screen for just over a second, and the subject had 2.5 seconds to identify it as a real word or not before the program moved on to the next pairing. Because words are connected in the mind, the first word may influence how fast the subject will correctly identify the second word, depending on the relationship between the two. I hypothesize that an altruistic priming word will slow down a subject's response to an aggressive target word.

3.4 Slogan Prime Scenario

3.4.1 Purpose

This experiment brings the lexeme-focused questions of the previous experiments to the holistic applicability of language embedded in its proper context.

3.4.2 Related Hypotheses

1. Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a cooperative/altruistic store slogan. (ENTITLED VS. ALTRUISTIC CONDITION)

2. Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a neutral store slogan. (ENTITLED VS. NEUTRAL CONDITION)
3. Subjects who are exposed to a cooperative/altruistic store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it less negatively than those who are exposed to a neutral store slogan. (ALTRUISTIC VS. NEUTRAL CONDITION)
4. Scores on the Narcissistic Personality Inventory will interact with the main effect described in Hypotheses 3 and 4, causing a greater increase in negativity when the subject has a higher NPI score.
5. Subjects with a higher score on the Social Vigilantism Measure will indicate a higher likelihood of pursuing further action to resolve their customer service problem, but even more so in the selfish slogan condition described in Hypotheses 3 and 4.

3.4.3 Participants

118 initiated surveys were recorded. 96 complete surveys were initially included in the analysis. 3 of those were excluded for leaving 25 or more of the ambiguous word completion items blank; all other subjects appeared to have made an effort to complete as many items as

possible, and left only incidental items blank.

3.4.4 Materials

The survey was hosted on the online survey software Qualtrics, and was accessed from a computer available to the subject via that computer's internet connection. The full survey may be found in 7.1.3.

3.4.5 Procedures

1. Participants were sent a link to the Qualtrics-hosted survey.
2. Upon accessing the survey from an internet-capable computer, potential subjects viewed an approved informed consent form. They were required to accept the terms of the form to move on with the survey; potential subjects who did not wish to accept the terms were instructed to close the window or navigate away.
3. Following the consent form, subjects read a short, hypothetical story written in second person (the main character is written as “you”) in which they play the role of a customer attempting to return damaged goods to the store they bought them from. Within the story, the associate refuses the return, engaging in ambiguous behavior (actions could be varyingly judged along a range of sincere to insincere, and helpful to unhelpful, with personal characteristics such as red eyes that could be attributed to self-inflicted causes such as a hangover, or externally-inflicted circumstances such as sleep deprivation).

Included in the story was the store slogan, which was manipulated for altruistic, entitled/self-centered, and neutral concepts. The slogan was presented both as part of a large advertisement, similar to what a local non-chain grocer might use, and as part of an advertising spot supposedly heard over the store sound system.

Possible slogans:

1. Because You Deserve the Very Best! (entitled)
 2. Helping You Build a Better Life! (altruistic)
 3. Serving Goods Since 1990. (neutral)
4. Following the short story, on the succeeding page, participants were asked several questions regarding their assessment of the employee, whether the outcome was satisfactory, and how likely they would be to escalate the issue.
 5. Finally, subjects completed two measures of personological factors that might contribute to extreme behavior in this situation: the Social Vigilantism Survey, and the Narcissistic Personality Inventory.
 6. Following the experiment, participants underwent a simple awareness check, and then completed a short demographics questionnaire (see Appendices A.3.2.3 and A.3.2.4).
 7. Finally, subjects were thanked for their participation.

4 Data Analysis

In this chapter I will analyze the data collected via the methodology described in Chapter 3. By comparing these data to the hypotheses set forth in Section 1.3, I intend to shed light on the contradictions of language-based priming research in the fields of psychology and linguistics, and determine whether it may be possible to use such priming effects in a naturalistic context to influence attitude-directed behavior.

Note, In this paper statistical significance will be defined as meeting or exceeding a 0.05 alpha-level. All statistical analyses were performed using PASW 18 unless otherwise indicated.

4.1 Ambiguous Word Completion Task

To briefly summarize the method in this experiment, participants completed a task that exposed them either to neutral words, words rated as highly associated with altruism in the Pre-Study Materials Rating Task (“new prime”), or words intuitively selected as altruistic for use during the pilot study (in order to test for replicability; “original prime”). Immediately following the priming section, participants completed a series of words with letters missing, half of which were ambiguously aggressive or non-aggressive. Total aggressive word responses was recorded for each participant.

In order to eliminate possible bias posed by excluding participants who guessed the purpose of this study, a univariate ANOVA was first conducted across all respondents without examination of the awareness check. A significant interaction was observed between the original prime and age ($F(1, 8010) = 5.16, p < 0.026$). See Table 1 for means.

Age/Prime Combination	Mean	Std. Deviation	N
18-25 Neutral Prime	12.94	2.69	47
26-45 Neutral Prime	15.27	2.53	11
18-25 Original Altruistic Prime	13.52	3.47	21
26-45 Original Altruistic Prime	10.38	1.92	8
Undefined	14.2	3.03	5
Total	13.2	3.01	92

Table 1 Descriptive Statistics for Original Prime and Control by Age Group

Note, age was here defined as a two-level categorical variable, in which -1 encoded subjects age 18-25, 2 encoded subjects 26-45, and all other subjects were marked as 0 (see Table 2 for total respondents broken down per original category). This coding method was suggested based on preliminary analyses via the statistical analysis program JMP in which this arrangement provided the best possible model for the data.

Age Range	N	%
18-25	69	73.00%
26-35	16	17.00%
36-45	3	3.00%
46-55	0	0.00%
55 or over	6	6.00%
Decline to Answer	0	0.00%
Total	94	100.00%

Table 2 Number of Respondents to Ambiguous Word Completion Task by Age

No significant effect was observed from exposure to the new prime, although results approached significance ($F(1, 8010) = 3.51, p < 0.065$) in an interaction between the new prime

and age, while gender remains a possible variable in a similar interaction (newprime*gender $F(1, 8100) = 2.88, p < 0.094$).

A Tukey HSD was performed to determine which prime and age combination resulted in significant differences. Participants age 26-45 demonstrated a decrease in aggressive response under the original altruistic prime (see Table 3). The means in Table 1 indicate this was a drop of approximately one-third.

(I) Age/Prime Combination	(J) Age/Prime Combination	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18-25 Neutral Prime	26-45 Neutral Prime	-2.3366	0.9080	0.085	-4.8723	0.1992
	18-25 Original Altruistic Prime	-0.5876	0.7116	0.922	-2.5748	1.3995
	26-45 Original Altruistic Prime	2.5612	1.0368	0.108	-0.3343	5.4567
26-45 Neutral Prime	18-25 Neutral Prime	2.3366	0.9080	0.085	-0.1992	4.8723
	18-25 Original Altruistic Prime	1.7489	1.0090	0.420	-1.0688	4.5667
	26-45 Original Altruistic Prime	4.8977	1.2597	0.002*	1.3799	8.4155
18-25 Original Altruistic Prime	18-25 Neutral Prime	0.5876	0.7116	0.922	-1.3995	2.5748
	26-45 Neutral Prime	-1.7489	1.0090	0.420	-4.5667	1.0688
	26-45 Original Altruistic Prime	3.1488	1.1263	0.050*	0.0034	6.2942
26-45 Original Altruistic Prime	18-25 Neutral Prime	-2.5612	1.0368	0.108	-5.4567	0.3343
	26-45 Neutral Prime	-4.8977	1.2597	0.002*	-8.4155	-1.3799
	18-25 Original Altruistic Prime	-3.1488	1.1263	0.050*	-6.2942	-0.0034

Table 3 Tukey HSD for Original Prime and Control by Age Group

After initial statistics, the awareness check for this task was examined, and participants who referred to violence, crime, aggression, hostility, etc. in their remarks were excluded (see 7.2.1.1 for awareness check responses, with excluded responses marked). The analysis was then re-run. However, results did not vary in which categories presented as significant, and so awareness was disregarded as a factor.

These results support my initial hypothesis and confirm the results of my pilot study; however, the non-significance of the ratings-based new prime create tension as to the original prime's validity. Implications of this will be discussed in Chapter 5.

4.2 Response Time Task

To briefly summarize the method, this experiment tested how fast participants responded to certain aggressive, non-aggressive, and nonce words. Before each target word, an altruistic or non-altruistic prime was briefly shown. As the nonce trials were intended to serve only as a distractor, all trials with nonce targets were discarded prior to analysis.

In order to accurately assess all possible effects, response times were collected and averaged first per each question item (that is, per each pair of prime and target), and then per each subject across all items of a certain prime/target combination category.

Response times by question were measured using a univariate ANOVA. A significant effect of prime/target combination on response time was found ($F(1, 13924) = 80918.44, p < .000$, see table 4 for means).

Prime	Target	SD	Mean
Altruistic	Aggressive	41.90736	630.8714
Altruistic	Non-aggressive	47.04302	661.5290
Non-altruistic	Aggressive	59.61079	659.0321
Non-altruistic	Non-aggressive	58.97111	651.9385

Table 4 Mean Response Time by Question Item for Response Time Prime/Target Combinations

Although not relevant to the study at hand, a main effect was also found in which incorrect responses exhibited slower response times, as may be expected ($F(1, 118) = 43.88, p = .000$).

Response times by subject were analyzed using a repeated measures ANOVA with a within-subjects factor of prime/target combination (four levels; possible primes: altruistic/non-altruistic, possible targets: aggressive/non-aggressive). Mauchly's test indicated that the assumption of sphericity had been violated ($\chi^2(5) = 11.272, p = .046$), therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity ($\epsilon = 0.836$). A significant effect of prime/target combination, $F(2.51, 92.82) = 7.819, p < .000, \eta_p^2 = .17445$, was found. Means can be found in table 5.

Prime	Target	SD	Mean
Altruistic	Aggressive	87.81624	630.7574
Altruistic	Non-aggressive	89.59197	661.7831
Non-altruistic	Aggressive	83.18722	659.0173
Non-altruistic	Non-aggressive	80.18360	655.0511

Table 5 Mean Response Time by Subject for Response Time Prime/Target Combinations

As may be seen in Tables 4 and 5, the combination of altruistic prime and aggressive

target words resulted in a faster response time (approximately 25-30 milliseconds out of approximately 660 total milliseconds) when measured both by question item and by subject.

These results do not support my initial hypothesis; however, I did receive significant results to the contrary and thus may not conclude support for a null hypothesis proposing no significant relationship between word combination and response time. The decrease in response time when an aggressive word is preceded by an altruistic word does not mirror the results of the ambiguous word-completion task and suggests they are not equally valid as a measure of lexical access. Further implications will be discussed in Chapter 5.

4.3 Slogan Prime Scenario

In summary of the methodology, participants in this task read a short story in which they played the part of someone attempting to return spoiled milk to a grocery store. The return was refused by the associate. The store slogan appeared both in a large image-based advertisement (supposedly a sign seen by the participant) and in the reported content of an announcement made over the store speaker system. The slogan was manipulated in a between-subjects experiment; subjects viewed either an entitled slogan (Because You Deserve the Very Best!), an altruistic slogan (Helping You Build a Better Life!), or a neutral slogan (Serving Goods Since 1990). Participant rating of the associate's reasonableness, helpfulness, impoliteness, as well as their belief there should have been a different outcome, and their reported likelihood to pursue further action were recorded as measures of positive/negative affect toward the situation. The questions eliciting participant ratings and reported likelihood to pursue further action varied as one of two

sets, the second using alternative framing to the first.

Similar to the coding performed on the Ambiguous Word Completion Task, because participants in this test were similarly unbalanced in age group, age for this experiment was coded as categorical data (-1 indicated subject age 18-25, 1 indicated subject age 26+, and non-responses were coded as 0). See Table 6 for a complete breakdown of participant numbers by age and gender.

Age Range	Male N	Female N	Decline to Answer (Gender)	%
18-25	16	46	1	77.00%
26-35	6	7	0	16.00%
36-45	2	2	0	2.00%
46-55	1	0	0	1.00%
55 and Over	2	1	0	4.00%
Decline to Answer	0	0	0	0.00%
Total	25	56	1	100.00%

Table 6 A Number of Respondents to Slogan Prime Scenario by Age and Gender

For this experiment, a multivariate ANCOVA was run to compare both categorical and continuous variables. Independent variables included priming condition (two possible experimental conditions as compared to the neutral control), gender, age, and question set. Although they were originally intended as independent variables, due to the possibility of ordering effects, social vigilantism scale and NPI scores were included as dependent variables. The complete list of dependent variables includes ratings of impoliteness, helpfulness, reasonableness, likelihood to pursue the matter further, subjects' social vigilantism and NPI scores, and the categorical response indicating whether there should have been a different

outcome. Significant effects were found in nearly every category.

4.3.1 Results Organized by Dependent Variable

This section includes summaries of all statistically significant data as resulted from the multivariate ANCOVA. Each subsection will address significant results for one dependent variable, indicating the independent variable(s) affecting that dependent variables, and giving relevant descriptive statistics and graphics as necessary to illustrate the effects.

4.3.1.1 Rating of Associate: Helpfulness

One interaction significantly affected ratings on the associate's helpfulness:

1. Question Frame * Age ($F(1, 6642) = 4.88, p < .031$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others; a significant difference ($t(17) = 2.8537, p = 0.011$) was found between subjects 26 and over who viewed Question Set 2 ($M = 1.83, SD = 0.52$) and subjects the same age who viewed Question Set 1 ($M = 3.08, SD = 0.43$). There was also a significant difference between subjects 26 and over who viewed Question Set 2 and subjects 18-25 who viewed Question Set 2 ($t(41) = 3.6189, p = 0.0008$, see Table 7 for means), as well as between subjects 26 and over who viewed Question Set 2 and subjects 18-25 who viewed Question Set 1 ($t(34) = 3.3544, p = 0.002$, see Table 7 for means); to wit, subjects 26 and

over who viewed Question Set 2 rated the associate as less helpful on average than did every other group.

Question Framing	Age	Mean	SD	95% Confidence Interval	
				Lower Bound	Upper Bound
Set 1	18-25	3.41	0.3	2.81	4.01
Set 1	undefined	1	1.38	-1.76	3.76
Set 1	26 and over	3.08	0.43	2.22	3.95
Set 2	18-25	4.02	0.33	3.36	4.67
Set 2	undefined	5	1.38	2.24	7.76
Set 2	26 and over	1.83	0.52	0.8	2.86

Table 7 Descriptive Statistics for Question Set/Age Interaction on Helpfulness Ratings

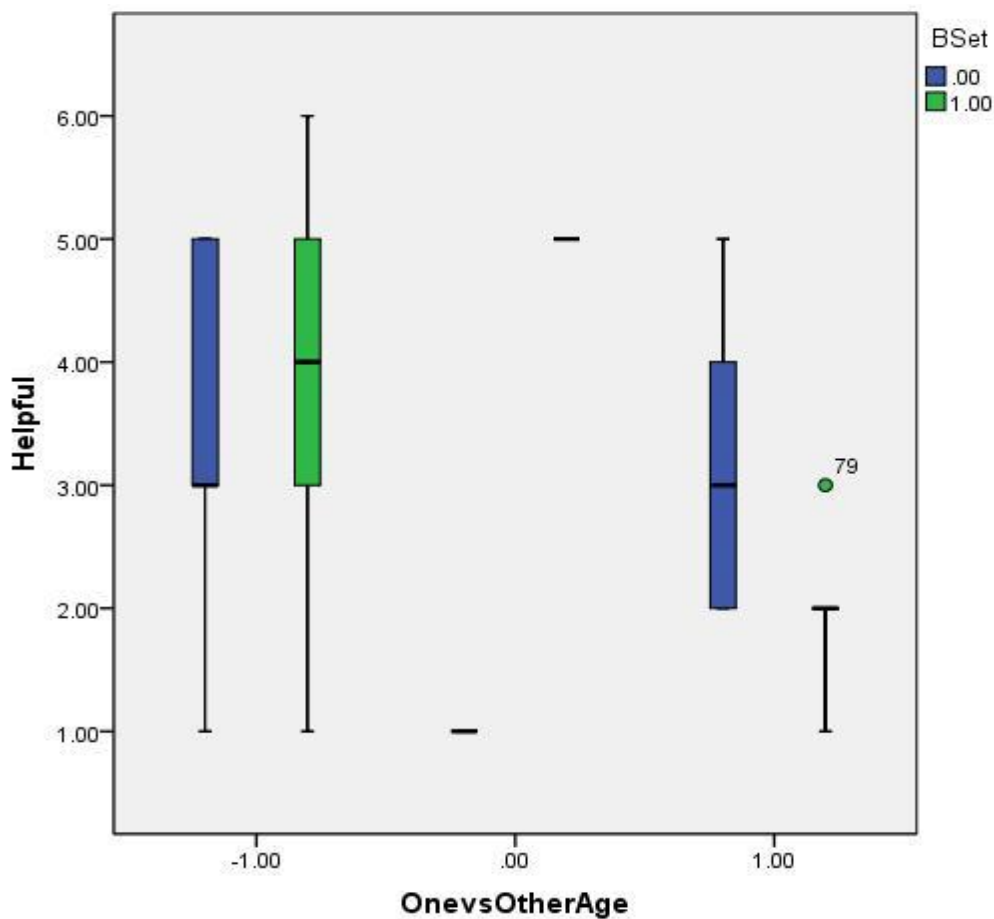


Figure 1 Interaction of age and question framing on ratings of the associate's helpfulness. Bset: 0
= Question Set 1, 1 = Question Set 2

4.3.1.2 Rating of Associate: Impolite

Two interactions significantly affected ratings on the associate's impoliteness:

1. Entitled Slogan * Age * Gender ($F(1, 538002) = 5.90, p < .018$)
2. Altruistic Slogan * Question Frame * Gender ($F(1, 544644) = 5.64, p < .021$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others. In the interaction of entitled slogan, age, and gender, significant differences between groups were not found by this method.

Prime	Age	Gender	Mean	SD	95 % Confidence Interval	
					Lower Bound	Upper Bound
Entitled Slogan	18-25	male	2.33	0.54	1.26	3.41
Entitled Slogan	18-25	undefined	--	--	--	--
Entitled Slogan	18-25	female	2.9	0.33	2.23	3.56
Entitled Slogan	undefined	male	--	--	--	--
Entitled Slogan	undefined	undefined	4	1.32	1.36	6.64
Entitled Slogan	undefined	female	--	--	--	--
Entitled Slogan	26 and over	male	2	0.93	0.13	3.87
Entitled Slogan	26 and over	undefined	--	--	--	--
Entitled Slogan	26 and over	female	4.5	0.81	2.88	6.12
Neutral Slogan	18-25	male	2.47	0.42	1.63	3.31
Neutral Slogan	18-25	undefined	3	1.32	0.36	5.64
Neutral Slogan	18-25	female	3.72	0.3	3.11	4.32
Neutral Slogan	undefined	male	--	--	--	--
Neutral Slogan	undefined	undefined	5	1.32	2.36	7.64
Neutral Slogan	undefined	female	--	--	--	--
Neutral Slogan	26 and over	male	3.13	0.52	2.08	4.17
Neutral Slogan	26 and over	undefined	--	--	--	--
Neutral Slogan	26 and over	female	3.38	0.52	2.33	4.42

Table 8 Descriptive Statistics for Entitled Slogan/Age/Gender Interaction on Impoliteness Ratings

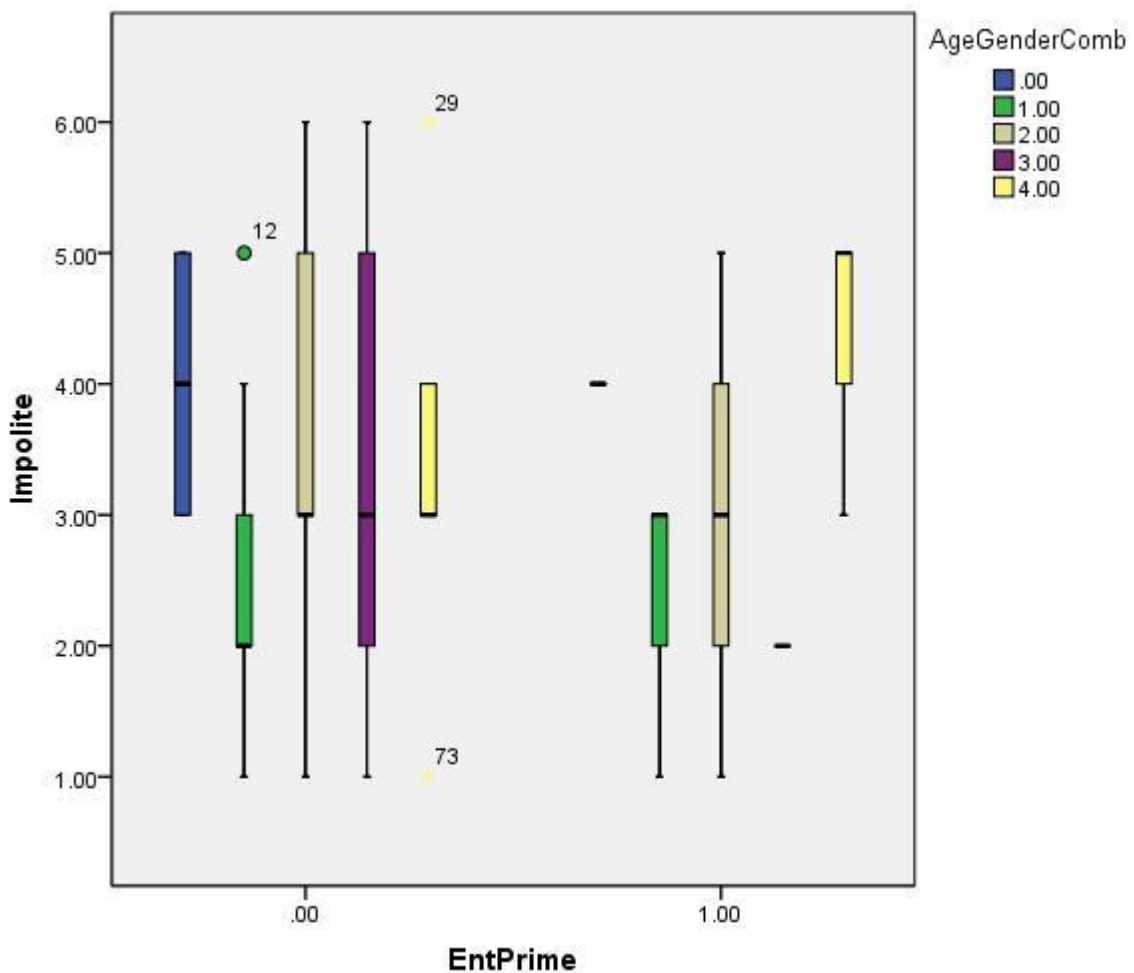


Figure 2 Interaction of the entitled slogan, age, and gender on ratings of the associate's impoliteness. AgeGenderComb: 1 = males 18-25, 2 = females 18-25, 3 = males 26+, 4 = females 26+, 0 = at least one variable undefined

In the interaction of altruistic slogan, question framing, and gender, a significant difference was found between male subjects who viewed the altruistic slogan with Question Set 1 and subjects in nearly every other condition: as compared to female subjects who did not view

the altruistic slogan but did answer Question Set 1, $t(16) = 2.249$, $p = 0.039$; as compared to male subjects who did not view the altruistic slogan but answered Question Set 2, $t(8) = 2.8868$, $p = 0.0203$; as compared to female subjects who did not view the altruistic slogan but answered Question Set 2, $t(22) = 3.3428$, $p = 0.0029$; as compared to female subjects who viewed the altruistic slogan and Question Set 1, $t(14) = 3.1928$, $p = 0.0065$; as compared to male subjects who viewed the altruistic slogan and Question Set 2, $t(8) = 3.7947$, $p = 0.0053$; and as compared to female subjects who viewed the altruistic slogan and Question Set 2, $t(16) = 2.7554$, $p = 0.0141$. That is, male subjects who viewed the altruistic slogan with Question Set 1 generally rated the associate as less impolite (see Table 9 for means).

Prime	Question Framing	Gender	Mean	SD	95% Confidence Interval	
					Lower Bound	Upper Bound
Neutral Slogan	Set 1	male	2.81	0.48	1.86	3.77
Neutral Slogan	Set 1	undefined	4	1.32	1.36	6.64
Neutral Slogan	Set 1	female	3.39	0.42	2.55	4.24
Neutral Slogan	Set 2	male	2.22	0.67	0.88	3.57
Neutral Slogan	Set 2	undefined	4	0.93	2.13	5.87
Neutral Slogan	Set 2	female	3.97	0.44	3.09	4.84
Altruistic Slogan	Set 1	male	1.42	0.6	0.21	2.62
Altruistic Slogan	Set 1	undefined	--	--	--	--
Altruistic Slogan	Set 1	female	3.28	0.52	2.25	4.31
Altruistic Slogan	Set 2	male	3.92	0.6	2.71	5.12
Altruistic Slogan	Set 2	undefined	--	--	--	--
Altruistic Slogan	Set 2	female	3.58	0.69	2.21	4.96

Table 9 Descriptive Statistics for Altruistic Slogan/Question Framing/Gender Interaction

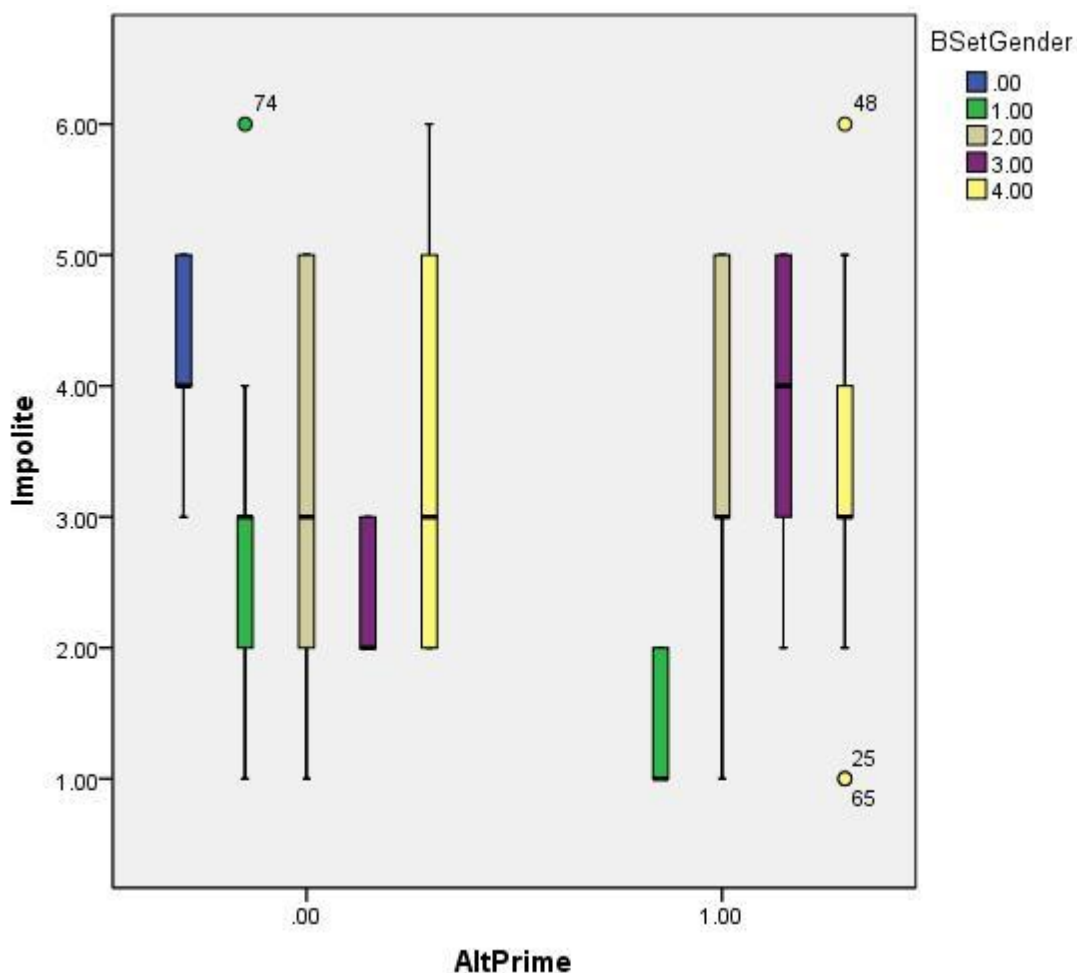


Figure 3 Interaction of the altruistic slogan, question framing, and gender on ratings of the associate's impoliteness. BsetGender: 1 = males with questions set 1, 2 = females with Question Set 1, 3 = males with Question Set 2, 4 = females with Question Set 2, 0 = undefined gender

4.3.1.3 Rating of Associate: Reasonableness

Two interactions significantly affected ratings on the associate's reasonableness:

1. Altruistic Slogan * Age * Gender ($F(1, 538002) = 5.08, p < .028$)

2. Altruistic Slogan * Question Frame * Gender ($F(1, 544644) = 5.95, p < .018$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others. This method returned no significant differences between any two conditions in either interaction.

Prime	Question Framing	Gender	Mean	SD	95% Confidence Interval	
					Lower Bound	Upper Bound
Neutral Slogan	Set 1	male	4.08	0.56	2.96	5.21
Neutral Slogan	Set 1	undefined	4	1.56	0.88	7.12
Neutral Slogan	Set 1	female	4.11	0.5	3.11	5.11
Neutral Slogan	Set 2	male	4.56	0.79	2.97	6.15
Neutral Slogan	Set 2	undefined	4.5	1.1	2.29	6.71
Neutral Slogan	Set 2	female	3.89	0.52	2.86	4.93
Altruistic Slogan	Set 1	male	5.5	0.71	4.08	6.92
Altruistic Slogan	Set 1	undefined	--	--	--	--
Altruistic Slogan	Set 1	female	3.89	0.61	2.67	5.11
Altruistic Slogan	Set 2	male	4.67	0.71	3.24	6.09
Altruistic Slogan	Set 2	undefined	--	--	--	--
Altruistic Slogan	Set 2	female	4.25	0.81	2.63	5.87

Table 10 Descriptive Statistics for Altruistic Slogan/Question Framing/Gender Interaction on

Reasonableness

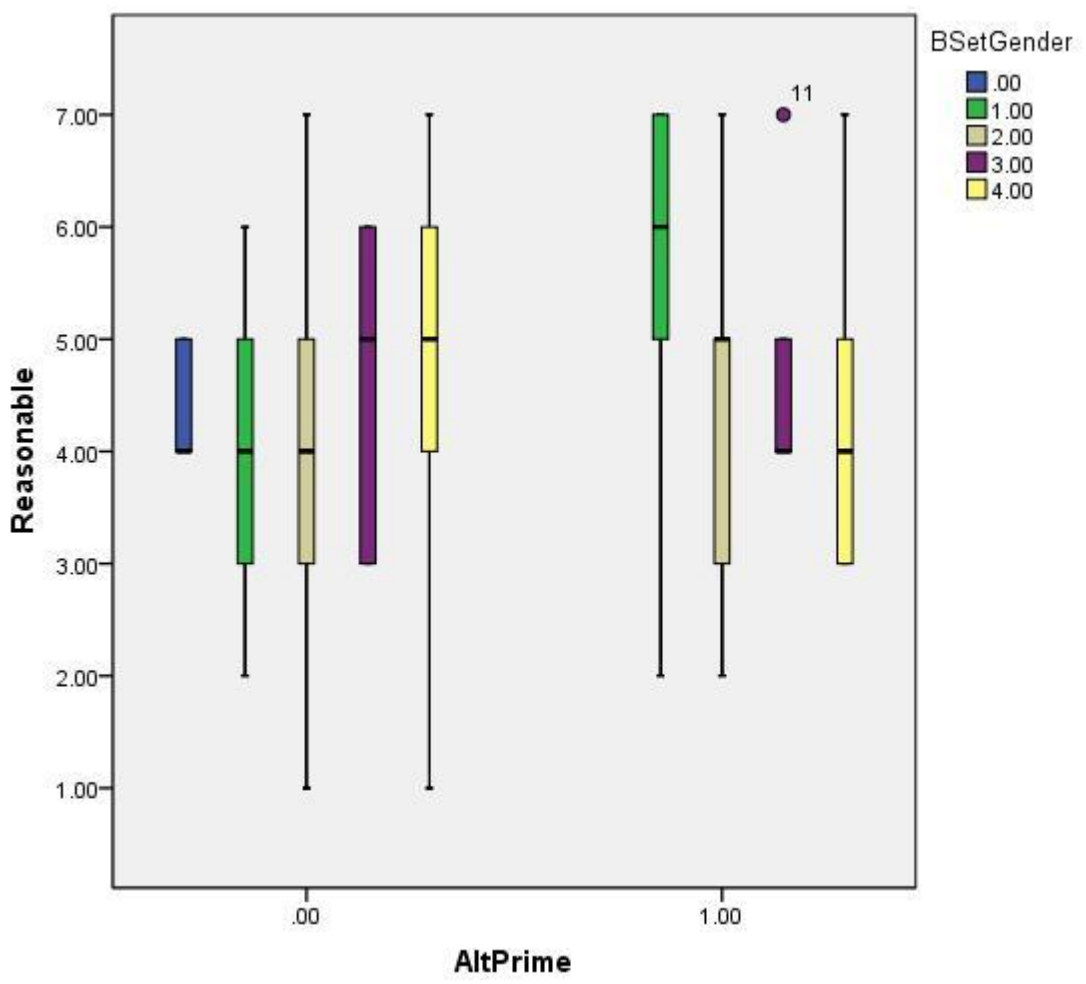


Figure 4 Interaction of the altruistic slogan, question framing, and gender on ratings of the associate's reasonableness. BsetGender: 1 = males with questions set 1, 2 = females with Question Set 1, 3 = males with Question Set 2, 4 = females with Question Set 2, 0 = undefined gender

Prime	Age	Gender	Mean	SD	95% Confidence Interval	
					Lower Bound	Upper Bound
Neutral Slogan	18-25	male	4.33	0.5	3.34	5.33
Neutral Slogan	18-25	undefined	4	1.56	0.88	7.12
Neutral Slogan	18-25	female	4.25	0.37	3.51	4.99
Neutral Slogan	undefined	male	--	--	--	--
Neutral Slogan	undefined	undefined	4.5	1.1	2.29	6.71
Neutral Slogan	undefined	female	--	--	--	--
Neutral Slogan	26 and over	male	4.25	0.73	2.79	5.71
Neutral Slogan	26 and over	undefined	--	--	--	--
Neutral Slogan	26 and over	female	3.75	0.62	2.52	4.98
Altruistic Slogan	18-25	male	5.17	0.64	2.89	6.44
Altruistic Slogan	18-25	undefined	--	--	--	--
Altruistic Slogan	18-25	female	4.64	0.34	3.95	5.33
Altruistic Slogan	undefined	male	--	--	--	--
Altruistic Slogan	undefined	undefined	--	--	--	--
Altruistic Slogan	undefined	female	--	--	--	--
Altruistic Slogan	26 and over	male	5	0.78	3.44	6.56
Altruistic Slogan	26 and over	undefined	--	--	--	--
Altruistic Slogan	26 and over	female	3.5	0.96	1.59	5.41

Table 11 Descriptive Statistics for Altruistic Slogan/Age/Gender Interaction on Reasonableness

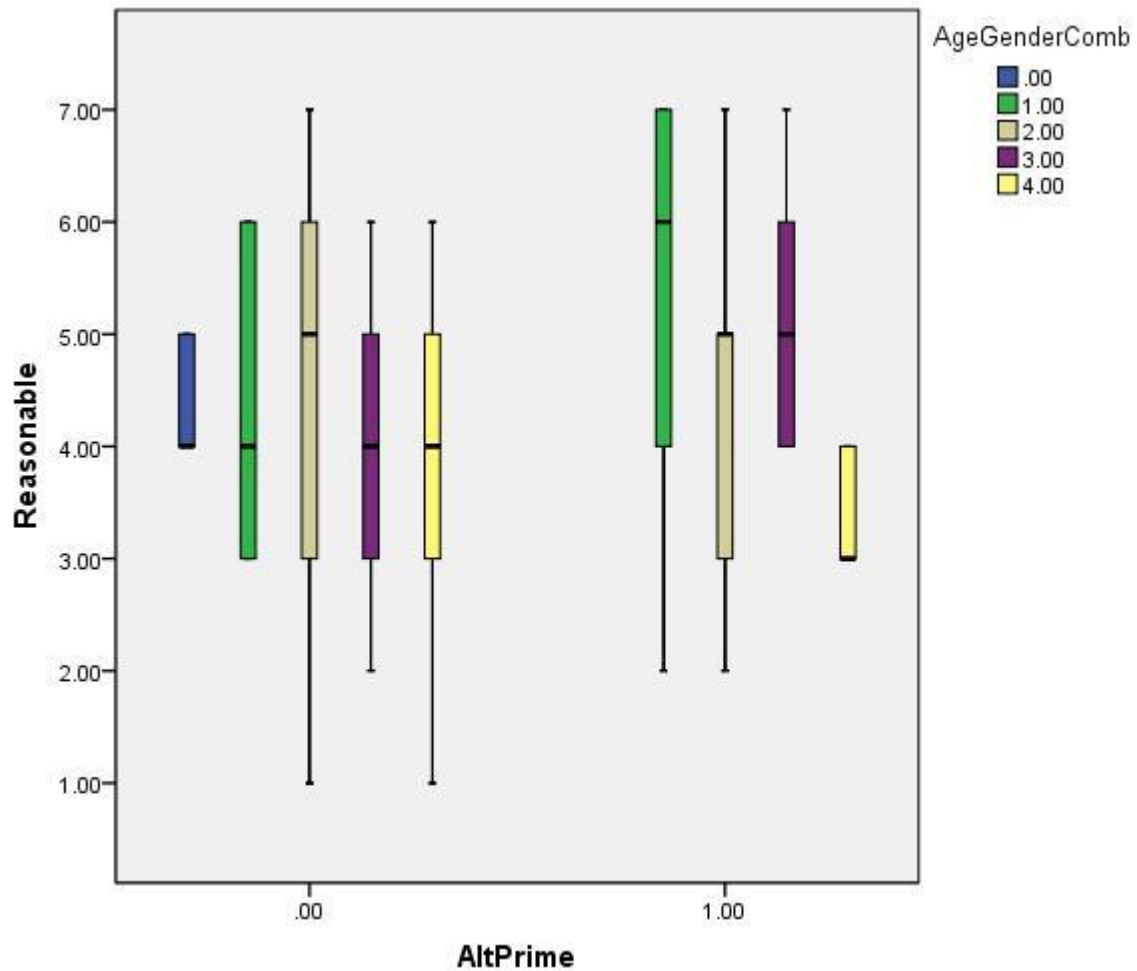


Figure 5 Interaction of the altruistic slogan, age, and gender on ratings of the associate's reasonableness. AgeGenderComb: 1 = males 18-25, 2 = females 18-25, 3 = males 26+, 4 = females 26+, 0 = at least one variable undefined

4.3.1.4 Likely to Pursue Further Action

Two interactions significantly affected ratings on the participant's likelihood to pursue further

action:

1. Entitled Slogan * Age ($F(1, 6642) = 7.49, p < .008$)
2. Altruistic Slogan * Question Frame ($F(1, 6561) = 6.06, p < .017$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others. In the interaction of entitled slogan and age, significant differences were found between subjects age 26 and over who viewed the entitled slogan and every other group: as compared to subjects age 26 and over who viewed the neutral slogan, $t(17) = 2.7611, p = 0.0134$; as compared to subjects 18-25 who viewed the neutral slogan, $t(44) = 4.2882, p < .0001$; and as compared to subjects 18-25 who viewed the entitled slogan, $t(25) = 4.2724, p = 0.0002$. That is, subjects 26 and over who viewed the entitled slogan rated themselves on average as more likely to pursue further action than did any other group (see Table 12 for means).

Prime	Age	Mean	SD	95% Confidence Interval	
				Lower Bound	Upper Bound
Neutral Slogan	18-25	3.4	0.38	2.64	4.17
Neutral Slogan	undefined	5	1.85	1.31	8.69
Neutral Slogan	26 and over	3.19	0.52	2.16	4.22
Entitled Slogan	18-25	3.16	0.44	2.27	4.04
Entitled Slogan	undefined	6	1.85	2.31	9.69
Entitled Slogan	26 and over	6.75	0.86	5.02	8.48

Table 12 Descriptive Statistics for Entitled Slogan/Age Interaction on Likely to Pursue Further Action

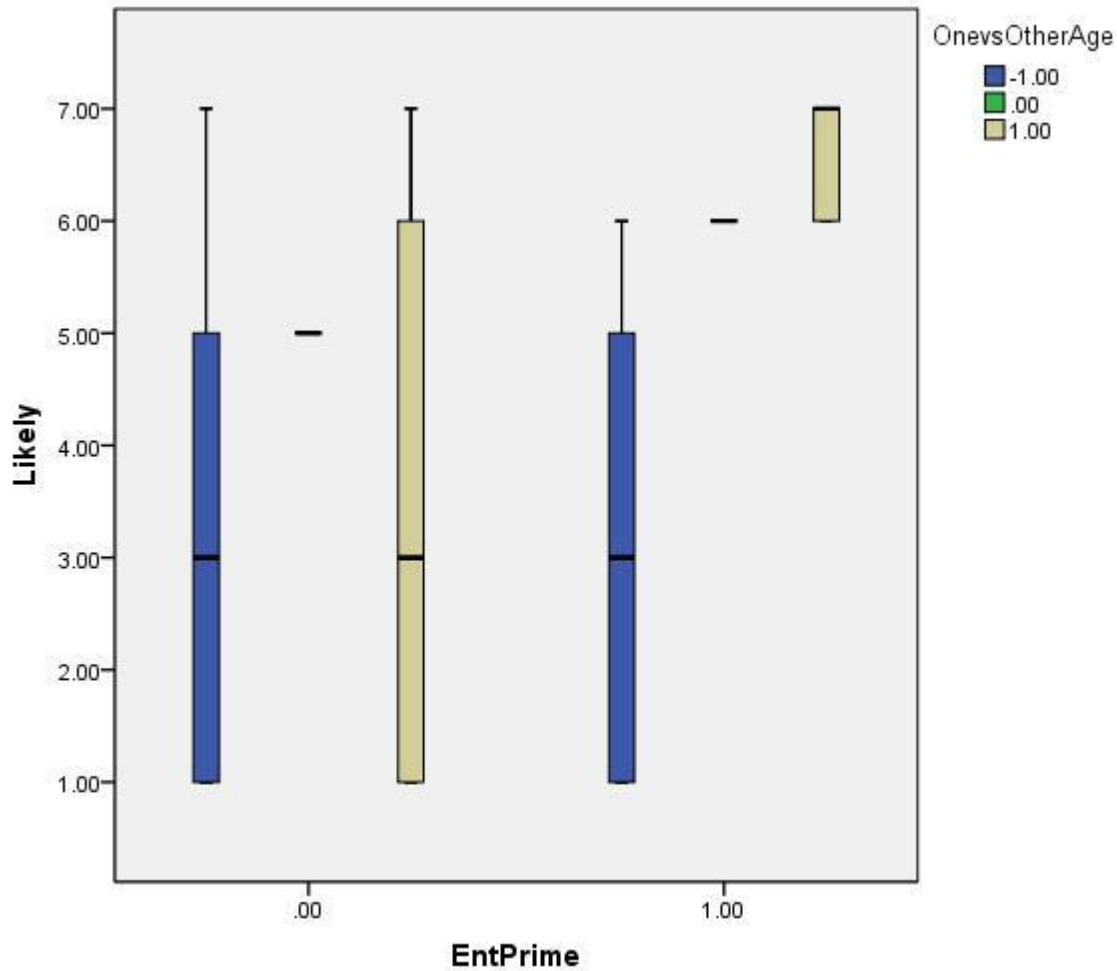


Figure 6 Interaction of the entitled slogan and age on the participant's likelihood to pursue further action. OnevsOtherAge: -1 = 18-25, 1 = 26+, 0 = undefined

In the interaction of altruistic slogan and question framing, a significant difference was found between subjects who viewed the neutral slogan with Question Set 1 and subjects in every other condition: as compared to subjects who viewed the altruistic slogan and Question Set 1, $t(38) = 2.1376$, $p = 0.039$; as compared to subjects who viewed the altruistic slogan and Question Set 2, $t(40) = 2.3252$, $p = 0.0252$; and as compared to subjects who viewed the neutral slogan but

answered Question Set 2, $t(48) = 3.3839$, $p = 0.0014$. That is, subjects who answered Question Set 1 and saw the neutral slogan rated themselves on average as more likely to pursue further action than did subjects who answered Question Set 2 under the same conditions, as well as did subjects who answered the same questions after viewing the altruistic slogan (see Table 13 for means).

Prime	Question Framing	Mean	SD	95% Confidence Interval	
				Lower Bound	Upper Bound
Neutral Slogan	Set 1	5.03	0.45	4.14	5.92
Neutral Slogan	Set 2	3.56	0.51	2.55	4.57
Altruistic Slogan	Set 1	3.17	0.51	2.55	4.57
Altruistic Slogan	Set 2	3.33	0.64	2.06	4.61

Table 13 Descriptive Statistics for Altruistic Slogan/Question Framing Interaction

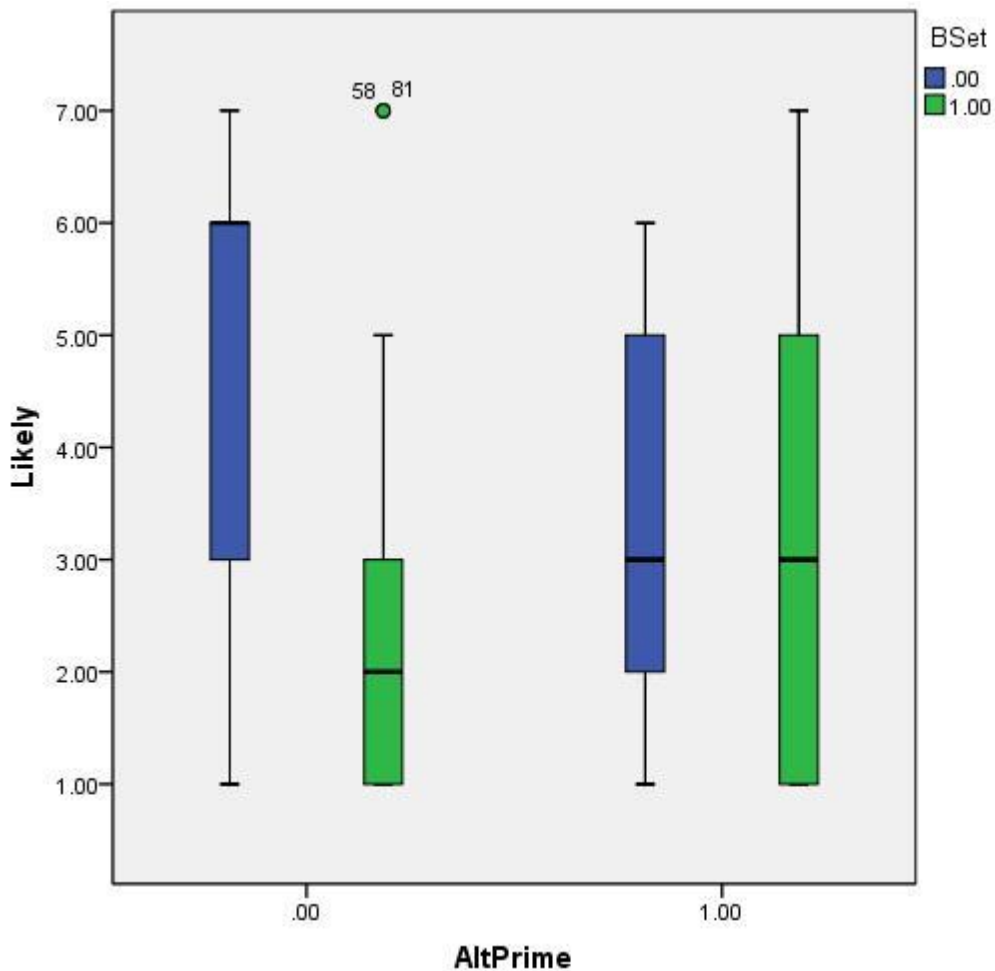


Figure 7 Interaction of the altruistic slogan and question framing on the participant's likelihood to pursue further action. Bset: 0 = Question Set 1, 1 = Question Set 2

4.3.1.5 Belief There Should Have Been a Different Outcome

Age was found to have a significant effect on the participant's belief there should have been a different outcome ($F(1, 81) = 3.20, p < .048$). However, a post-hoc Tukey's HSD returned non-significant results for this variable.

4.3.1.6 Narcissistic Personality Inventory Score

Three interactions significantly affected ratings on the participant's Narcissistic Personality Inventory Score:

1. Age * Gender ($F(1, 6724) = 4.35, p < .041$)
2. Question Frame * Age ($F(1, 6642) = 9.05, p < .004$)
3. Altruistic Slogan * Age ($F(1, 6642) = 4.36, p < .041$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others. In the interaction of age and gender, I was unable to find significant differences by this method.

In the interaction of question framing and age, a significant difference ($t(37) = 2.8876, p = 0.0064$) was found between subjects age 18-25 who viewed Question Set 1 ($M = 9.21, SD = 3.98$) and subjects age 25 and over who viewed Question Set 1 ($M = 13.64, SD = 5.07$), as well as a significant difference ($t(17) = 3.2029, p = 0.0052$) between subjects age 25 and over who viewed Question Set 1 ($M = 13.64, SD = 5.07$) and subjects age 25 and over who viewed Question Set 2 ($M = 7.13, SD = 3.14$). That is, subjects age 25 and over who viewed Question Set 1 scored significantly higher than other groups on the NPI.

In the interaction of altruistic slogan and age, no significant difference was found by this method.

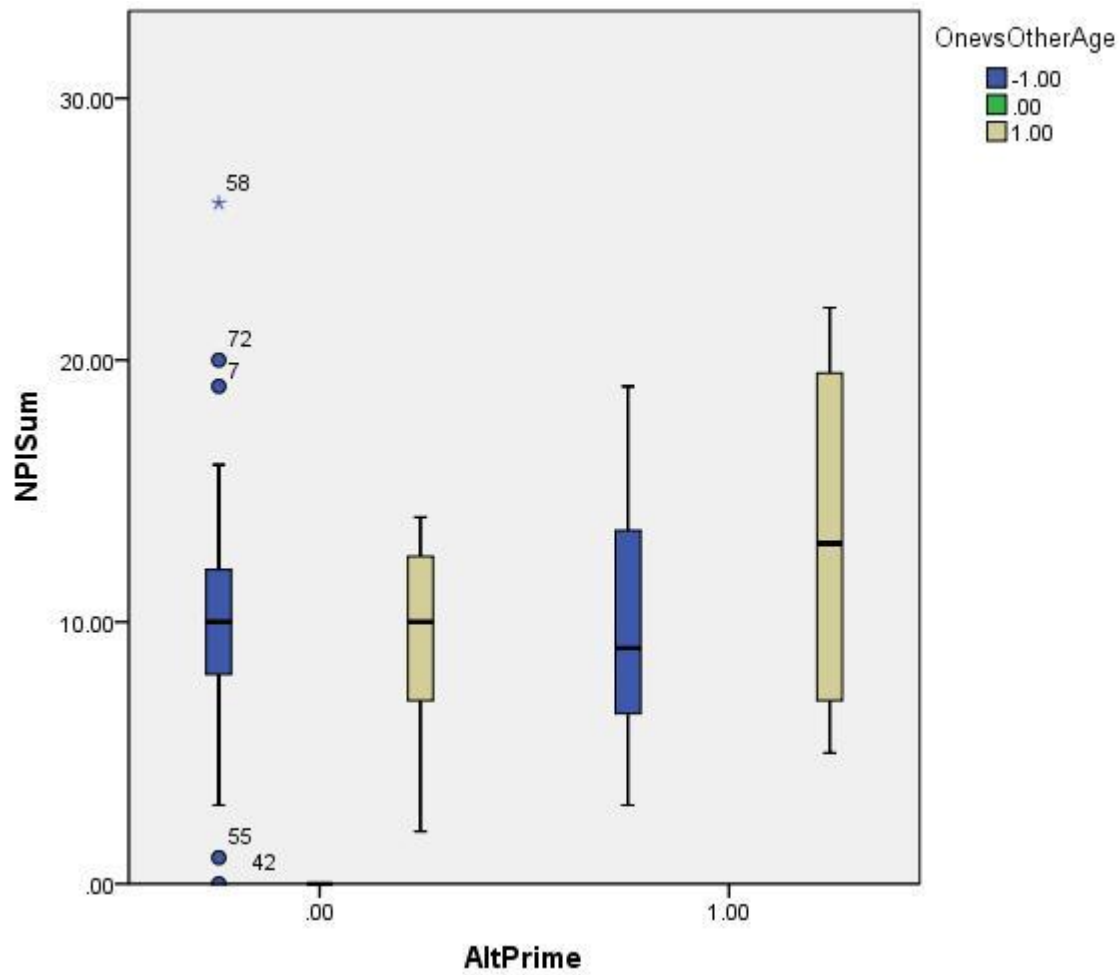


Figure 8 Interaction of the altruistic slogan and age on NPI score. OnevsOtherAge: -1 = 18-25, 1 = 26+, 0 = undefined

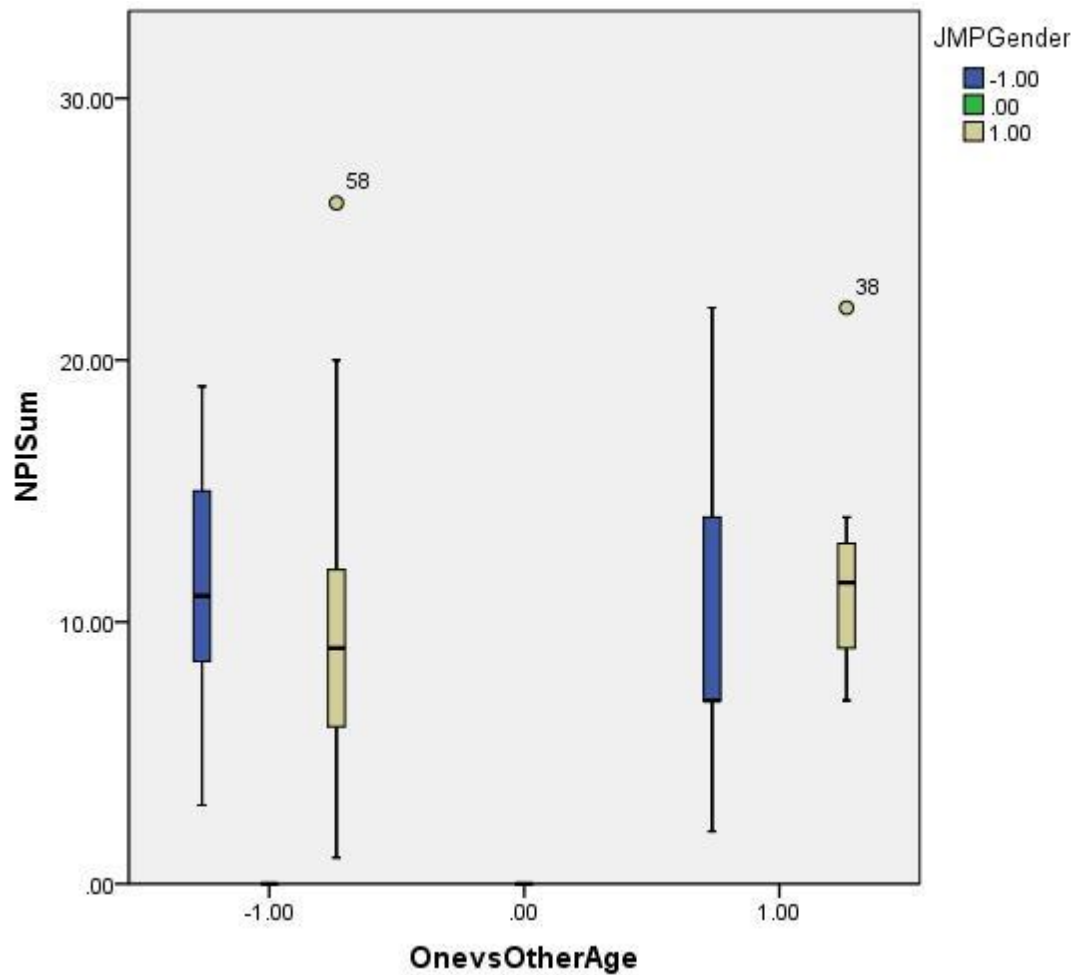


Figure 9 Interaction of age and gender on NPI score. JMPGender: -1 = male, 1 = female, 0 = undefined

4.3.1.7 Social Vigilantism Score

Three interactions significantly affected ratings on the participant's Social Vigilantism score:

1. Age * Gender ($F(1, 6724) = 8.75, p < .004$)
2. Entitled Slogan * Question Frame * Gender ($F(1, 544644) = 5.44, p < .023$)

3. Entitled Slogan * Question Frame * Age ($F(1, 544644) = 6.45, p < .014$)

A series of post-hoc independent sample t-tests were performed to determine which conditions varied significantly from the others. In the interaction of age and gender, a significant difference ($t(60) = 3.4622, p = 0.001$) was found between male subjects age 18-25 ($M = 5.68, SD = 0.68$) and female subjects age 18-25 ($M = 4.88, SD = 0.842$), as well as a significant difference ($t(23) = 2.1835, p = 0.0395$) between male subjects age 18-25 ($M = 5.68, SD = 0.68$) and male subjects age 25 and over ($M = 5.04, SD = 0.762$). That is, male subjects age 18-25 generally scored higher on the Social Vigilantism scale than did other groups.

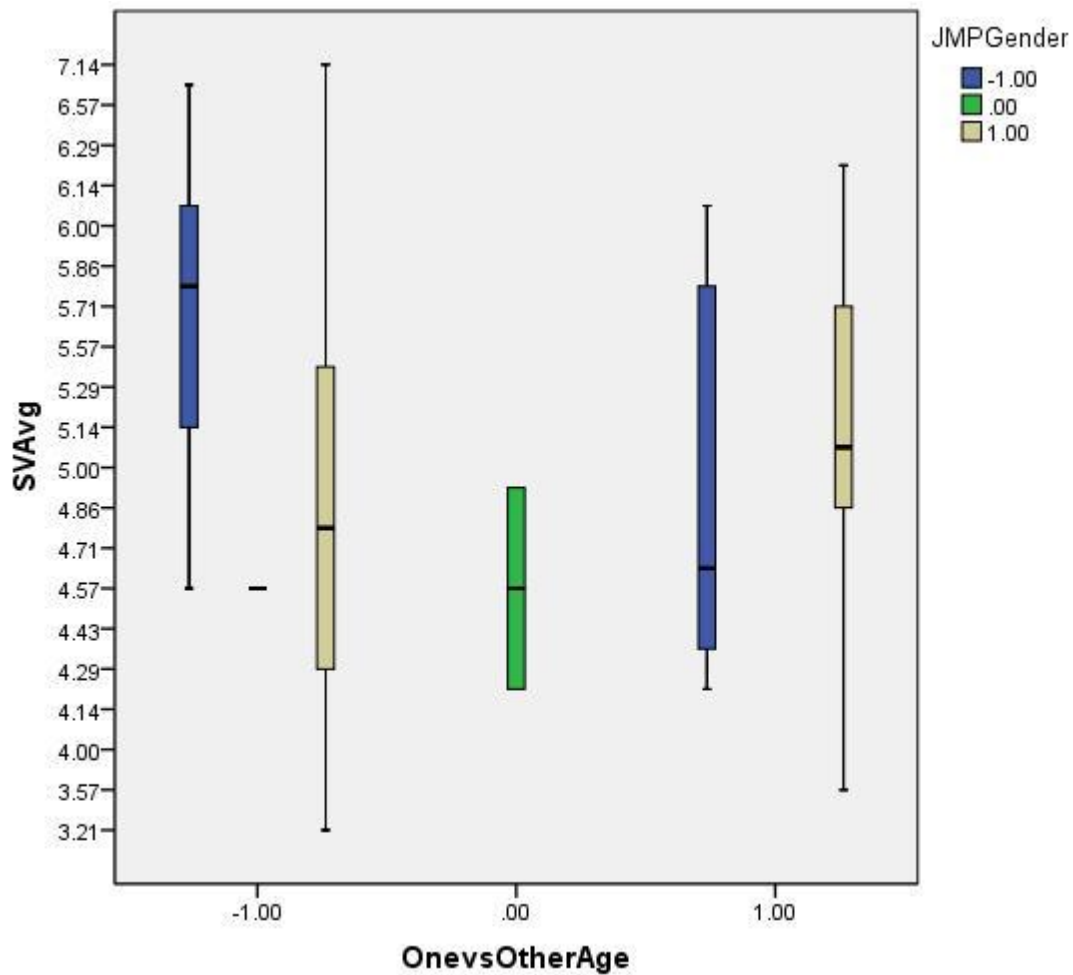


Figure 10 Interaction of age and gender on Social Vigilantism score. JMPGender: -1 = male, 1 = female, 0 = undefined

In the interaction of entitled slogan, question framing, and gender, a significant difference ($t(11) = 2.8235, p = 0.0166$) was found between male subjects who viewed the entitled slogan and Question Set 1 ($M = 6, SD = 0.408$) and females under the same conditions ($M = 4.84, SD = 0.788$). There was also a significant different between males who viewed the entitled slogan with Question Set 1 ($M = 6, SD = 0.408$) and females who viewed the entitled slogan with

Question Set 2 ($M = 4.86$, $SD = 0.865$; $t(12) = 2.4852$, $p = 0.0287$), as well as the same group (male*entitled*Question Set 1, $M = 6$, $SD = 0.408$) against females who viewed the neutral slogan with Question Set 1 ($M = 5.03$, $SD = 0.597$; $t(17) = 3.0268$, $p = 0.0076$) and those females who viewed the neutral slogan with Question Set 2 ($M = 4.96$, $SD = 0.97$; $t(24) = 2.0681$, $p = 0.0496$). That is, males who viewed the entitled slogan with Question Set 1 scored higher on the Social Vigilantism Scale than did any of the female participant groups.

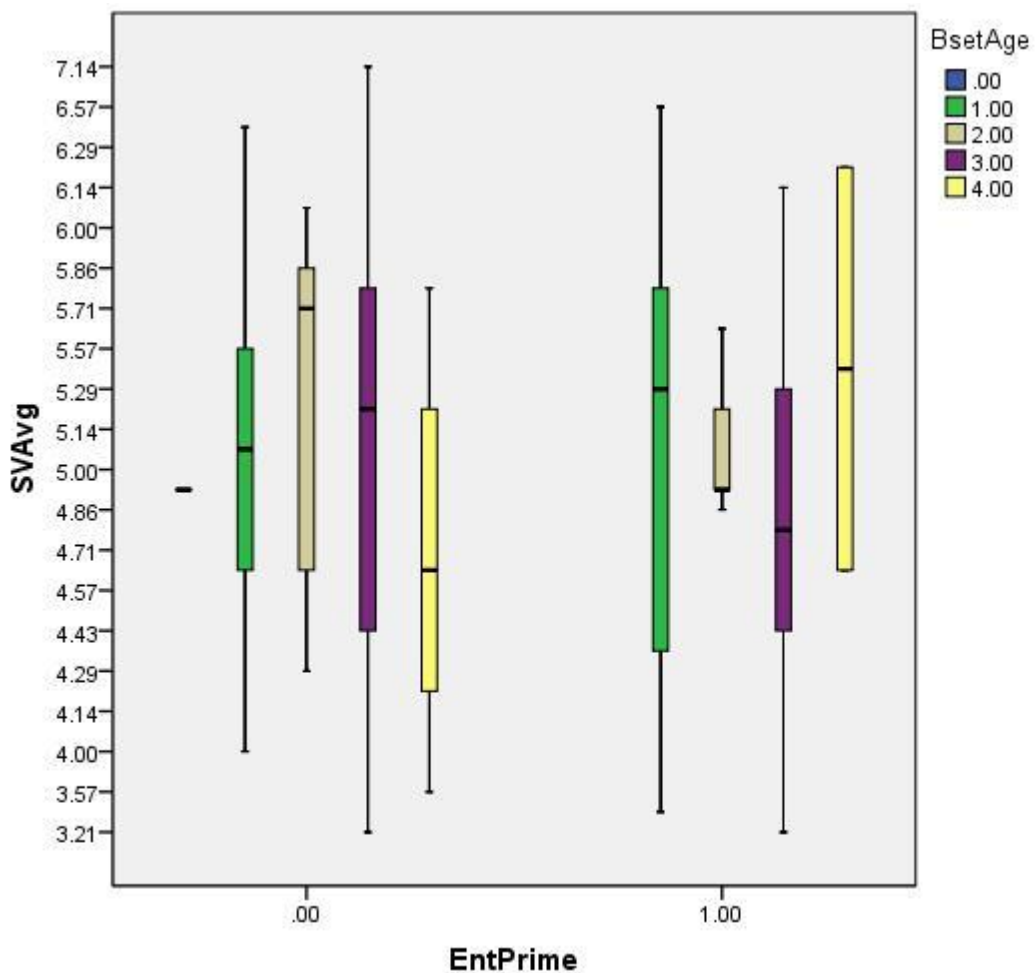


Figure 11 Interaction of the entitled slogan, question framing, and age on Social Vigilantism score. BsetAge: 1 = 18-25 with questions set 1, 2 = 26+ with Question Set 1, 3 = 18-25 with Question Set 2, 4 = 26+ with Question Set 2, 0 = undefined age

In the interaction of entitled slogan, question framing, and age, no significant difference was found by independent t-tests.

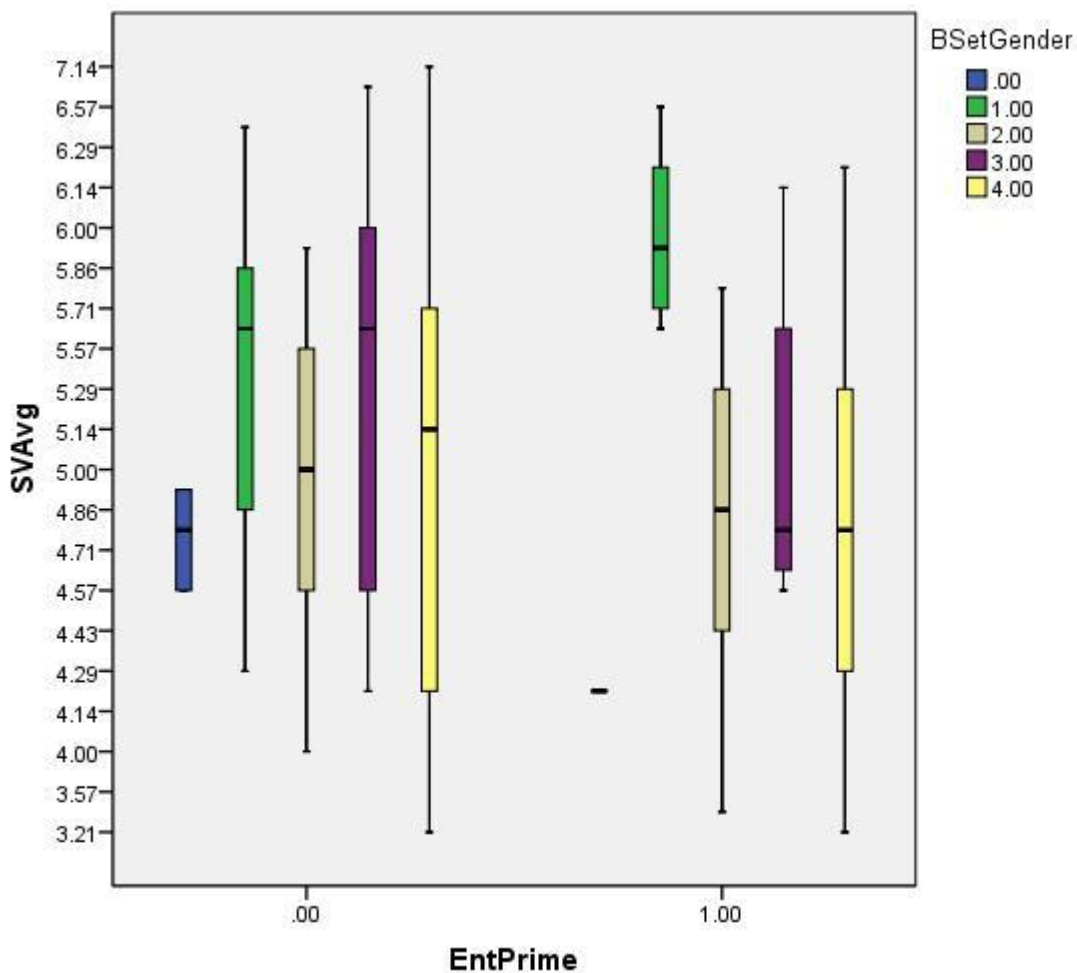


Figure 12 Interaction of the entitled slogan, question framing, and gender on Social Vigilantism score. BsetGender: 1 = males with questions set 1, 2 = females with Question Set 1, 3 = males with Question Set 2, 4 = females with Question Set 2, 0 = undefined gender

4.3.2 Results Organized by Independent Variable

This section details the results of the Slogan Prime Scenario, as organized by independent

variable. Where it was able to be determined, the general trends as indicated by the post-hoc *t*-tests and Tukey HSD are described.

(IV = Independent Variable, DV = Dependent Variable.)

Variable of Interest	IV(s)	DV	Result
Entitled Slogan	Entitled Slogan * Age	Likely to pursue further action	$F(1, 6642) = 7.49, p < .008$
	Subjects 26 and over who viewed the entitled slogan rated themselves on average as more likely to pursue further action than did any other group.		
	Entitled Slogan * Age * Gender	Rating of Associate: Impoliteness	$F(1, 538002) = 5.90, p < .018$
	Entitled Slogan * Question Framing * Gender	Social Vigilantism Score	$F(1, 544644) = 5.44, p < .023$
	Males who viewed the entitled slogan with Question Set 1 scored higher on the Social Vigilantism Scale than did any of the female participant groups.		
	Entitled Slogan * Question Framing * Age	Social Vigilantism Score	$F(1, 544644) = 6.45, p < .014$
Altruistic Prime	Altruistic Slogan * Age	Narcissistic Personality Inventory Score	$F(1, 6642) = 4.36, p < .041$
	Altruistic Slogan * Question Framing	Likely to Pursue Further Action	$F(1, 6561) = 6.06, p < .017$
	Subjects who answered Question Set 1 (“How likely would you be...”) and saw the neutral slogan rated themselves on average as more likely to pursue further action than did subjects who answered Question Set 2 (“How unlikely would you be...”) under the same conditions, or as did subjects who answered Question Set 1 after viewing the altruistic slogan.		
	Altruistic Slogan * Age * Gender	Rating of Associate: Reasonableness	$F(1, 538002) = 5.08, p < .028$
	Altruistic Slogan * Question Framing * Gender	Rating of Associate: Reasonableness	$F(1, 544644) = 5.95, p < .018$
		Rating of Associate: Impoliteness	$F(1, 544644) = 5.64, p < .021$
	Males who were exposed to both the altruistic slogan and the first question set (“How impolite was the associate...”) rated the associate as less impolite.		
	Non-Experimental Covariates	Age * Gender	Social Vigilantism Score
Male subjects age 18-25 generally scored higher on the Social Vigilantism scale than did other groups.			

	Narcissistic Personality Inventory Score	$F(1, 6724) = 4.35, p < .041$
Question Framing * Age	Narcissistic Personality Inventory Score	$F(1, 6642) = 9.05, p < .004$
Subjects age 25 and over who were exposed to the first question set (helpful, impolite, reasonable, unlikely) demonstrated an increase in NPI score over all over subject groups.		
	Rating of Associate: Helpfulness	$F(1, 6642) = 4.88, p < .031$
Subjects 26 and over who viewed Question Set 2 (“How unhelpful was the associate...”) rated the associate as less helpful on average than did every other group.		

Table 14 Slogan Prime Scenario Results Organized by Independent Variable

4.3.3 Other Correlations

In order to determine the interactive effects of continuous variables (Social Vigilantism and Narcissistic Personality Inventory Score scores) in combination with categorical variables (Entitled Slogan, Altruistic Slogan, Gender, etc.), analyses were run using the statistical software Interaction!. No significant interactions were found. However, results indicated a relationship between social vigilantism alone on several variables. To determine the strength of the relationship, a Spearman Rho bivariate correlation analysis was run on Social Vigilantism Score, Narcissistic Personality Inventory Score, and all possible dependent variables. Statistically significant relationships are listed in Table 15.

Variable 1	Variable 2	df	Correlation Coefficient	Sig. (2-tailed)
Social Vigilantism Score	Narcissistic Personality Inventory Score	82	0.381	0.000
Social Vigilantism Score	Rating of Associate: Helpfulness	82	0.303	0.005
Social Vigilantism Score	Rating of Associate: Impoliteness	82	-0.276	0.011

Table 15 Other Slogan Prime Scenario Correlations

4.3.4 Slogan Prime Scenario Review

Results from this scenario indicate a significant relationship between slogan priming and participant attitudes and reported behavior in a hypothetical scenario. These data confirm my initial hypotheses regarding the entitled slogan's relationship with hostile perceptions and altruistic slogan's relationship with more positive attitudes, but the hypotheses regarding personality and susceptibility to these stimuli were not supported. The problem isolating personological effects may have been due to ordering, as the stimuli were found to influence the personality tests as well. Implications will be discussed further in the next chapter.

5 Conclusions and Future Work

This chapter will review the work done in the previous chapters, discuss their

implications, and suggest future work based on these conclusions. First, I will discuss each experiment by reviewing its related hypothesis, result, and any conclusions specific to that hypothesis outside the collective implications of the experiment series as a whole. Second, I will discuss those collective implications, connecting this work to the fields of linguistics and psychology as well as to the studies' generalizability to the behavior or daily life. Third, I will iterate several limitations of my work that may impact interpretation of the current study as well as future study design. Fourth, I will recommend future research to expand upon and further develop the themes and results of this thesis.

5.1 Conclusions

This section will review my hypotheses, draw conclusions as to the validity of those hypothesis, and elaborate on the significance of my results.

5.1.1 Ambiguous Word Completion Task

In this task, participants completed a disguised prime in which they were exposed to neutral words, words intuitively selected as intuitive as altruistic during an initial pilot study, or words rated as highly altruistic by native English speakers.

5.1.1.1 Ambiguous Word Completion Task: Review of Related Hypothesis

Hypothesis 1: Subjects who are primed with an altruistic word will respond with fewer aggressive words in an ambiguous word-completion task than those subjects who complete a priming task with only neutral words.

Result: This hypothesis was supported, with reservations. This hypothesis was only supported when the original prime from the pilot study was used. Implications of this caveat will be discussed in section 5.1.1.2.

5.1.1.2 Specific Conclusions Regarding the Ambiguous Word Completion Task

To summarize, when exposed to the original prime, a set of words selected through intuition as “altruistic” for a pilot study, subjects age 26-45 responded with significantly fewer of the possible aggressive responses in the word-completion task, while the new prime created based on altruistic ratings showed no such effect. When the same age-based interaction is pursued in relation to the ratings-based priming condition, without excluding the self-aware subjects, results near significance, offering suggestive but not conclusive evidence for the validity of the ratings-based prime.

Although results indicate that exposure to an altruistic prime does in fact result in a decrease in the behavioral response of aggressive word selection, specifically for older participants, the most interesting result specific to this task lies in the lack of statistical significance of the new prime, when the original prime resulted in a significant change. A difference between the two primes' effects points to an intrinsic difference between the words

used in those primes, beyond that of altruistic content. More interesting is that both primes contained two identical words, *sympathetic* and *sacrifice*, leaving only four items (original prime: *responsibility, donate, compromise, help*, vs. new prime: *generous, charity, empathize, compassionate*) to effect the difference in participant response.

When the original prime words were selected, priority was put on words that did not only seem altruistic, but sufficiently common to not appear out of place and draw attention to the prime's purpose. This resulted in a much higher average frequency of original prime words compared to new prime words, mostly through use of the words *help* and *responsibility*. This may indicate an interaction between altruistic content and token frequency. More common words are more likely to activate a greater number of personal memories related to those words, resulting in more positive emotions and greater personalization. If affect is a mediating factor in the altruism-aggression relationship, the difference between primes may be accounted for with an increase in positive feeling.

5.1.2 Response Time Task

In this task, participants were asked to judge whether words were real English words or not, and indicate it as quickly as possible by pressing a computer button. However, the over nonce element was a distractor from the true purpose of the study. All target words were preceded by a briefly-presented prime. Response time was measured for all pairs, and when an aggressive word was preceded by an altruistic word, response time decreased, indicating a facilitatory priming effect.

5.1.2.1 Response Time Task: Review of Relevant Hypothesis

Hypothesis 2: Subjects who are primed with an altruistic word will respond slower when asked to identify an aggressive word than when asked to identify a neutral word.

Result: This hypothesis was not supported. However, this hypothesis was based on the assumption put forth that the ambiguous word-completion task was a valid measure of lexical accessibility. In finding significant results opposite of that expected, it is shown that assumption is incorrect. The change in response is therefore likely an indication of subconscious control. This will be further discussed in section 5.3.

5.1.2.2 Specific Conclusions Regarding the Response Time Task

As participants showed a significant increase in response time for an aggressive word preceded by an altruistic word as compared to every other possible combination, we can conclude that altruistic words facilitate activation of aggressive words, as would be predicted by traditional antonym-related research.

5.1.3 Slogan Prime Scenario

In this task, participants read a short story describing a fictional experience in which they

attempt to return spoiled milk to a grocery store. The store associate claims to be unable to help them, engaging in several ambiguously helpful or unhelpful behaviors. The customer does not successfully return the milk. During the story, participants twice viewed either a neutral (Serving Goods Since 1990.), entitled (Because You Deserve the Very Best!), or altruistic (Helping You Build a Better Life!) slogan. They then answered a series of questions to gauge their attitudes toward the associate and how likely they would be to pursue the matter further.

5.1.3.1 Slogan Prime Scenario: Review of Relevant Hypotheses

Hypothesis 3: Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a cooperative/altruistic store slogan. (ENTITLED VS. ALTRUISTIC CONDITION)

Result: This hypothesis was supported, in interaction with age, gender, and overall question framing. Further conclusions will be discussed in Section 5.1.3.2.

Hypothesis 4: Subjects who are exposed to an exclusively-consumer-centered/selfish store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it more negatively than those who are exposed to a neutral store slogan. (ENTITLED VS. NEUTRAL CONDITION)

Result: This hypothesis was supported, in interaction with age, gender, and overall question framing. Further conclusions will be discussed in Section 5.1.3.2.

Hypothesis 5: Subjects who are exposed to a cooperative/altruistic store slogan in a short story about an ambiguous customer service scenario will rate the customer service representative depicted in it less negatively than those who are exposed to a neutral store slogan.

(ALTRUISTIC VS. NEUTRAL CONDITION)

Result: This hypothesis was supported, in interaction with age, gender, and overall question framing. Further conclusions will be discussed in Section 5.1.3.2.

Hypothesis 6: Scores on the Narcissistic Personality Inventory will interact with the main effect described in the first two hypotheses discussed in this section, causing a greater increase in negativity when the subject has a higher NPI score.

Result: This hypothesis was not supported. However, any effect may have been disguised by ordering effects, as experimental conditions were found to affect scores on the later-presented NPI.

Hypothesis 7: Subjects with a higher score on the Social Vigilantism Measure will indicate a higher likelihood of pursuing further action to resolve their customer service problem, but even more so in the selfish slogan condition described in the first two hypotheses described here.

Result: This hypothesis was not supported. However, any effect may have been disguised by ordering effects, as experimental conditions were found to affect scores on the later-presented Social Vigilantism scale.

5.1.3.2 Specific Conclusions Regarding the Slogan Prime Scenario

The entitled slogan priming condition demonstrated significant effects on the customers' perception of impoliteness and how likely they claimed they would be to pursue further action. Subjects age 26 and older reported that they were more likely to pursue further action, and, although post-hoc tests were unable to confirm, the graph may indicate a similar effect in how polite subjects 26+ found the associate. The entitled slogan prime, in combination with the set of questions they viewed (see 7.1.5.2.3) and their age or gender, is also associated with a change in participants' Social Vigilantism scores; males rose in social vigilantism when exposed to Question Set 1 under this condition. As social vigilantism was shown in the non-experimental covariates section to be positively correlated with ratings of associate helpfulness and negatively correlated with ratings of associate impoliteness, exposure to the entitled slogan may be further connected via its temporary effects on personality.

The altruistic slogan priming condition demonstrated significant effects on how polite and/or reasonable subjects' rated the associate, as well as how likely the subjects claimed they would be to pursue further action. Question set was also found to interact. Participants who were exposed to Question Set 1 generally affirmed the qualities under which the question

framed, with the exception of ratings of impoliteness, which responded negatively to framing. Effects were specifically noted in males. The Altruistic Slogan prime, in combination with age, was also found to have a significant effect on NPI scores; it appears the effect may be strongest in subjects of the upper age category.

Framing differences also interacted with age and gender. Subjects 26 and over exposed to the questions that more commonly framed the store in a positive light (helpful, impolite, reasonable, unlikely) score higher on the NPI, while exposure to the alternative question set was associated with a drop in score, and while subjects 26+ rated the associate as less helpful than subjects 18-25 did, the effect was greater for those exposed to the more negative question set (which specifically asked, regarding this quality, “How unhelpful was the associate?”).

Finally, variables outside my primary focus were also found to have an effect. Changes in both Social Vigilantism scores and NPI scores were found to be related to the interaction of both age and gender; and age interacted with question set to affect both NPI scores and ratings of helpfulness.

Across the board, specific group comparisons revealed that most of the effects were found in subjects 26 and over, as opposed to the age 18-25 category, and in male participants. One notable exception is the change found in social vigilantism score as predicted by age and gender: in that case, males in the younger category exhibited the distinctive change. However, that may explain the somewhat contradictory results found in the entitled slogan priming condition. Although a higher social vigilantism score is associated with more positive ratings of the store associate, and the entitled slogan was associated with an increase in social vigilantism score, participants age 26 and older demonstrated an apparent increase in hostile, or

confrontational feelings toward the store. However, if the increase in store-positive social vigilantist attitudes by exposure to the entitled prime is limited to the 18-25 demographic, that may counter the negative effect of the naturally confrontation-provoking timbre of the selfish slogan, leaving only subjects age 26 and over to demonstrate the trend.

Another apparent contradiction lies in the interactions involving question framing. While the two question sets were developed out of a simple desire to be as thoroughly neutral as possible in the stimulus, I did not expect that the issue would become so pivotal to my results. In what appears to be a strange shift in trend, while positive framing of likelihood to pursue further action (asking how likely the subject was, rather than how unlikely they were) and how reasonable the associate was resulted in a confirming effect when combined with the altruistic slogan, asking how polite the associate was resulted in an increase in how impolite he was rated, while asking how impolite he was resulted in a decrease in impoliteness score. One possible explanation for this change is that American culture encourages a reactionary attitude towards being asked to judge another's politeness. However, a perhaps better explanation is that framing effects are not limited to merely the question at hand, but that the positive framing of the other questions carried over to create a positive effect even on the negatively-framed question, and vice versa. The negatively-framed question tracked with the other, positively-framed questions in its set. Although ordering effects were not studied within the course of this research, future work in the framing of multiple questions presented as a set may show that a single negative question, buried under multiple positive questions may consistently show a more positive response.

An additional theme is that of the increased effect slogan manipulation had on men and

on subjects in the older age group. It is unclear what may have caused this finding, but multiple possibilities suggest themselves. A first possibility lies in the historical confounds inherent to cross-sectional research. Generational differences apparent in the juxtaposition of 25-and-unders with those over 26 may highlight differences between those born in the late eighties-to-early-nineties and those born prior to the characteristics of that era. The nineties saw a huge increase in the availability of personal technology – the increase in technology use at a young age may have brought about a change in social interaction or values that increased male focus on advertising messages while desensitizing females. It's also possible that the primary life activities of the two groups contains a significant shift – the years between age 18 and 25 are generally the time middle-class Americans, of which most of my participants are likely to be, go to college. Subjects 25 and older are much more likely to be entering or have entered a time in which they are more solely responsible for their own livelihood. Subjects of college age may feel less in control of or less responsible for their personal finances, leading to a decreased conscientiousness toward small financial injustices – it's possible that even those who are still students in the 26 and over category feel increased pressure to finish and are thus more concerned with conserving their resources in order to focus all assets on the goal. Subjects in the younger category are also of an age where many Americans support themselves with work in the kind of customer service position in which the fictional associate works, increasing empathy and lowering the expectations of vigorous action. Finally, there may be inherent gender differences at play. Men may view the stated goals of a business as exemplified by a slogan as an implicit contract between consumer and corporation, a mentality perhaps encouraged by the supposed Culture of Rights on the rise in recent American society.

5.2 Implications

These results highlight the apparent contradiction between psychology and linguistics discussed earlier. Dewall and Bushman, in their use of the ambiguous word completion task, referred to it as a measure of the “access of aggressive cognitions” (2009, p. 2), a reasonable analogue to the phrase “cognitive accessibility.” However, the response time task, a method much more common and well-supported in the field of cognitive accessibility, demonstrated opposite results.

This conflict highlights my reasoning for pursuing this line of study beyond the original pilot study. Based on informal conversations with several participants from that experiment, I gathered that many subjects exerted some control over their answers. In an untimed, ambiguous task, multiple answers came to mind, even within the first second or two, and participants had some ability to choose, consciously or unconsciously, which of those answers they preferred to give as a response. One subject said they liked putting down more interesting or obscure words, while another commented that they were nervous at the prospect of being studied, and they spent the task concerned that somehow their answers would make them seem “crazy.”

By comparing the two methods we can see that this sort of ambiguous word completion is not an entirely valid measure of true lexical accessibility. It is clear from the response time experiment that altruistic items do in fact facilitate lexical access rather than blocking it. However, the reluctance to answer with aggressive items than altruistically-primed subjects demonstrated, deliberate or not, is an interesting insight into the relationship between lexical

accessibility and behavior. Although scholars like Greitemeyer and Osswald have demonstrated a relationship between explicit thoughts and behavior (2010), a mere increase in lexical accessibility may not have the same behavioral impact as fully-formed thoughts. Despite the increased availability of aggressive items, participants were not defined by that ease of access, and, indeed, acted against it.

It may seem possible to attribute these results merely to the limits of action – that one may not pursue more than one action at a time, and so an increase in prosocial behavior necessitates a decrease in antisocial behavior. Priming with altruistic concepts would naturally increase altruism, an effect which may mask the slight associated increase in the related concepts of aggression as one may not generally display both types of behavior simultaneously. However, due to the nature of the measure used herein, the ambiguous word completion task, the decrease in aggression-related behavior (selection of aggressive words) was not measured against an infinite continuum of other possible choices, but the alternative option of neutral action, related neither to aggression nor to altruism. Only two of the ambiguously aggressive/non-aggressive items allowed for the possibility of an altruism-related answer (ki__ = kiss or kind, and sm__e = smile), and participants in the affected condition responded with those words no more often than those in any other, much less to a sufficient extent to account for the average difference in mean of 2.2.

These results resolve the tension between the fields of psychology and linguistics on this matter. As discussed in chapter 2, linguistics has shown that related lexical items in a single language generally facilitate access one to the other, but the field of psychology has shown that the related concepts of altruism and aggression appear to inhibit each other as expressed in

automatic behavior. By clarifying the difference between cognitive activation and deliberate expression, we may conclude that there is a difference between the uncontrolled pre-thought formed by the free association of the mind, and the more agentive thought leading to action. Indeed, it appears that, just as the relationship between thought and behavior is marked by an increase in the deliberate exercise of agency, with deliberate action having a stronger and more lasting effect on the self, thought exists on a similar plane, with levels of intent distinguishing the subconscious effects it has on the individual having such thoughts.

The multiple levels of linguistic processing evident from this discussion hold important implications for other arenas in the field. In language acquisition, results in lexical accessibility studies are often conceptually extended beyond the range of simple ease of access; quite often, improved or inhibited accessibility is used to indicate improved or inhibited likelihood or ease of use. Of course, here we have not examined concepts that display inhibitory priming at the cognitive accessibility level, but we have certainly demonstrated a difference between increased accessibility and increase in real-life usage. A second-language learner that demonstrates increased lexical accessibility under optimum conditions may not in fact demonstrate faster or less effortful speech. Based on these results, language must undergo additional, culturally-, personally-, or situationally-founded processing after the linguistic elements have already been assembled.

Furthermore, in addition to comparing the ambiguous word completion task to the response time results, so we can compare the results of each of those to the results of the contextualized slogan study. By recreating a more realistic facsimile of a real-life situation, the slogan study allows us to determine how this interplay of aggression and altruism behaves in a more complex

situation with multiple competing factors. If participants were sufficiently invested in the story, as directed in the instructions and encouraged by the second-person-framed personalization of the reader in the text, reading the story should have activated sufficient memories of their own consumer experiences to cue the emotional and cognitive state close to similar real-life judgment-making scenarios. When they were asked to imagine dealing with this customer service associate displaying so many ambiguous behaviors (Was he hungover or merely tired? Was he tired from being overworked, perhaps opening the store only hours after he had to work to close the night before, or was he tired from being up all night playing Halo with his friends? Did he not pursue further action because there truly was no other recourse and his boss was a raging asshole, or did he just want the customer to go away so he could go back to his game of solitaire?), elements of culturally-embedded processing proliferate.

The confirmation of the ambiguous word completion task trend in the slogan scenario results adds continued support to our adding of additional culturally-relevant ideas to the adaptive system of language processes. Whether that is due to the activation of memory, the addition of affect, or the reflection on one's self that investment in a personally abhorrent concept would bring is unknown, but the implications for marketing, law, and even personal relationships remain.

As a result of these studies, we may be able to recommend that advertisers avoid entitled primes in favor of altruistic ones. Lawyers wishing to bring jury favor more in line with their agenda may choose their framing techniques to sway opinion. In dealing with an uncomfortable discussion with a friend, loaded my words with altruistic terms and speaking to encourage cooperation and mutual aid should lower hostile biases and facilitate a positive conclusion.

5.3 Assumptions and Delimitations

One of the primary assumptions inherent to all social research is that of sample representativeness. Due to the limits of my resources, the majority of all my samples were drawn from Brigham Young University students, and social contacts.

The nature of this sample certainly brought some level of homogeneity to my participants. Although certain shared characteristics are accepted in any social study, and certain characteristics were requisite to my research question, as I was only interested in concepts derived from the culture of contemporary American society, these participants may have been unfortunately specific beyond the desired level.

Brigham Young University is a private university owned by the Church of Jesus Christ of Latter-day Saints. As much, the great majority of its students are members of that religion, and the majority of those were raised as members in religiously active families. In addition, as a member of the same church myself, many of my social contacts are also members, or are individuals with qualities acceptable to me through the lens of my religious ideals. Because concepts of altruism and aggression are so commonly discussed in Judeo-Christian religious media, and prosocial/antisocial behavior is so commonly linked to religiosity, it is possible that these differences of representativeness are in fact relevant to the question at hand. The factor of religiosity, or even of lifetime exposure to religious concepts, could not be addressed within the bounds of this study and so may pose a confound to the results of my research.

Furthermore, each of these experiments, by virtue of their design, come with the

limitations of formally-designed and controlled study. Although many of my methods have been used before, as described in Chapters 1 and 2, asking participants to perform language tasks via internet survey or through computer software in designated labs, answering multiple choice questions and trying to imagine themselves in hypothetical situations, is an extremely unnatural situation. As this work on priming has demonstrated, humans are constantly influenced by numerous factors below their conscious threshold, and even the most honest, conscientious participant does not always know themselves so well as to perform the way they might in spontaneous interactions, nor does the laboratory accurately reproduce the interaction necessary for the natural human communication of other contexts. These results must be taken as suggestive of linguistic behavior rather than definitive proof of any causal relationship or neurological fact.

5.4 Recommendations for Future Research

The varied and unprecedented conclusions to which this project has come pose several new areas of interesting research.

First, a recurring theme throughout the work has been the possibility that memory activation is mediating the relationship between exposure to certain types of language and subsequent perceptions or behaviors in the subject. Future work should isolate the memory-activation paradigm and test whether individual lexical items can facilitate or trigger memory recall. This may crossover with the work of Dr. James Pennebaker, as he has sought to understand the relationship between expressing memory through linguistic behavior and the

emotional catharsis such expression can provide (Pennebaker, 1997, 1997)).

Second, the possibility of a new level of linguistic processing, in which the producer accessed social and personal constructs of implication, creates a need for a new line of psycholinguistic research, in which pre-thought and thought may be juxtaposed and compared. The possibility of a new level not only hints at a dedicated space for the processing of linguistically relativistic information, but also points toward a less restrictive form of linguistic relativity itself – if one can produce language at a lesser depth, before such sociological processing takes place, it is not language that stands as a prison guard to our behavior, but our more conscious minds.

Third, the discussion of framing effects evident in the Slogan Prime Scenario beg further scrutiny. Care should be taken to examine not only the effects of question form, but the collective effects of groups of questions. If the general tenor of a interrogation, interview, or other exploratory discussion is negative or threatening, that may color any more positive, rapport-building efforts thrown in to break up the bleak monotony.

Finally, the issue posed by the religious qualities of the subjects should be addressed with additional testing. Not only should the study be repeated in a less religious environment, but the connection between altruistic/aggressive language and religion itself may be pursued. If exposure to altruistic language is activating religious concepts and religiously-acceptable behavior in the participants, that relationship should arise in the same tests that show a decrease in aggression.

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7 Appendices

7.1 Appendix A: Experiment Materials

7.1.1 Recruitment Scripts

7.1.1.1 Recruitment Scripts for Online Surveys

Classroom Announcement

I am/A graduate student in the Linguistics department is looking for American English speakers to participate in an online study. It can be accessed from any computer, and should take no longer than half an hour to complete. Participation is voluntary, and subjects will remain anonymous. If you would be willing to participate, please visit this web address. [Students will be given a card with the online survey address, the researcher's contact information, and the title "American English Online Study".]

Social Networking Announcements

I am conducting a research study on American English speakers. Participation takes no more than half an hour. If you would be willing to participate, please visit this site. [URL]

Email

A graduate student in the BYU Linguistics and English Language department is looking for American English speakers to participate in an online study. It can be accessed from any computer, and should take no longer than half an hour to complete. Participation is voluntary, and subjects will remain anonymous. If you would be willing to participate, please visit this web address. [URL]

7.1.1.2 Recruitment Scripts for In-Person Experiment

Classroom Announcement

I am/a graduate student in the Linguistics department is looking for American English speakers to participate in an online study. It will be performed at a lab on campus, and it will take fifteen minutes to complete. Participation is voluntary. If you would be willing to participate, please sign up for a time here. [Students will be passed a sign-up sheet with the room number, the researcher's contact information, and the title "American English Online Study".]

Social Networking Announcements

I am conducting a research study on American English speakers. Anyone who can travel to BYU campus is welcome to participate. The study takes no longer than fifteen minutes. If you would be willing to participate, please message me with times you might be available.

Email

A graduate student in the BYU Linguistics and English Language department is looking for American English speakers to participate in an online study. It will be performed at a lab on campus, and it will take fifteen minutes to complete. Participation is voluntary. If you would be willing to participate, please email Annie Lewis at [redacted].

7.1.2 Materials for Pre-Study Ratings Task

7.1.2.1 Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Ann Lewis, a Master's student at Brigham Young University to determine how young adults complete certain linguistic tasks. You were invited to participate because you are a native speaker of American English.

Procedures

If you agree to participate in this research study, the following will occur:

1. You will see a series of words in English.
2. After each word, you will be asked to rate it for several possible connotations.
3. Following that, you will have the opportunity to give or decline information regarding your demographics.
4. The surveys will be delivered now, through the online system; there will be no future commitment.
5. Total time commitment will be approximately five to fifteen minutes.

Risks/Discomforts

There are minimal risks for participation in this study. However, if you feel uncomfortable in any way, you may choose to discontinue the study by closing the window or navigating away at any time.

Benefits

There will be no direct benefits to you.

Confidentiality

The research data will be kept on a secure server, and only the researcher will have access to the data. At the conclusion of the study, all personally identifying information will be removed and the data will be stored on the researcher's personal computer.

Compensation

There is no compensation for participation in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your class status, grade or standing with any university or other organization.

Questions about the Research

If you have questions regarding this study, you may contact Ann Lewis, at [redacted], [redacted].

Questions about your Rights as Research Participants

If you have questions regarding your rights as a research participant, you may contact IRB Administrator, [redacted], A-285 ASB Campus Drive, Brigham Young University, Provo, UT 84602, [\[redacted\]](#).

By checking “I accept” below, I signify that I have read, understood, and received a copy of the above consent (you may save this page, or contact the researcher for a digital copy of this consent) and desire of my own free will to participate in this study.

If you do not accept and do not wish to participate in this study, you may close your browser or

navigate away from this page.

__ I Accept

7.1.2.2 Experiment

Instructions:

Please consider each word and answer the questions. If a word has more than one possible meaning, please answer based on the meaning you think of first, or you feel fits it best.

Questions:

How associate with altruism is this word?

How associated with aggressiveness is this word?

How positive/negative is this word?

(Likert scales from 1-7 were presented with one directionality in one version of the question set, and the opposite directionality in the second version. Responses in the second version were reverse-coded and averaged in with the alternative set in order to account for directional bias.)

Words (expected altruistic words marked in grey italics, neutral in standard black):

Compassionate	Sweet	Patience	Considerate	Tender
Gentle	Thoughtful	Kind	Tolerant	Faithful
Responsible	Adore	Loyal	Soothe	Praise
Love	Sympathetic	Donate	Sacrifice	Hope
Comfort	Give	Volunteer	Charity	Compromise
Empathize	Entertain	Support	Contribute	Help
Caring	Helpful	Heal	Together	Generous
Aid	Ease	Assist	Friendly	Welcome
Appreciate	Devote	Surrender	Commend	Honor
Thank	Gratitude	Grace	Apology	Confess
Approve	Accept	Award	Warmth	Affectionate
Console	Pity	Trust	Unity	Store
Leave	Look	Dinner	Eat	Talk
Cat	Call	Accountant	Whistle	Want
Come	Bought	House	Sink	Barking
Dog	Drop	Pound	Creak	Fall
Phone	Answer	Chair	Speed	Casserole

Brush	Make	Dessert	Swept	Floor
Spun	Tree	Plan	Turn	Sing
Late	Tired	Ask	Reach	Move
Flight	Tour	Comb	Hair	Chair
Sit	Car			

7.1.3 Materials for Ambiguous Word-Completion Task

7.1.3.1 Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Ann Lewis, a Master's student at Brigham Young University to determine how young adults complete certain linguistic tasks. You were invited to participate because you are a native speaker of American English.

Procedures

If you agree to participate in this research study, the following will occur:

1. first, you will create complete sentences from scrambled sets of words.

2. second, you will see words with letters missing, and complete them.
3. following that, you will have the opportunity to give or decline information regarding your demographics.
4. the surveys will be delivered now, through the online system; there will be no future commitment.
5. total time commitment will be approximately ten to thirty minutes.

Risks/Discomforts

There are minimal risks for participation in this study. However, if you feel uncomfortable in any way, you may choose to discontinue the study by closing the window or navigating away at any time.

Benefits

There will be no direct benefits to you.

Confidentiality

The research data will be kept on a secure server, and only the researcher will have access to the data. At the conclusion of the study, all personally identifying information will be removed and the data will be stored on the researcher's personal computer.

Compensation

There is no compensation for participation in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your class status, grade or standing with any university or other organization.

Questions about the Research

If you have questions regarding this study, you may contact Ann Lewis, at [redacted], [redacted].

Questions about your Rights as Research Participants

If you have questions regarding your rights as a research participant, you may contact IRB Administrator, [redacted], A-285 ASB Campus Drive, Brigham Young University, Provo, UT 84602, [\[redacted\]](#).

By checking “I accept” below, I signify that I have read, understood, and received a copy of the above consent (you may save this page, or contact the researcher for a digital copy of this consent) and desire of my own free will to participate in this study.

If you do not accept and do not wish to participate in this study, you may close your browser or navigate away from this page.

I Accept

7.1.3.2 Experiment

7.1.3.2.1 Sentence Completion Section

Instructions:

In this section, you will be presented with sets of five words in scrambled order. Please form a complete, four-word sentence using four of the five words given for each set.

[Page Break]

sue they to cars plan

the left store to they

[etc.]

List of Stimulus Sets and Targets:

New Prime Word Sets	Target Sentences
so people she generous is	She is so generous
have a should charity little	Have a little charity
sacrificed he want lot a	He sacrificed a lot
empathize you bought why can't	Why can't you empathize
is very he they sympathetic	He is very sympathetic
like compassionate I people chair	I like compassionate people
Original Prime Word Sets	Target Sentences
your is responsibility if that	That is your responsibility
sacrificed he want lot a	He sacrificed a lot
she chairs ate some donated	She donated some chairs
look compromise a reached they	They reached a compromise
is very he they sympathetic	He is very sympathetic
we move where them helped	We helped them move
Neutral Word Sets	Neutral Target Sentences
the left store to they	They left the store
*we looked dinner ate already	We already ate dinner
*him hers to talked I	I talked to him
cat your called today sister	Your sister called today
come whistles she to wants	She wants to come

a bought house sinks he	He bought a house
*said barking the was dog	The dog was barking
*that dropped something woman pound	That woman dropped something
creaked man the down fell	The man fell down
*phone I answered house the	I answered the phone
made speed salad I the	I made the salad
*we casserole make will dessert	We will make dessert
*the you swept floor spun	You swept the floor

*Word set used in all three conditions.

7.1.3.2.2 Aggressive Cognitions Measure

(Materials gathered from XXXX.)

In the next section, you will see words that are missing certain letters. As quickly as possible, write the complete word in the blank field below each one.

[Page Break]

b _ h _ _ _

in__re

ex_e__

mu__er

[etc.]

Full List of Aggressive Cognition Stimulus Words

b_h___	p__son	_ry	prov__e
in__re	p_st_r	wa_	p_nb_ll
ex_e__	m__gle	f_m_	out___e
mu__er	bl_nd	sl_p	c_ll
pr__e	sn_re	b__k	r_de
spea_	b_e	r_pe	m_n_ge
fli__er	h_t	fo_e_t	ins___
expl__e	g__pe	off___	s_d_

w__m	sm_ck	l__on	b__t
ki__	sm__e	cr__l	br__ze
t_p_	kn___	c_e_te	rev__t
h_r_	t_ne	st_r_y	coo_
a_t_r	s__b	m_tc_	s__y
cho_e	sh_r_	f_r__	d__r
s_mp__	dr__n	t__te	sm_ck
att_c_	p__ne	n__t_	fr__t
c_mp__t	ang__	w__d_w	_unch
des_____	fl__t	w__ked	sh_re
sh_l_	fi__t	vis__n	a_use
sho_t	p_ck	en_age	cl__r
r_p__t	ha_e	scr__n	h_nt
str__e	a_t	h_tr_d	w_t_r
l__e	c_t	t_l_ph___	s_ash
b_rn	w_n	dis__s_ed	
st_r_o	a_e	c_nt__l	

7.1.3.2.3 Awareness Control

What did you think this study was testing? _____

7.1.3.2.4 Demographics Survey

What is your age?

18-25

26-35

36-45

46-55

55+

decline to answer

Are you:

male

female

decline to answer

7.1.4 Materials for Response Time Task

7.1.4.1 Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Ann Lewis, a Master's student at Brigham Young University to determine how young adults complete certain linguistic tasks. You were invited to participate because you are a native speaker of American English.

Procedures

If you agree to participate in this research study, the following will occur:

1. You will see pairs of words presented on the computer screen. The first word will only be shown for a short time.
2. You will indicate as quickly as possible whether the second word is a real English word or not by pressing a button on the computer keyboard.
3. When you have responded to all the words, you will have the opportunity to give or decline information regarding your demographics.
4. This is the only experiment for this study; there will be no future commitment.
5. Total time commitment will be approximately five to ten minutes.

Risks/Discomforts

There are minimal risks for participation in this study. However, if you feel uncomfortable in any way, you may choose to discontinue the study by closing the window or navigating away at any time.

Benefits

There will be no direct benefits to you.

Confidentiality

The research data will be kept on a secure server, and only the researcher will have access to the data. At the conclusion of the study, all personally identifying information will be removed and the data will be stored on the researcher's personal computer.

Compensation

There is no compensation for participation in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your class status, grade or standing with any university or other organization.

Questions about the Research

If you have questions regarding this study, you may contact Ann Lewis, at [redacted], [redacted].

Questions about your Rights as Research Participants

If you have questions regarding your rights as a research participant, you may contact IRB Administrator, [redacted], A-285 ASB Campus Drive, Brigham Young University, Provo, UT

84602, [redacted].

By initialing “I accept” below, I signify that I have read, understood, and received a copy of the above consent (you may save this page, or contact the researcher for a digital copy of this consent) and desire of my own free will to participate in this study.

_____ I Accept

7.1.4. 2 Experiment

7.1.4.2.1 DMDX Script

The first two digits of each experimental item indicates the condition. The first column indicates the priming word condition, the first column indicates the target word condition.

1 in the first column = altruistic word

1 in the second column = aggressive word

5 = nonce word

9 = in the first column = neutral word from Pre-Study Ratings Task

9 in the second column = non-aggressive word as listed in XXX

<ep><azk> <cr> <fd 75><d 70> <t 2500> <vm 1024, 768, 768, 32, 60> <id keyboard> <mnr +Left Shift> <mpr

+Right Shift> <nfb> <dbc 255255255> <dwc 0><s 1><g 1><eop>

\$

0<ln -9> "In this study you will see words on the screen.",

<ln -8> "Some will flash very quickly, some will stay on the screen for a moment.",

<ln -7> "Your job is to decide if the word that stays is a real English word or not.",

<ln -6> "If it is a real word press the RIGHT SHIFT key.",

<ln -5> "If it is not a real word press the LEFT SHIFT key.",

<ln -4> "Now, put your left index finger on the LEFT shift key",

<ln -3> "and your right index finger on the RIGHT shift key.",

<ln -2> "Let's do some practice words so you know what to expect.",

<ln -1> "Please try to answer as quickly and as accurately as possible.",

<ln +4> "READY?",

<ln +9> "Press the spacebar to start the practice words.";

+10000 <fd 8> "frock" / * "door"/;

+10000 <fd 8> "smell" / * "pizza"/;

-10000 <fd 8> "elbow" / * "renk"/;

+10000 <fd 8> "happy" / * "chair"/;

0<ln -3> "Sorry, that might have been a little sudden.",

<ln -2> "Let's try that one more time.",

<ln -1> "Remember to answer as quickly and as accurately as possible.",

<ln 0> "Press the spacebar to begin.";

+10000 <fd 8> "envelope" / * "claw"/;

-10000 <fd 8> "cart" / * "purple"/;

-10000 <fd 8> "endow" / * "neak"/;

-10000 <fd 8> "shell" / * "slorred"/;

0<ln -3> "Now that you know what to expect let's start the study.",

<ln -2> "It will take about 6 minutes to complete.",

<ln -1> "Remember to answer as quickly and as accurately as possible.",

<ln 0> "Press the spacebar to begin.";

\$

+99001 <fd 8> "floor" / * "knack"/;

+99002 <fd 8> "spun" / * "hire"/;

+99003 <fd 8> "tree" / * "cat"/;

+99004 <fd 8> "plan" / * "person"/;

+99005 <fd 8> "turn" / * "ferry"/;

+99006 <fd 8> "sing" / * "lyre"/;

+99007 <fd 8> "late" / * "chose"/;

+99008 <fd 8> "tired" / * "furry"/;
+99009 <fd 8> "ask" / * "grape"/;
+99010 <fd 8> "reach" / * "cat"/;
+99011 <fd 8> "move" / * "muster"/;
+99012 <fd 8> "flight" / * "hotrod"/;
+99013 <fd 8> "tour" / * "hart"/;
+99014 <fd 8> "comb" / * "repeat"/;
+99015 <fd 8> "hair" / * "taste"/;
+99016 <fd 8> "sit" / * "insure"/;
+99017 <fd 8> "car" / * "vision"/;
+99018 <fd 8> "make" / * "match"/;
+99019 <fd 8> "casserole" / * "smock"/;
+99020 <fd 8> "speak" / * "stereo"/;
+99021 <fd 8> "call" / * "type"/;
+99022 <fd 8> "eat" / * "hat"/;
+99023 <fd 8> "dinner" / * "create"/;
+99024 <fd 8> "dog" / * "smock"/;
+99025 <fd 8> "sink" / * "ant"/;
+99026 <fd 8> "house" / * "sample"/;
+99027 <fd 8> "chair" / * "sturdy"/;
+99028 <fd 8> "want" / * "ripe"/;
+99029 <fd 8> "barking" / * "behalf"/;

+99030 <fd 8> "speed" / * "float"/;
+91001 <fd 8> "store" / * "behead"/;
+91002 <fd 8> "leave" / * "injure"/;
+91003 <fd 8> "look" / * "murder"/;
+91004 <fd 8> "dinner" / * "mugger"/;
+91005 <fd 8> "eat" / * "spear"/;
+91006 <fd 8> "talk" / * "explode"/;
+91007 <fd 8> "cat" / * "wham"/;
+91008 <fd 8> "call" / * "kick"/;
+91009 <fd 8> "accountant" / * "kill"/;
+91010 <fd 8> "whistle" / * "hurt"/;
+91011 <fd 8> "want" / * "harm"/;
+91012 <fd 8> "come" / * "choke"/;
+91013 <fd 8> "bought" / * "attack"/;
+91014 <fd 8> "house" / * "destroy"/;
+91015 <fd 8> "sink" / * "despise"/;
+91016 <fd 8> "barking" / * "shoot"/;
+91017 <fd 8> "dog" / * "rapist"/;
+91018 <fd 8> "speak" / * "strike"/;
+91019 <fd 8> "pound" / * "strafe"/;
+91020 <fd 8> "creak" / * "burn"/;
+91021 <fd 8> "fall" / * "poison"/;

+91022 <fd 8> "phone" / * "mangle"/;
+91023 <fd 8> "answer" / * "snare"/;
+91024 <fd 8> "chair" / * "hit"/;
+91025 <fd 8> "speed" / * "smack"/;
+91026 <fd 8> "casserole" / * "smite"/;
+91027 <fd 8> "brush" / * "knife"/;
+91028 <fd 8> "make" / * "stab"/;
+91029 <fd 8> "dessert" / * "snub"/;
+91030 <fd 8> "swept" / * "drown"/;
+19001 <fd 8> "compassionate" / * "horn"/;
+19002 <fd 8> "sweet" / * "attics"/;
+19003 <fd 8> "patience" / * "angle"/;
+19004 <fd 8> "considerate" / * "after"/;
+19005 <fd 8> "tender" / * "blend"/;
+19006 <fd 8> "gentle" / * "worm"/;
+19007 <fd 8> "thoughtful" / * "fame"/;
+19008 <fd 8> "kind" / * "newts"/;
+19009 <fd 8> "tolerant" / * "shore"/;
+19010 <fd 8> "faithful" / * "window"/;
+19011 <fd 8> "responsible" / * "clear"/;
+19012 <fd 8> "adore" / * "call"/;
+19013 <fd 8> "loyal" / * "suds"/;

+19014 <fd 8> "soothe" / * "lemon"/;
+19015 <fd 8> "praise" / * "compact"/;
+19016 <fd 8> "love" / * "coop"/;
+19017 <fd 8> "sympathetic" / * "report"/;
+19018 <fd 8> "donate" / * "hare"/;
+19019 <fd 8> "sacrifice" / * "lake"/;
+19020 <fd 8> "hope" / * "drawn"/;
+19021 <fd 8> "comfort" / * "phone"/;
+19022 <fd 8> "give" / * "stay"/;
+19023 <fd 8> "volunteer" / * "tone"/;
+19024 <fd 8> "charity" / * "central"/;
+19025 <fd 8> "compromise" / * "insert"/;
+19026 <fd 8> "empathize" / * "knead"/;
+19027 <fd 8> "entertain" / * "prose"/;
+19028 <fd 8> "support" / * "lime"/;
+19029 <fd 8> "contribute" / * "forest"/;
+19030 <fd 8> "help" / * "bronze"/;
+11001 <fd 8> "caring" / * "angry"/;
+11002 <fd 8> "helpful" / * "fight"/;
+11003 <fd 8> "heal" / * "hate"/;
+11004 <fd 8> "together" / * "cut"/;
+11005 <fd 8> "generous" / * "war"/;

+11006 <fd 8> "aid" / * "fume"/;
+11007 <fd 8> "ease" / * "slap"/;
+11008 <fd 8> "assist" / * "rape"/;
+11009 <fd 8> "friendly" / * "offend"/;
+11010 <fd 8> "welcome" / * "cruel"/;
+11011 <fd 8> "appreciate" / * "force"/;
+11012 <fd 8> "devote" / * "fired"/;
+11013 <fd 8> "surrender" / * "nasty"/;
+11014 <fd 8> "commend" / * "wicked"/;
+11015 <fd 8> "honor" / * "enrage"/;
+11016 <fd 8> "thank" / * "hatred"/;
+11017 <fd 8> "gratitude" / * "provoke"/;
+11018 <fd 8> "grace" / * "outrage"/;
+11019 <fd 8> "apology" / * "rude"/;
+11020 <fd 8> "confess" / * "insult"/;
+11021 <fd 8> "approve" / * "beat"/;
+11022 <fd 8> "accept" / * "slay"/;
+11023 <fd 8> "award" / * "smack"/;
+11024 <fd 8> "warmth" / * "punch"/;
+11025 <fd 8> "affectionate" / * "abuse"/;
+11026 <fd 8> "console" / * "slash"/;
+11027 <fd 8> "pity" / * "mugger"/;

+11028 <fd 8> "trust" / * "smack"/;
+11029 <fd 8> "unity" / * "destroy"/;
+11030 <fd 8> "tender" / * "kill"/;
-15001 <fd 8> "contribute" / * "denile"/;
-15002 <fd 8> "praise" / * "mellet"/;
-15003 <fd 8> "volunteer" / * "fale"/;
-15004 <fd 8> "entertain" / * "prote"/;
-15005 <fd 8> "faithful" / * "ment"/;
-15006 <fd 8> "kind" / * "sader"/;
-15007 <fd 8> "love" / * "crost"/;
-15008 <fd 8> "sweet" / * "sepable"/;
-15009 <fd 8> "adore" / * "yark"/;
-15010 <fd 8> "gentle" / * "hoat"/;
-15011 <fd 8> "empathize" / * "whake"/;
-15012 <fd 8> "considerate" / * "arple"/;
-15013 <fd 8> "charity" / * "quink"/;
-15014 <fd 8> "sympathetic" / * "exherb"/;
-15015 <fd 8> "thoughtful" / * "rouled"/;
-15016 <fd 8> "loyal" / * "nides"/;
-15017 <fd 8> "help" / * "fluped"/;
-15018 <fd 8> "compassionate" / * "doan"/;
-15019 <fd 8> "tolerant" / * "henner"/;

- 15020 <fd 8> "give" / * "clongs"/;
- 15021 <fd 8> "responsible" / * "versallate"/;
- 15022 <fd 8> "donate" / * "barson"/;
- 15023 <fd 8> "compromise" / * "regord"/;
- 15024 <fd 8> "patience" / * "nesh"/;
- 15025 <fd 8> "soothe" / * "mipped"/;
- 15026 <fd 8> "comfort" / * "blick"/;
- 15027 <fd 8> "support" / * "uxen"/;
- 15028 <fd 8> "hope" / * "oddlle"/;
- 15029 <fd 8> "sacrifice" / * "rethaze"/;
- 15030 <fd 8> "affectionate" / * "rotch"/;
- 95001 <fd 8> "floor" / * "gord"/;
- 95002 <fd 8> "spun" / * "frasp"/;
- 95003 <fd 8> "tree" / * "herst"/;
- 95004 <fd 8> "plan" / * "kal"/;
- 95005 <fd 8> "turn" / * "olm"/;
- 95006 <fd 8> "sing" / * "pret"/;
- 95007 <fd 8> "late" / * "degrane"/;
- 95008 <fd 8> "tired" / * "nars"/;
- 95009 <fd 8> "ask" / * "derl"/;
- 95010 <fd 8> "reach" / * "grine"/;
- 95011 <fd 8> "move" / * "poss"/;

-95012 <fd 8> "flight" / * "brented"/;
-95013 <fd 8> "tour" / * "wesh"/;
-95014 <fd 8> "comb" / * "febs"/;
-95015 <fd 8> "hair" / * "cag"/;
-95016 <fd 8> "sit" / * "boel"/;
-95017 <fd 8> "car" / * "eldom"/;
-95018 <fd 8> "phone" / * "exle"/;
-95019 <fd 8> "casserole" / * "subfer"/;
-95020 <fd 8> "talk" / * "darity"/;
-95021 <fd 8> "come" / * "roal"/;
-95022 <fd 8> "leave" / * "ritter"/;
-95023 <fd 8> "brush" / * "whick"/;
-95024 <fd 8> "chair" / * "zink"/;
-95025 <fd 8> "whistle" / * "shett"/;
-95026 <fd 8> "dinner" / * "blump"/;
-95027 <fd 8> "creak" / * "seys"/;
-95028 <fd 8> "swept" / * "vean"/;
-95029 <fd 8> "pound" / * "risible"/;
-95030 <fd 8> "dessert" / * "quetch"/;

\$

```
0 <ln -2>"THE END. Thanks for your help!!",
```

```
<ln +2> "Please press ESC to exit";
```

```
$
```

7.1.4.2.2 Demographics Survey

What is your age?

What is your gender?

7.1.5 Materials for Slogan Prime Scenario

7.1.5.1 Consent Form

Consent to be a Research Subject

Introduction

This research study is being conducted by Ann Lewis, a Master's student at Brigham Young

University to determine how young adults complete certain linguistic tasks. You were invited to participate because you are a native speaker of American English.

Procedures

If you agree to participate in this research study, the following will occur:

1. first, you will read a short story describing a hypothetical situation in which you play the role of one of the characters.
2. second, you answer some questions regarding your reactions to the situation posed in that story.
3. third, you will read statements that may or may not describe you, and indicate either how much you agree with them, or which you identify with more.
4. finally, you will have the opportunity to give or decline information regarding your demographics.
5. all surveys will be delivered now, through the online system; there will be no future commitment.
6. total time commitment will be approximately ten to twenty minutes.

Risks/Discomforts

There are minimal risks for participation in this study. However, if you feel uncomfortable in any way, you may choose to discontinue the study by closing the window or navigating away at any time.

Benefits

There will be no direct benefits to you.

Confidentiality

The research data will be kept on a secure server, and only the researcher will have access to the data. At the conclusion of the study, all personally identifying information will be removed and the data will be stored on the researcher's personal computer.

Compensation

There is no compensation for participation in this study.

Participation

Participation in this research study is voluntary. You have the right to withdraw at any time or refuse to participate entirely without jeopardy to your class status, grade or standing with any university or other organization.

Questions about the Research

If you have questions regarding this study, you may contact Ann Lewis, at [redacted], [redacted].

Questions about your Rights as Research Participants

If you have questions regarding your rights as a research participant, you may contact IRB Administrator, [redacted], A-285 ASB Campus Drive, Brigham Young University, Provo, UT

84602, [redacted].

By checking “I accept” below, I signify that I have read, understood, and received a copy of the above consent (you may save this page, or contact the researcher for a digital copy of this consent) and desire of my own free will to participate in this study.

If you do not accept and do not wish to participate in this study, you may close your browser or navigate away from this page.

I Accept

7.1.5.2 Experiment

7.1.5.2.1 Short Story

Instructions:

Please carefully read the short story below. It is a hypothetical situation in which you play the role of one of the characters. Try to imagine yourself actually going through this situation, and read it carefully. When you are done, please proceed to the next page.

Story:

One day, you stop after work to buy a new quart of organic milk from Landon's, your local grocery store. You plan to use it later that week, on Sunday, to cook dinner for some friends, but when you open it, it's spoiled. You borrow some milk from a neighbor to cook with, but you stop at Landon's before work to complain.

Outside, they have an enormous sign.

[sign]

Once inside, you wander for a minute, trying to find the customer service desk. Over the loudspeaker, you hear their commercial playing:

At Landon's, we work hard to provide the best product and exemplary customer service. Shop at Landon's, because you deserve the very best!/where we've been selling goods since 1990!/where we're helping you build a better life!

When you reach the desk, the customer service representative smiles. "Hi, welcome to Landon's! What can I do for you today?"

"Hi," you smile automatically. You set the spoiled quart of milk on the counter. "This milk is spoiled. Can I get an exchange?"

“Oh, I’m so sorry! Let me see what I can do about that.” The representative (his name tag says “John” next to a large smiley face) taps something into the computer, checks your receipt, then pulls the milk closer to glance at the top. He looks up. “I’m really sorry, but I’m afraid this product is past its use-by date.”

You can’t think of anything to say for a moment. “I only bought it this week!” you exclaim.

The representative looks uncomfortable. “I’m sorry, but the quart is marked for yesterday. Organic milk sometimes goes bad a little faster.”

“I tried to use it yesterday,” you argue. “That’s when I found out it was spoiled.”

“I’m really sorry, but I’m afraid I’m just not allowed to accept a return after the use-by date.”

John looks like he’s trying to look apologetic.

“But I couldn’t bring it in yesterday. You guys aren’t open on Sundays!”

John glances side to side briefly like he’s looking for another representative before smiling apologetically at you again. “I’m really sorry, it’s just that my manager is a stickler for policy. Our computer won’t even take the return without the right date.”

“Is your manager here?”

“I’m not sure if he’s in yet, but let me page him and see.” John uses the intercom to call for a “manager to customer service.” He looks at you awkwardly for a second, then types on the computer. You watch him, then stare out at the store to look for anyone arriving.

“I’ll call back to the office and see if he’s working on paperwork. Maybe he didn’t hear me,” John offers. He dials the call and stands silently, looking down. You can hear the phone ring. John looks like he’s stifling a yawn, and you notice how red his eyes look.

You find yourself drumming on the counter and stop. You have two minutes before you have to leave for work. You can hear the phone continue to ring for another minute.

John finally hangs up. “I’m sorry, I don’t think he’s here.”

You give up. “Isn’t there anything you can do?”

John’s smiles sadly, and a little awkwardly. “I really can’t do anything after that date is passed.” He picks up a little card from a stack by the register. “If you want to fill out a comment card, these go to the store owner.”

You take the card, then look at the milk. You’ll have to store it in the fridge at work and find a time to come back again. You grab your receipt and pick up the quart, trying not to spill. You turn and walk away.

Behind you, you hear, “Sorry, have a nice day!” You glance back to see John rubbing his neck with one hand while he dials the phone with the other.

You leave the store.

7.1.5.2.2 Sample Sign

Each condition (selfish, selfless, and neutral) received a variant of this sign, with only the slogan differentiating the three.

Possible slogans:

Because You Deserve the Very Best

Selling Goods Since 1990

Helping You Build a Better Life

Because You
Deserve the Very Best.

Landon's



7.1.5.2.3 Question Set One

What was the name of the associate you spoke with?

Don't remember

How helpful was the associate?

1 – Not helpful at all 2 3 4 – Neither helpful nor unhelpful 5 6 7 – Extremely helpful

How polite was the associate?

1 – Not polite at all 2 3 4 – Neither polite nor impolite 5 6 7 – Extremely polite

How reasonable was the associate?

1 – Not reasonable at all 2 3 4 – Neither reasonable nor unreasonable 5 6 7 –
Extremely reasonable

How likely would you be to pursue this further, other than filling out a comment card?

1 – Not likely at all 2 3 4 – Neither likely nor unlikely 5 6 7 – Extremely likely

Do you feel there should have been a different outcome here?

___ yes

___ no

What, if anything, should the associate/store have done differently?

Why?

7.1.5.2.4 Question Set Two

What was the name of the associate you spoke with?

___ Don't remember

How unhelpful was the associate?

1 – Not unhelpful at all 2 3 4 – Neither unhelpful nor helpful 5 6 7 – Extremely unhelpful

How impolite was the associate?

1 – Not impolite at all 2 3 4 – Neither impolite nor polite 5 6 7 – Extremely impolite

How unreasonable was the associate?

1 – Not unreasonable at all 2 3 4 – Neither reasonable nor unreasonable 5 6 7 –
Extremely unreasonable

How unlikely would you be to pursue this further, other than filling out a comment card?

1 – Not unlikely at all 2 3 4 – Neither likely nor unlikely 5 6 7 – Extremely unlikely

Do you feel there should have been a different outcome here?

yes

no

What, if anything, should the associate/store have done differently?

Why?

7.1.5.2.5 Social Vigilantism Measure

Instructions:

You may or may not identify with the following statements. Please indicate your agreement or disagreement with them as honestly as you can.

Items:

It frustrates me that many people fail to consider the finer points of an issue when they take a side.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I feel a social obligation to voice my opinion.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I need to win any argument about how people should live their lives.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

If everyone saw things the way that I do, the world would be a better place.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I think that some people need to be told that their point of view is wrong.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I feel that my ideas should be used to educate others.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I feel as if it is my duty to enlighten other people.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

Those people who are more intelligent and informed have a responsibility to educate the people around them who are less intelligent and informed.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

Some people just believe stupid things.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I frequently consider writing a “letter to the editor.”

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

There are a lot of ignorant people in society.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I try to get people to listen to me, because what I have to say makes a lot of sense.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I like to imagine myself in a position of authority so that I could make the important decisions around here.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

I often feel that other people do not base their opinions on good evidence.

1 – disagree very strongly 2 3 4 5 – Neither agree nor disagree 6 7 8 9– agree very strongly

7.1.5.2.6 Narcissistic Personality Inventory

Instructions:

This section consists of a number of pairs of statements with which you may or may not identify.

Consider this example:

A. I like having authority over people

B. I don't mind following orders

Which of these two statements is closer to your own feelings about yourself? If you identify more with "liking to have authority over people" than with "not minding following orders", then you would choose option A.

You may identify with both A and B. In this case you should choose the statement which seems closer to yourself. Indicate your answer by clicking the dot next to the item you agree with. Please do not skip any items. If you dislike both options and feel neither is like you, please select the one that is least objectionable to you.

[page break]

Please select the statement that better represents your feelings or is least objectionable/remote:

- I think I am a special person.
- I am no better or worse than most people.

- People always seem to recognize my authority.
- Being an authority doesn't mean that much to me.

- It makes me uncomfortable to be the center of attention.
- I really like to be the center of attention.

- My body is nothing special.
- I like to look at my body.

- I rarely depend on anyone else to get things done.
- I sometimes depend on people to get things done.

- I have a natural talent for influencing people.
- I am not good at influencing people.

- Leadership is a quality that takes a long time to develop.
- I am a born leader.

- I can make anybody believe anything I want them to.
- People sometimes believe what I tell them.

- Sometimes I am not sure of what I am doing.
- I always know what I am doing.

- I am an extraordinary person.
- I am much like everybody else.

- I try to accept the consequences of my behavior.

- I can usually talk my way out of anything.

- I like to look at myself in the mirror.
- I am not particularly interested in looking at myself in the mirror.

- I will usually show off if I get the chance.
- I try not to be a show off.

- I like to start new fads and fashions.
- I don't care about new fads and fashions.

- I like to be the center of attention.
- I prefer to blend in with the crowd.

- If I ruled the world it would be a better place.
- The thought of ruling the world frightens the heck out of me.

- I like to be complimented.
- Compliments embarrass me.

- If I feel competent I am willing to take responsibility for making decisions.
- I like to take responsibility for making decisions.

- I am not sure if I would make a good leader.
- I see myself as a good leader.

- It makes little difference to me whether I am a leader or not.
- I would prefer to be a leader.

- People can't always live their lives in terms of what they want.
- I can live my life in any way I want to.

- I like to have authority over other people.
- I don't mind following orders.

- I am essentially a modest person.
- Modesty doesn't become me.

- Sometimes I tell good stories.
- Everybody likes to hear my stories.

- I don't like it when I find myself manipulating people.
- I find it easy to manipulate people.

- I am going to be a great person.
- I hope I am going to be successful.

- There is a lot that I can learn from other people.
- I am more capable than other people.

- I am not too concerned about success.
- I will be a success.

- I like to show off my body.
- I don't particularly like to show off my body.

- I don't like people to pry into my life for any reason.
- I wish somebody would someday write my biography.

- I usually get the respect that I deserve.
- I insist upon getting the respect that is due me.

- I wish I were more assertive.
- I am assertive.

- I just want to be reasonably happy.

- I want to amount to something in the eyes of the world.

- I tend to be a fairly cautious person.
- I would do almost anything on a dare.

- I know that I am good because everybody keeps telling me so.
- When people compliment me I sometimes get embarrassed.

- I take my satisfactions as they come.
- I will never be satisfied until I get all that I deserve.

- Power for its own sake doesn't interest me.
- I have a strong will to power.

- People are sometimes hard to understand.
- I can read people like a book.

- I don't mind blending into the crowd when I go out in public.
- I get upset when people don't notice how I look when I go out in public.

- I like to do things for other people.
- I expect a great deal from other people.

7.1.5.2.7 Awareness Control

What did you think this study was testing? _____

7.1.5.2.8 Demographics Survey

What is your age?

18-25

26-35

36-45

46-55

55+

decline to answer

Are you:

male

female

decline to answer

7.2 Appendix B: Result Details

7.2.1 Detailed Results for Response Time Task

7.2.1.1 Awareness Check Responses

Excluded participants' responses marked in bold/italics/underline

What did you think / this study was testing?

Goodness only knows. Maybe you're using ambiguities in the blanked-out words to measure how inherently violent my brain is while it completes words.

The ability to recognize words / The limits of one's vocabulary recall

If once I used a vowel if I repeated it?

I have no idea. Maybe to see if there is a correlation between my ability to create sentences (more complete thought) and also visually fill in the blanks of words. honestly, i have no idea. Probably not the obvious thing.

Relationships of which words are chosen

Some ambiguous words like r_ pe came up. The participant could have chosen I or rope. A lot of words were themed with I. You could be testing for American's propensity to have "I faring words" ingrained in our sub conscience. Likely it was timed too to see how Americans answer this verses other demographics. I'd be interested to know what it was actually testing. If you are allowed, send a copy of the results to [redacted] Thank you.

Use of sentence parts (verb tenses etc) and association of words.

I don't know.

My first instincts.

Perhaps something about the most commonly perceived vowel sounds?

In the second exercise, I thought it was testing whether the mind would automatically fill in the blank with a violent word (I, I, etc.) The first one seemed pretty simple to do correctly, so I don't know what that was testing.

the way we perceive words and vowels and form sentences

I really liked the first one. It was pretty easy. The second one was really fun to but I thought wow I'm a really bad speller and no wonder I am horrible at scrabble.

If I knew what to do with vowels. Was I more likely to use the same order as others and if given similar words, would I use the same word choice (shor_ vs sh_r_

It seemed like, at some points, you were trying to see whether you could predict, or at least see, what words/sequence of words I'd pick based on words that you suggested to me before hand.

For example, there were some words that had only one or two letters missing, and after several

of those in a row, suddenly the words that I was supposed to fill in letters for had five spaces and only one letter filled in. Wow, that's hard to communicate without being able to gesture or use any body language :P Either way, it was kind of fun to fill it out. Felt a little like a word puzzle or a letter version of a Mad Lib.

Word that are on one's mind. Being able to put words into different formats.

word completion

Linguistics

My vocabulary perhaps. Not sure.

I am really curious what this is all about. It seemed like there were a lot of word about forms of 1 mixed in with "normal" words.

vocabulary

no clue

How your brain accesses vocab and how it's primed by previous words

The inclination of certain people to choose words indicative of their backgrounds. I think the author's thesis is that given a certain set of missing letters, where there is more than one way to complete a word, men will tend to complete the word one way, and women another way, or members of different cultural groups in different ways than members of other cultural groups.

The mind's ability to delete unnecessary things and to add necessary things.

The thought processes of native speakers in forming sentences, and whether the words around a particular word influence how we interpret that word.

how the order in which words are presented affects our perception of them

Associative memory.

linguistic priming?

I issues? Because at least with filling in the blanks on the words, there were a lot of words that had two (maybe more) options, but some I thought of the more violent word first... hunt vs hint, etc

inherent word familiarity and selection

How English speakers process and form word strings

If people come up with violent words easier than non violent words

Creativity within a base knowledge of a language--as a native speaker, how I creatively manipulate mixed or missing parts of the language to fit my sense of correct usage.

How the brain fills in letters or sentences. Also, what are the common words that the brain will come up with when presented with certain letters and blanks.

I don't know

Why people think of one word to fill in before another word

How the brain processes words as it reads, and possibly how mental scripts encountered recently affect that process.

how certain letters affect what words we think of...and how the order of words affect what we say

In the case of the second part, maybe what sort of missing morphemes were easiest to place in a word. For example, I thought it was harder to fit things into a space if they included an inflectional ending, since when I initially think of the word, I don't think of it inflected, so I don't think of it as fitting. In the case of the first part, I have fewer ideas, but it seemed like it might

have something to do with morphology, since sometimes it was a lot easier (I didn't take long enough to see if it was possible at all) to construct one sentence and not another because of the way the verb was inflected.

not sure

Some sort of priming

I thought maybe something with syntax in the first part, and perhaps nearby letters or vowel or semantic preferences on the second. It wasn't clear.

Recognition of English words and syntax

Minimal pairs.

The ability of the brain to correct things that are in a jumble.

The second part seemed to possibly be testing weather words related to crime/negative aspect of human life- are more for 1d in our lexicon than other words. Something with priming also.

If previous words influence future word choices.

one idea: where I put past or present tense verbs. ex. s_ng , so would I put sing, sang, or sung.

/ / one idea: how coming up with one word affects your word invention for the word after it

I have no idea. I guess it has to do with what people tend to think based on given context.

Lexical memory

It was testing what words people think of when they see certain combinations.

conditioning.

Time taken, first of all. Also, ability to visually recognize familiar words quickly without having to see all the letters.

word choice/recognition

What words people are most familiar with/use most often

What words/sentences we're most likely to form given a set of data in a certain order

being able to know what word is presented to you without seeing the vowels.

Knowledge of words and placement

How quickly our mind was able to come up with a word that fit in terms of spelling.

use of violent words

I think it might have been testing what your personality based on whether you fill the words to create negative/violent words or mundane words.

Word/sentence recognition.

the relationship between letters and words in the brain

Vowel usage

How violent words color thinking/perceptions.

Not a clue.

Something about how we decipher words

I had a couple thoughts: / I assume the words that I fill in are indicative of the words I run across on a daily basis, so I was wondering if it was studying relationships (lots of words I thought of-- discuss, 1, 1--could apply to that) / Or else maybe affinity for using religious words / Or else which vowel I used most often (there were many words that were words almost regardless of the vowel that was used)

Vocabulary

Word processing in the mind

When I went back through the answers, I realized many could be filled with violent words, and words associated with the news. Maybe it was testing whether the language of violent media came more readily to mind than others. But there was a lot of fruit, too...I don't know what that indicates.

priming

The use of double vowels in familiar words.

Word recognition based on what letters are visible. It's similar for the sentences. Mix up a sentence and then see how we put it back together in the right way. Also, the correlation of words and which words make us think of similar words or similar subjects.

Primacy and recency effect.

I'm really not sure. Something to do with words. Maybe patterns of similar letters or sounds (rhymes, etc.)?

whether the order of the words in the first part had an influence upon the sentence I made, and whether or not the order of the missing letters mattered in recollection times.

What kind of words I put in the blank; whether the obvious words influenced what I put in the ambiguous ones.

Whether or not native English speakers are common in the way they think words should be used, and the ability to fill in blanks to create words when those blanks are surrounded by vowels vs. consonants.

priming

what constraints a native English speaker puts on syllable/word/sentence formation.

I thought that this study was testing my knowledge about the structure of sentences in English and about the structure of English words.

word recognition

Maybe testing linguistic priming. I don't know.

vocabulary

What words formed when more than one option can be formed.

the amount of letters that could be missing from a word but the word is still discernable. the more common words take fewer letters to recognize.

I honestly have no idea. I would guess it has something to do with different age groups or genders and how well they can perform these tasks differently.

grammar and common combination of letters to form words

Which words are most frequently accessed in the minds of native English speakers.