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EXPANDING LANGUAGE EXPECTANCY THEORY: THE SUASORY EFFECTS

OF LEXICAL COMPLEXITY AND SEMANTIC COMPLEXITY ON EFFECTIVE

HEALTH MESSAGE DESIGN

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EXPANDING LANGUAGE EXPECTANCY THEORY: THE SUASORY EFFECTS
OF LEXICAL COMPLEXITY AND SEMANTIC COMPLEXITY ON EFFECTIVE
HEALTH MESSAGE DESIGN

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF COMMUNICATION

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Abstract

This research seeks to fill a gap concerning screening for sexually transmitted diseases

(STDs) by using language expectancy theory (LET; Burgoon, Jones, & Stewart, 1975;

Miller & Burgoon, 1979) and regulatory focus theory (RFT; Higgins, 1998; 2000;

Higgins, Shah, & Friedman, 1997) to explore message design effectiveness as a function

of semantic and lexical complexity, in a 2 (lexical: simple vs. complex) x 2 (semantic:

simple vs. complex) x 2 (source: doctor vs. peer) x 2 (appeal: prevention vs. promotion)

design. Findings indicate the optimal message features resulted from the use of

prevention focused, lexically simple, and semantically simple language given the receiver

is less likely to think on an abstract level and is more likely to integrate new information.

Future directions are discussed for health risk campaigns, and for advancement of the

theoretical contributions offered by examining semantic complexity and lexical

complexity within the explanatory frameworks of LET and RFT.

Chapter 1

Lack of STD Screening in Campaign Messages

Right now, one in four females in the U.S. between the ages of 14 and 19 is

infected with at least one of the common sexually transmitted diseases (CDC, 2008a).

Not only is such an infection rate alarming, recent research suggests having an STD

makes one more susceptible to contracting HIV/AIDS (CDC, 2008a). Adolescents and

emerging adults (age 19-25) comprise nearly half of newly reported STD infections

despite being only 25% of the sexually active population (Gavin, et. al, 2009). For

virtually every STD tracked nationally, infection rates appear relatively stable—except

for adolescent and emerging adult populations (CDC, 2008b). Due in part to this

alarming trend, considerable research attention has been directed at finding more

effective means for promoting safe sex and condom use within these age groups (Farrar,

2006; Noar, Carlyle, & Cole, 2006; Sheer & Cline, 2006; Noar, Morokoff, & Harlow,

2002; Reel & Thompson, 1994). However, it appears these efforts have been less than

optimal, given that a recent meta-analysis suggests those health campaigns considered to

be successful by practitioners and policymakers result in the recommended behavior

being adopted by no more than 12% of the targeted population (Snyder, 2001). This 88%

campaign failure rate, coupled with the alarming incidence of infection, suggests current

campaign efforts are woefully inadequate, perhaps due in part to their almost exclusive

focus on safe sex and their inattention to screening.

The Center for Disease Control has argued that an effective campaign against

STDs should include both prevention *and* screening (CDC, 2008b). However, the extent

to which individuals are being screened is well below levels recommended by the CDC

(Ellen, Lane, & McCright, 2000). With more people using testing facilities, awareness can be raised about the general level of infection within the community. Moreover, by buttressing existing campaigns on condom use with more effective appeals encouraging STD screenings, future health campaigns could have a significantly greater potential impact on reducing overall infection rates.

To address this need, more effective message strategies are required to persuade individuals to be tested. Because both the source and structure of health messages are crucial to health campaign success, theories dealing with both components are essential. Thus, the present research will utilize language expectancy theory (LET; Miller & Burgoon, 1979; Burgoon, 1995) and regulatory focus theory (RFT; Higgins, 1998; Higgins, Shah, & Friedman, 1997) to examine key variables associated with message and source characteristics related to lexical complexity, semantic complexity, and source credibility.

Health Communication Campaigns

Before the theoretical arguments are presented, it may be useful to consider how public health communication campaigns are currently being studied. Snyder's (2001) meta-analysis notes that even though a campaign message may reach its targeted audience, relatively few individuals actually adopt the recommended behaviors; and it has become apparent such failure among many campaigns is in some measure due to a lack of formative research being performed before campaign enactment.

Valente (2001) recommends three types of research for consideration with regard to health campaigns: formative, process, and summative. Formative research helps determine the beliefs of the target population, and should be included in the design and

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testing of messages before the enactment of a campaign. Process research involves utilizing a variety of measures to monitor the course of a campaign in an on-going effort to ensure its messages are reaching their target audience with sufficient penetration; and it should be an on-going effort utilizing a variety of measures. Finally, summative research is conducted to determine what sort of impact the campaign may be having on the target population.

In general, all three of these forms of research are lacking in the majority of health communication campaigns, especially the formative variety. In a review of health campaign theories, Dutta-Bergman (2005) contends many coping related contextual factors are ignored in health campaigns. Ideally, coping messages should provide the targeted audience with skills or information to enhance self-efficacy, rather than simply informing the audience that more desirable behaviors exist. For instance, rather than merely telling young adults that screening for STDs is a good idea, campaigns would be better advised to provide information about how to access and navigate screening facilities, and how best to respond to the information subsequently received.

Formative research would seem to be a necessary component of any successful campaign. If message designers are to expect favorable behavior change from campaign messages in general, then they are advised to rely on theoretical predictions concerning message effectiveness based on empirical evidence, rather than trial and error. In other words, extensive pilot testing of campaign messages should be used to ensure suitable message designs are likely to succeed within specific campaign contexts.

One area of concern in health campaigns targeting risky sexual activity involves the effectiveness of fear appeals, where a great deal of research has been performed (Pfau

& Parrott, 1993; Witte & Allen, 2004; Averbeck, Jones, & Robertson, in press). Although useful, this area of research has largely been focused primarily on condom use and other safe sex practices. However, beyond condom use, specific linguistic message strategies should also be examined as previous forays into this area of research have been met with relative success (Buller et al., 2000; Witte & Allen, 2000, 2004). For example, Parrott (1995) argues persuasively that campaigns should focus on language use if they are to be successful. Specifically, message variables such as anticipated, novel, and unfamiliar language should be considered in relation to target audience attributes. In response to Parrott's (1995) call for a clearer focus on language in campaign messages, more formative research (Valente, 2001) and a greater use of theory driven analysis (Witte & Allen, 2000), the present program of research utilizes LET and RFT to provide the explanatory frameworks for conceptualizing, designing, and testing more effective health screening campaign messages.

Chapter 2

Language Expectancy Theory

LET is a message-based theory of persuasion positing that communicators develop socially or culturally appropriate expectations about how others communicate (Miller & Burgoon, 1979; Burgoon, 1995). Language is defined as a rule-governed system whereby one may choose to either follow or violate norms. In most transactions, communicators conform to the rules, thereby confirming and reinforcing their normative status. Furthermore, beyond such confirmations, message sources can positively or negatively violate expectations. When an expectation is positively violated (termed an expectancy violation), a source is said to have exceeded the normative bandwidth of expectations in a positive direction within the relevant context. Another form of positive expectancy violation occurs when a low-credibility source conforms more closely to normative expectations. In either case, LET predicts the persuasive message will result in more favorable attitude or behavior change (Burgoon & Miller, 1971). On the other hand, expectancies may be negatively violated when an individual either uses language deviating from the norm in a negative direction, or when a high-credibility source falls short of normative expectations. In such instances, no attitude or behavior change is predicted; moreover, in certain cases, negative violations may be met with boomerang effects, whereby changes in attitudes and/or behavior will occur in the opposite direction intended by the source. Finally, LET specifies that when expectations are met, by definition, a confirmation has occurred whereby the source has communicated within the normative bandwidth of expectations, and outcomes should generally trend in a mildly positive direction, although LET predicts relatively little change is likely to occur.

Expectancies are derived from a variety of sources grounded in social and cultural norms. By observing language behaviors, individuals learn what is appropriate and expected of them, unique behavior patterns are developed and displayed, and specific expectations about individuals may vary slightly from the dominant social and cultural norms (Miller & Burgoon, 1979). Normative expectations are based on a variety of contextual factors; for example, job interviews create unique expectations about language use relative to, say, informal gatherings of friends. Additionally, the source's personality and relationship with the receiver may contribute to variance in receiver expectations in either positive or negative directions (Burgoon, 1995).

The outcome of an expectancy violation is closely tied to the level of arousal experienced by the individual. For instance, the level of intense language preferred and used by communicators has been shown to have an effect on the level of arousal felt (Burgoon & Miller, 1971). Messages that do not fall within one's bandwidth of appropriate language behaviors result in a level of arousal either in the positive or negative direction. However, the research supporting these claims has looked almost exclusively at negatively valenced arousal (Burgoon & Miller, 1985). Specifically, when examining resistance to persuasion and the use of intense language, higher levels of anger and negative affect were generally experienced in response to negative violations. As shown in Figure 4, this affective appraisal tends to affect subsequent assessments of message acceptance and source credibility.

Extensive research has explored various factors related to language intensity and expectancy violations (for a review, see Burgoon, Denning, & Roberts, 2002); however, variables associated with several aspects of linguistic complexity have yet to be examined.

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The forcefulness with which one pursues a desired end could vary in length, lexical complexity, number of sentences, number of arguments, or argument form (Burgoon & Miller, 1985). Although verbal intensity is an important area of study, Burgoon (1995) laments the lack of research examining other message features influencing message effectiveness. For example, variations in sentence structure and word choice are likely to exert a considerable effect on message reception (Burgoon, Denning, & Roberts, 2002).

As mentioned, certain language attributes have yet to be examined through the lens of LET; specifically, lexical and semantic forms of linguistic complexity remain unexplored. Therefore, these two constructs will now be discussed along with how they may interact with other important variables—such as involvement, cognitive complexity, and source credibility—to affect persuasion.

Lexical Complexity

Simple language versus complex language can have a relatively potent impact on the persuasiveness of a message, depending on various factors related to source and receiver characteristics. Studies on reading comprehension demonstrate individuals are more comfortable and engaged when the language complexity of a message matches their own abilities (Brabham & Villaume, 2002). These studies, however, do not address the expectations associated with complex language. Lexical complexity, which is a combination of the average length of words in a message, and the ratio of unique words to total words, can alter the way a message is interpreted. For example, "You should throw your trash away" is lexically simpler than, "Citizens ought to dispose refuse properly."

There is a normative expectation for lexically simple messages based on word frequency and length (Ferreira et al., 1996) exhibited in such places as newspapers. However, a message that is too lexically simple can be cast aside as amateurish or perhaps disingenuous (i.e., as an attempt to withhold information necessary for an adequate response) resulting in a negative expectancy violation. Thus, there are implications for several dimensions along which source credibility is assessed, for example: expertise, character, legitimacy, dynamism, and sociability. The source is considered incapable of communicating at an appropriate level of complexity. On the other hand, an overly complex message may be beyond the lexical abilities of a recipient (Wiener & Mehrabian, 1967), which could have several implications: The message could be rejected outright because it is not understood, or it could be prematurely rejected due to a hasty presumption regarding its correctness (Todorov, Chaiken, & Henderson, 2002). Hence, both message derogation and perceived persuasiveness may be correlated to the lexical complexity of a message.

Novel or complex language tends to require extra processing time (Just, Carpenter, & Woolley, 1982), thus, simple language should be quicker and easier to comprehend. Ease of comprehension is a necessary component of message effectiveness, but it may not be sufficient. Moreover, individuals with a sufficient knowledge base for a given subject may not be overly challenged by linguistic complexity. When a message is simple, the recipient does not need to be highly involved to understand its meaning; however, with complex language, greater motivation may be required before one is likely to fully engage the message (Bradac, Desmond, & Murdock, 1977). If the message is too complex, or if motivation is

insufficient, the message may be derogated as difficult or uninteresting. In contrast, as involvement increases, individuals are likely to be more willing to engage and struggle with relatively more complex language. Thus, in many contexts there should be an inverse relationship between involvement and message derogation for lexically complex messages such that the higher the involvement the lower the derogation.

Lexically simplistic messages are also likely to be derogated, but for different reasons. For individuals who are highly involved in a topic, a certain level of prior knowledge is likely, making a wide range of relevant terminology readily available. Thus, messages falling short of expectations regarding the level of informed language are more likely to be perceived as negative violations, and therefore less persuasive (Ruiter, Verplanken, Kok, & Werrij, 2003). When one receives a message that is lexically less complex than what might normally be anticipated, given a certain level of involvement, such a message may be deemed unworthy of cognitive effort, or perhaps even manipulative, since it may appear to withhold information already held by the receiver, and considered necessary for understanding (Lapinski & Boster, 2001).

The persuasiveness of a message should thus be affected by lexical complexity, which increases the cognitive effort required for processing. Research concerning lexical diversity—which is conceived of as the number of unique words regardless of word length—has found messages low in diversity to be considered less argumentatively effective (Bradac, Desmond, & Murdock, 1977). Complexity is related to judgments of message effectiveness such that higher complexity is more lexically and argumentatively effective. Others researchers have considered language intensity in a similar fashion. Intensity is the use of adjectives, adverbs, opinionated

statements, and argument structure (deductive vs. inductive) (Buller, Borland, & Burgoon, 1998). Holding intensity constant, a lexically diverse message is generally more effective. Lexical complexity, however, is different than diversity or intensity. Lexical complexity then is a combination of diversity and word-length. Neither diversity nor intensity adequately defines the combination of the average length of words in a message and the ratio of unique words to total words. One could be lexically diverse while using shorter words (3-4 letters), but this would be less complex than a message of equal lexical diversity, but with a longer average word length (6-7 letters). Individuals are more likely to comply when the source appears to be putting forth more effort in message creation such that the message is more suitable and easier to comprehend (Burgoon, Parrott, Burgoon, Coker, Pfau, & Birk, 1990). If a message is too lexically complex, then it is likely outside the ability or linguistic comfort zone of the receiver and may be considered a negative expectancy violation. When addressing a cognitively less complex receiver, a lexically simple message should be considered preferred, if not normative, or even a positive violation, whereas a more lexically complex message may well constitute a negative violation of expectations. In such cases, lexically simple messages, as positive expectancy violations, should garner higher ratings of source credibility and persuasiveness, and greater amounts of attitude change. This reasoning concerning the nature of lexical complexity forms the basis for the following hypothesis:

H1: Compared to lexically complex messages, lexically simple messages will be considered positive expectancy violations resulting in (a) being perceived as

more persuasive, (b) creating greater attitude change, and (c) leading to more optimal behavioral intentions.

A message that is considered persuasive should also be derogated less (Averbeck, Jones, & Robertson, in press). Thus, a message that is overly lexically complex will more likely be considered repressive and/or manipulative relative to a message exhibiting a more optimal level of complexity. Therefore, lexically complex messages will be derogated more than lexically simple messages.

H2: Compared to lexically complex messages, lexically simple messages will be considered positive expectancy violations resulting in lower levels of message derogation.

A lexically simple message will result in higher ratings of all levels of source credibility. A source who puts forth the effort to make messages easier to comprehend may be considered more competent, trustworthy, and caring (Burgoon, Parrott, Burgoon, Coker, Pfau, & Birk, 1990).

H3: Compared to lexically complex messages, lexically simple messages will be considered positive expectancy violations resulting in higher ratings of source (a) competence, (b) trustworthiness, and (c) caring.

There are also relationships between issue involvement and persuasiveness, attitude change, source derogation, and message derogation (Petty & Cacioppo, 1986). Individuals more involved with a given topic are more motivated to process and attend to a relevant message. Higher involvement is generally associated with more enduring effects and greater overall attitude change (Johnson & Eagly, 1989).

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H4: Involvement is positively related to (a) perceived persuasiveness and (b) behavioral intentions.

H5: Involvement will intensify (a) message and (b) source derogation.

Therefore, involvement should predict the expectancy violation. Specifically, higher levels of involvement will amplify negative affective responses, which in turn will predict unsuccessful persuasion and source credibility while positively predicting message rejection. Because of the relationships between involvement and lexical complexity relevant to persuasiveness, attitude change, source credibility, and message derogation, an interaction between lexical complexity and involvement is predicted.

With higher involvement, however, there is an expectation for the source to demonstrate knowledge on the subject, and competence in relaying that knowledge. A lexically complex message should contain not only unique words but also issue-specific terminology. A receiver who is higher in involvement should generally view a more complex message as more persuasive. When exposed to a simpler message, the higher involved receiver should thus be more likely to derogate the source because s/he has not demonstrated the expected level of knowledge on the subject. Less involved individuals should be less likely to expect so much information to be packed into the message. Instead, lower involved individuals should be more likely to appreciate a simpler message, since a complex message should generally require greater cognitive effort, and lower involved receivers most likely prefer not to exert such energy. Thus, lower involved receivers should be more inclined to expect or appreciate simpler messages, consequently making lexically simple messages

generally more persuasive relative to lexically complex messages. The above reasoning provides the basis for the following hypotheses:

H6: Involvement will interact with lexical complexity, such that for lexically simple messages, higher involvement will elicit (a) lower ratings of persuasiveness, (b) lower ratings of attitude change, (c) less optimal behavioral intentions, (d) higher ratings of message derogation, and (e) higher ratings of source derogation relative to lexically complex messages.

Cognitive complexity should interact with lexical complexity to affect message reception. Interpersonal cognitive complexity refers to the variety and number of psychological constructs one may use to describe others (Medvene, Grosch, & Swink, 2006). Cognitive complexity should be functionally related to a message receiver's vocabulary, involvement, and interests in particular subjects and/or people. Therefore, the greater knowledge, interest, and involvement held in a particular subject, the greater variety of psychological constructs at one's disposal for describing that subject (Crockett, 1965; Delia, 1972). Similarly, involvement is related to the amount of knowledge in a particular subject (Sundar & Kim, 2005). Therefore, involvement should be positively related to cognitive complexity.

H7: Ratings of involvement will be positively related to cognitive complexity scores.

This reasoning should also hold when considering message reception (Burleson & Caplan, 1998). Greater cognitive complexity is likely to result in greater ease in comprehending, processing, and responding to more complex messages (Rockwell, 2007).

Therefore, the reception of lexically complex messages should depend upon one's cognitive complexity such that greater complexity should result in greater reception of lexically complex messages. A more complicated message is likely to be handled and processed with relative ease by an individual who is more cognitively complex. An individual who is less cognitively complex should be more likely to struggle with a lexically complex message, experience a stronger negative affective response, derogate the message, and consider it less persuasive.

> H8: Cognitive complexity will interact with lexical complexity, such that for lexically complex messages, higher cognitive complexity will elicit (a) greater perceived persuasiveness, (b) greater attitude change, (c) more positive behavioral intentions, (d) decreased source derogation, and (e) decreased message derogation compared to lexically simple messages.

Semantic Complexity

In addition to language choice, the layout of a sentence may also have a significant effect on message reception or rejection. One way to think about semantic complexity is to consider the difference between a declarative sentence and a sentence with a dependent clause at the beginning. A declarative sentence is easier to read than a compound sentence, or sentence beginning with a dependent clause. Take the following example:

> A: The dog barks loudly if a squirrel is in the yard.

> B: If a squirrel is in the yard, the dog barks loudly.

Each of these sentences presents the same information. However, sentence A is a declarative sentence and is semantically simple, whereas sentence B has a dependent

clause at its beginning and is therefore considered semantically complex; thus, sentence B, with its dependent clause at the beginning (i.e., to the left of the declarative phrase) may be referred to as a left-branching sentence, whereas sentence A, with its dependent clause at the end (i.e., to the right of the declarative phrase), may be referred to as a right-branching sentence (Anderson & Davison, 1988). To further clarify: sentence B takes more time to comprehend, and is thus deemed to be more complex, because the front part of the sentence lays out a precondition which must be processed separately before the remainder of the sentence can be qualified.

Just as there are expectations associated with lexical complexity, so should there be expectations regarding the semantic complexity of a sentence. Holding involvement constant, a semantically complex sentence should be more preferred since it specifies how the information can be applied. Motes, Hilton, and Fielden (1992) contend left-branching sentences result in less processing errors because receivers are better able to interpret the information as it sets up a causal line of thinking.

Whereas a any number of conditions may appear at the end of a simple declarative—*right-branching*—sentence, a semantically complex—*left-branching*—sentence first identifies the conditions under which pertinent information is to be applied, then directs receivers to better incorporate that information into the appropriate associative networks, presumably making the message more persuasive (Fazio & Roskos-Ewoldsen, 1994). Left-branching provides a context (i.e., the dependent clause) toward which the remainder of the information (i.e., the declarative phrase) can be applied, and should thus allow pertinent information to more easily fit into existing attitudes and memory, satisfying the expectation for ease of comprehension. On the other hand, right-

branching sentences should provide a comparatively poorer fit, since the conditions upon which the subject of the sentence must act are not initially stated, resulting in negative expectancy violations. Thus, a semantically complex message using left-branching sentences (being preferred) should be perceived as more persuasive and credible, and result in greater attitude change relative to a semantically simple message using right-branching sentences (possibly constituting a mildly negative violation), thus:

> H9: Compared to semantically simple messages, semantically complex messages will be considered positive expectancy violations and elicit higher ratings of (a) perceived persuasiveness, (b) greater attitude change, and (c) more optimal behavioral intentions.

As mentioned, semantically complex sentences tend to provide more readily useful information relative to semantically simple messages. Thus, semantically simple messages, due to their lesser utility, should be perceived as comparatively less suitable exaggerated or overstated, and thus subject to greater message derogation than semantically complex messages, hence:

> H10: Compared to semantically simple messages, semantically complex messages will be considered positive expectancy violations and elicit lower ratings of message derogation.

Relative to the sources of semantically simple messages, the sources of semantically complex messages should appear to be more willing and able to provide useful information. Specifically, they are likely be considered more competent, trustworthy, and caring due to their perceived ability to produce messages in a more preferred or appropriate format, thus:

H11: Compared to the source of a semantically simple message, the source of a semantically complex message will elicit higher ratings of (a) competence, (b) trustworthiness, and (c) caring.

Few studies have examined motivation and semantic complexity. However, Lowrey (1998) found an individual with a high need for cognition will generally process a message regardless of complexity, although he concedes it may first be necessary to consider how persuasive a semantically complex message is, regardless of need for cognition. Simply processing a message does not necessarily result in a decision (Chung, Waks, Meffert, Averbeck, & Jones, 2007). On issues where one has a vested interest (Sivaek & Crano, 1982), one is more likely to process information more systematically rather than rely on heuristics (Eagly & Chaiken, 1993; Todorov, Chaiken, & Henderson, 2002). Chung, et al. (2007) found the more involved with a topic an individual is, the more likely s/he is to reach a conclusion. Hence, there should be an interaction between semantic complexity and involvement. Specifically, the more involved an individual is, the more likely a semantically simple message is to be preferred as a conclusion does not need to be provided in the message.

There are a few reasons for this. First, since a semantically complex sentence directs or informs the receiver about how the information is to be used, an involved individual has a sufficient knowledge base to incorporate the information provided in a semantically simple message (Wood, 1982). Second, the semantically simple message allows the involved individual the freedom to utilize the information as s/he sees fit. Therefore, the semantically simple message will be more persuasive while the message and source will be derogated more relative to a semantically complex message. For

semantically complex messages, less involvement should result in more overall message effectiveness as low involved individuals may process the message with greater ease.

H12: Involvement will interact with semantic complexity, such that for semantically complex messages, lesser involvement will elicit (a) higher ratings of persuasiveness, (b) greater attitude change, (c) higher behavioral intentions, (d) greater source credibility, and (e) less message derogation compared to semantically simple messages.

There should also be an interaction between semantic complexity and cognitive complexity. When an individual does not have a variety of psychological constructs upon which to draw, one likely has a more difficult time incorporating new information on a variety of topics. A more semantically complex message may help provide one method by which individuals may incorporate the information and, therefore, may be more preferred by a less cognitively complex individual. However, more cognitively complex individuals should be relatively better able to incorporate the information provided in semantically simple yet more challenging, right-branch structured messages with relative ease due to the variety of psychological constructs they hold.

H13: Cognitive complexity will interact with semantic complexity, such that for semantically simple messages, higher cognitive complexity will elicit (a) greater perceived persuasiveness, (b) greater attitude change, (c) more positive behavioral intentions, (d) decreased source derogation, and (e) decreased message derogation compared to semantically complex messages.

When considering lexical and semantic complexities together, a few interesting interactions may occur. Lowrey (1998) found the perceived strength of a claim differs for

semantically simple and complex messages and this will vary depending on lexical complexity. In particular, when faced with a simple declarative sentence, the lexical complexity of the message requires more processing time, and may be considered less persuasive, as hypothesized above. It was also hypothesized above that semantically complex sentences are more favorable received in combination with lexically simply language.

Likewise, lexically complex messages should also appear to be more trustworthy, and should be evaluated more positively, whereas a semantically complex message should be less persuasive because it takes more effort to process, and it may not be evaluated positively because of the cognitive rigor it demands. Finally, the most semantically and lexically simple sentence should be the least persuasive because it could be derogated for being too simple and appearing overstated due to its lacking a qualifying claim.

Therefore, differences should be observed in terms of persuasiveness, source credibility, message derogation, and attitude change. Thus, there should be a two-way interaction between lexical and semantic complexities, with the most persuasive combination being the lexically simple and semantically complex messages, followed by semantically complex and lexically complex messages, followed by the semantically simple and lexically complex messages, and finally, the lexically and semantically simple messages, thus it is hypothesized that:

H14: Lexical complexity will interact with semantic complexity for

persuasiveness, source credibility, message derogation, behavioral intentions, and

attitude change, such that lexically simple and semantically complex messages

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will be the most persuasive and least derogated, followed by lexically and

semantically complex, then by lexically complex and semantically simple, and

finally by lexically and semantically simple messages.

Source Characteristics and Complexities

Linguistic expectations do not exist in a psychological vacuum. Certain

constraints or allowances are placed on the source of messages, and certain sources are

expected to present messages within specific forms (Miller & Burgoon, 1971), or perhaps

allowed the freedom to violate linguistic norm, to some extent, with less negative

consequences. Physicians, in particular, are typically given considerable freedom in this

regard (Buller et al., 2000). Physicians are not only granted greater freedom in their

language use, they are also often allowed to be more aggressive and/or direct in their

pronouncements (Burgoon, Birk, & Hall, 1991). Moreover, high credibility sources are

generally granted a greater range of linguistic strategies from which to choose (Burgoon,

et al., 1990); therefore, relative to low credibility sources, high credibility sources should

have greater freedom to employ more lexically complex messages (McCroskey & Tevin,

1999; Cole & McCroskey, 2003), and they should thus receive less source derogation

relative to low credibility sources, and be perceived as more persuasive when using high

lexically complex messages relative to low credibility sources.

Both high and low credibility sources may be granted freedom to use semantically

and lexically simple messages; however, low credibility sources should generally be

expected to use messages comparatively lower in semantic complexity, since they are not

assumed to have the expertise to use greater semantic complexity. Therefore, low

credibility sources should be met with greater source derogation on high complexity

messages relative to low complexity messages. Conversely, high credibility sources

should be afforded the freedom to use both semantically simple and complex messages

(Burgoon, 1995). A high credibility source who speaks in simple terms can be seen as

being more trustworthy, whereas a low credibility source who speaks in equally simple

terms would only be meeting or confirming the expectation. Thus, low credibility sources

are likelier to be derogated more than high credibility sources, regardless of message

semantic complexity, and low credibility sources have a much narrower bandwidth, thus

more room to negatively violate expectations.

> H15: Compared to communicators perceived as high in competence (i.e.,
>
> physicians), trustworthiness, and caring, those perceived as low in these
>
> attributes (i.e., peers) will negatively violated expectations and (a) be rated
>
> as less persuasive, (b) produce less attitude change, and (c) be associated
>
> with less optimal behavioral intentions.

Chapter 3

Regulatory Focus Theory

RFT (Higgins, 1997; 1998; 2000; 2002; Higgins et al., 2003) posits two self-regulation strategies (or regulatory orientations) utilized by individuals: promotion (or positive outcome orientation) and prevention (or negative outcome orientation). The promotion orientation is concerned with accomplishment and ideals related to gain/non gain outcomes, whereas the prevention orientation is concerned with what ought to be done (e.g., duties and obligations) concerning loss/non loss outcomes. Generally, promotion orientations focus on nurturance, whereas prevention orientations focus on security and loss aversion (Higgins, 1987; Cesario, Grant, & Higgins, 2004).

To further elucidate these differences, consider two individuals who are interested in the same job. The first person is concerned because it offers prestige and is the type of job s/he would like to have. The second person wants the job because s/he has been in the same position for too long and seeks to avoid missing a pay raise offered by the new position. Both are concerned with the same result but with different motivations. The first person is promotion oriented as s/he seeks out the ideal job whereas the second person is prevention oriented, as s/he is concerned with what could be lost by not getting the new position.

Higgins, Shah, and Friedman (1997) contend that when positive outcomes cannot be achieved, individuals are likely to be disappointed and/or discouraged and experience dejection-related emotions, such as sadness or depression. On the other hand, when the avoidance of a potential negative outcome cannot be achieved, individuals are posited to be more likely to experience agitation-related emotions, such as fear or anger. Thus,

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dejection-related emotions are generally associated with failed promotion orientations, and agitation-related emotions with failed prevention orientations (Higgins, 1996; Higgins, Shah, & Friedman, 1997). Thus, RFT predicts:

H16: Compared to prevention messages, negative outcomes related to promotion messages will be more strongly associated with dejection-related emotions.

H17: Compared to promotion messages, negative outcomes related to prevention messages will be more strongly associated with agitation-related emotions.

Rothman, Bartels, Wlaschin, and Salovey's (2006) notion of gain/loss frames describes a similar process as that specified by RFT. For instance, when considering the effectiveness of a new breast cancer treatment drug, the authors presented a gain frame message as a 30% success rate as opposed to a loss frame message referred to as a 70% failure rate, and found the gain frame message to be more effective with a promotion orientation, and the loss frame more effective with a prevention orientation; thus providing support for Cesario et al.'s (2004) notion regarding the importance of a fit between the focus of a message and an individual's regulatory orientation. If an individual is confronted with a message that does not fit his or her regulatory focus, then all else being equal, it is unlikely to "feel right" or be as persuasive as one that does fit (Rothman, Bartels, Wlashin, & Salovey, 2006), and thus it is more likely to be rejected.

Research has found promotion messages generally have a persuasive advantage over prevention messages since they tend to represent a less direct threat to one's perceived freedom (Lee, Aaker, & Gardner, 2000), and, in contrast to prevention messages, they tend to describe ways individuals may succeed rather than potentially fail in a given situation (Lee et al., 2000). Thus, as a rule, promotion messages should be

more persuasive, elicit greater attitude change, and promote more optimal behavioral intentions relative to prevention messages.

H18: Compared to prevention messages, messages with a promotion orientation will elicit higher ratings of (a) perceived persuasiveness, (b) more positive attitude change, and (c) more optimal behavioral intentions.

Similarly, prevention oriented messages, on average, have also been found to be considered more manipulative and controlling relative to promotion messages (Higgins, Shah, & Friedman, 1997; Lee & Aaker, 2006). In particular, messages describing potential failures or losses are more likely to be considered ineffective, and "feel wrong" when presented to positive outcome oriented receivers (Cesario et al., 2004). When such a message does not offer good "value from fit" an individual may find the message manipulative, overstated, or exploitive (Higgins, Shah, & Friedman, 1997), and one way individuals may display this lack of fit is by derogating the message.

H19: Compared to prevention messages, promotion oriented messages will elicit lower levels of message derogation.

The credibility of the source is also evaluated based on the regulatory fit achieved with the message. Lee and Aaker (2006) found messages that achieved high fit were considered more fluent to recipients. That is, messages that fit well were presented in such a way as to be more in line with receiver expectations. While the regulatory focus literature does not specifically address source concerns, matching (i.e., good fitting) messages are more likely to be perceived as containing more relevant information, whereas mismatching messages as containing less relevant information

(Petty, Wheeler, & Bizer, 2000), and the presence of relevant versus irrelevant information is likely to have an effect on ratings of source credibility.

Tormala, Brinol, and Petty (2007) found differing effects for source credibility, such that a closely scrutinized message resulted in higher ratings of source credibility. Conversely, a message that was not as closely scrutinized exhibited lower ratings of source credibility. Therefore, with prevention-oriented messages, receivers should be relatively more likely to negatively scrutinize the source. On the other hand, with promotion oriented messages, sources should relatively more likely be rated as more competent, trustworthy, and caring due to their ability to appropriately frame a message in terms of what can be gained, thus:

> H20: Compared to prevention messages, messages with a promotion orientation will result in higher ratings of source (a) competence, (b) trustworthiness, and (c) caring.

It is also likely there should be an interaction between regulatory focus and lexical complexity. While there are no studies directly connecting the two variables, it seems logical the two should be related. In a study on lexical concreteness, unambiguous and precise language was related to more favorable attitudes toward the topic and greater behavioral intentions (Miller, Lane, Deatrick, Young, & Potts, 2007). Similarly, a lexically complex message contains more jargon and is more precise, but the simpler message is the more expected message. Promotion messages also describe more general, positive outcomes, whereas prevention messages tend to indicate more specific negative outcomes (Miller et al., 2007). Therefore, there should be an

interaction between regulatory focus and lexical complexity for persuasiveness, attitude change, behavioral intentions, source credibility, and message derogation.

H21: Lexical complexity will interact with regulatory focus for (a) persuasiveness, (b) attitude change, (c) behavioral intentions, (d) source credibility, and (e) message derogation, such that more complex language will be perceived as better fitting (thus producing more optimal outcomes) when used within a prevention message, and less complex language will be perceived as better fitting when used within a promotion message.

Additionally, regulatory focus is likely to interact with semantic complexity. In an examination of reading times, Gennari and Poeppel (2003) found semantic complexity resulted in longer processing time as the verb positioning required a spreading activation of relevant knowledge in one's memory or associative network. In other words, the more complex the semantic structure, the more informational specificity required in the message. As argued above, there are differences in specificity in promotion versus prevention messages. In particular, prevention messages tend to be more specific in terms of negative outcomes associated with what one stands to lose; whereas promotion messages tend to be less specific, since they describe a more abstract ideal state associated with positive outcomes that can be achieved. Semantically complex messages are likewise more specific in terms of how the information can be enacted, whereas semantically simple messages tend to be less rigid in terms of informational usage. Therefore, there should be an interaction between regulatory focus and semantic complexity for persuasiveness, attitude change, behavioral intentions, source credibility, and message derogation.

H22: Semantic complexity will interact with regulatory focus for (a) perceived persuasiveness, (b) positive attitude change, (c) more optimal behavioral intentions, (d) more enhanced source credibility, and (e) lesser message derogation, such that more complex language will be perceived as better fitting (thus producing more optimal outcomes) when used within a prevention message, and less complex language will be perceived as better fitting when used within a promotion message.

Given the predicted two-way interactions, a three-way interaction is also likely for regulatory focus, semantic complexity, and lexical complexity. Prevention frames are often associated with necessities and rely on previous information (Freitas, Liberman, Salovey, & Higgins, 2002). Likewise, semantic complexity is about providing a context in which the information contained in the message can be utilized. Lexical complexity requires a certain vocabulary, which is most likely acquired from previous experiences or interest in the subject matter. The opposite is also probable for promotion messages. An idealized situation is associated with loosely contextualized semantic structures and lexical simplicity. Hence, there are certain trends likely to occur in the interaction between regulatory focus, lexical complexity, and semantic complexity for persuasiveness, attitude change, behavioral intentions, source credibility, and message derogation.

H23: There will be a three-way interaction between semantic complexity, lexical complexity, and regulatory focus for (a) perceived persuasiveness, (b) positive attitude change, (c) more optimal behavioral intentions, (d) more enhanced source credibility, and (e) lesser message derogation.

The relationship between regulatory focus and involvement is not as clear. Higgins, Shah, and Friedman (1997) contend regulatory focus strength and chronic goal achievement have implications for momentary goal achievement, as well as for emotional experiences. However, they conclude the effects are not general and require additional research. Additionally, the nature of one's regulatory focus is not necessarily comparable to the strength of one's involvement. There can be a strong regulatory focus with little involvement in the topic of the appeal, or vice versa. Although it seems there might be some relationship between regulatory focus and involvement (Higgins, Shah, & Friedman, 1997), the nature and implications of this relationship remain unclear. To further investigate this relationship, the following research question is proposed.

RQ1: How will involvement interact with regulatory focus to predict (a) perceived persuasiveness, (b) attitude change, (c) behavioral intentions, (d) perceived source credibility, (e) message derogation, (f) agitation-related emotions, and (g) dejection-related emotions?

Given the proposed interactions between regulatory focus, semantic complexity, and lexical complexity and proposed differences in terms of emotions for regulatory focus, it seems likely there may be differing affective states resulting from the reception of semantically and lexically complex messages. However, as these two complexity variables are understudied, and language expectancy theory makes few explicit predictions concerning emotions (Burgoon, 1989, 1990; Hamilton, Hunter, & Burgoon, 1990), the following research question concerning agitation and dejected-related emotions is proposed.

RQ2: What are the effects of semantic and lexical complexity on (a) agitation-related emotions and (b) dejection related-emotions?

Chapter 4

Study 1 Methodology

Participants

Seventy-four participants were drawn from the Department of Communication subject pool. The institutional review board approved materials.

Procedures

Data were gathered using an online survey. In the repeated measures design 2 (lexical: simple vs. complex) x 2 (semantic: simple vs. complex) x 2 (appeal: prevention vs. promotion), participants were asked to read each of the eight messages and assess the complexity of each message. Participants were then debriefed.

Message Construction

All eight versions of the messages were based on an actual message produced by the Center for Disease Control. This message was manipulated to fulfill each of the message conditions.

Lexical complexity was determined in accordance with the Index of Contingency (Becker, Bavelas, & Braden, 1961; Compton & Pfau, 2008). The less complex messages ($M = 1.44$, $SD = .03$) were manipulated through a higher overlap percentage indicating more repetition and fewer unique words. The less complex messages should have a lower concept score due to the repetition of nouns, which results in an overall lower index of readability indicated by the concept score. The more complex messages ($M = .82$, $SD = .02$) were constructed to have a lower repetition percentage indicating less repetition and more unique words. The concept score, therefore, was higher due to repetition of nouns present in the message, resulting in an overall higher index score (for all messages,

see Appendix 1). An independent sample t-test indicated the difference in scores was significant, $t(6) = 31.50$, $p < .001$, r = .996, d = 25.7.

Semantic complexity was also manipulated a priori through the use of left- and right-branching clauses. Simple messages had the same information as complex messages; however, the dependent clause began semantically complex, left branching sentences, whereas the same dependent clause appeared at the end of semantically simple, right branching sentences. For example, "Given that sexually transmitted infections are extremely dangerous, you should make testing a regular part of your overall health," is a complex message due to the left branching clause; whereas, "You should make testing a regular part of your overall health, since sexually transmitted infections are extremely dangerous," is a semantically simple message, because it includes the qualifying clause at the end (i.e., within the right branch of the sentence).

As in previous research (Cesario et al., 2004), promotion and prevention messages were manipulated by either emphasizing approach behaviors related to ideal positive outcomes (i.e., "maintain a clean bill of health," or "have peace of mind")—or by emphasizing avoidance behavior related to dangerous negative outcomes if the recommended response was not followed (i.e., "avoid health risks," or "eliminate anxiety").

Dependent Variable

After reading the message, participants responded to items concerning how difficult it was to comprehend. This served as a manipulation check for message complexity. Thirteen semantic differential items generated by the author were. They were: complex/simple, intricate/straightforward, complicated/uncomplicated,

difficult/easy, compound/uniform, demanding/undemanding, effortful/effortless, unintelligible/self-explanatory, convoluted/simplistic, unclear/clear, elaborate/plain, unreadable/readable, and incomprehensible/comprehensible. These items were subjected to an exploratory factor analysis (EFA). As hypothesized, semantic complexity and lexical complexity were expected to interact such that dually complex messages should be rated as the most complicated, whereas dually simple message should be rated as the least complicated.

Chapter 5

Study 1 Results

Principal component analysis (PCA) was performed on the 13 complexity items. In order to minimize factors extracted and maximize variance accounted for, PCA was chosen over other extraction methods. A scree plot and 95th percentile parallel analysis were utilized to assess the number of components to extract. To improve component interpretation Varimax rotation (orthogonal) was used in the analysis. Based on poor communalities and cross loading, 7 items were removed leaving complex/simple, intricate/straightforward, complicated/uncomplicated, difficult/easy, compound/uniform, demanding/undemanding, and convoluted/simplistic.

Factorability was acceptable (Kaiser-Meyer-Olkin Measure of Sampling Adequacy [MSA] = .90 and Bartlett's Test of Sphericity, χ^2 [$df = 21$] = 2157.17, $p < .001$). Univariable MSA values are also acceptable (all values exceed .86).

Based on the scree plot and the parallel analysis, one factor was extracted. The final model had no loadings below .67 on the component while accounting for 69.66% of the variance. The scale computed with these items resulted in $\alpha = .93$ ($M = 5.12$, $SD = 1.32$).

The newly computed scale was then used in a repeated measure ANOVA to examine if main effects were observed for semantic and lexical complexities. Means and standard deviations are reported in Table 1. There was a main effect for semantic complexity $F(1, 62) = 26.01$, $p < .001$, $\eta^2 = .30$, a main effect for lexical complexity $F(1, 62) = 11.65$, $p < .001$, $\eta^2 = .16$, and a significant interaction $F(1, 62) = 5.37$, $p < .001$, $\eta^2 = .08$.

As predicted, the semantically complex (left-branching) messages were considered less difficult to understand, whereas the lexically complex messages were considered more difficult to understand overall. Concerning the interaction, the most difficult message to understand was the semantically simple, lexically complex one as predicted. Declarative sentences higher in lexical complexity were considered the most difficult to understand. This was followed by the semantically simple, lexically simple message. The semantic simplicity still made the message difficult to comprehend. The semantically complex and lexically complex combination was the next difficult with the semantically complex and lexically simple message being the least difficult to understand. In all cases, the message manipulations produced mean differences in the directions predicted, and with sufficient effect sizes observed. These messages were thus deemed appropriate for use in study 2.

Chapter 6

Study 2 Methodology

Participants

A total of 303 participants were drawn from the Department of Communication

subject pool, of whom180 were females, 96 were males, and 27 unidentified as to sex,

and the mean age was 20.86 ($SD = 3.49$). Participants were 3% Asians, 9% African

Americans, 5% Latinos, 67% Whites, 5% Native Americans, 3% indicating Other, and

8% who did not report race. Class was also recorded, with 24.7% freshmen, 25%

sophomores, 21% juniors, 20% seniors, .3% graduate, and 9% who did not indicate grade

level. There were 16 who reported having had an STD infection of some kind. The

institutional review board approved all materials.

Procedures

Data were gathered using an online survey. Initially, 326 participants completed

materials, and the duration each spent engaged with the survey was recorded, indicating a

mean participation duration of 23.57 minutes ($SD = 13.28$), ranging from 1.53 to 138.18

minutes. Data were cleaned in a two-step operation: first, those who did not complete the

materials within a reasonable amount of time (i.e., between 10 and 60 minutes were

estimated to be required to read each question while still being able to recall the message)

were removed, then, those who fell more than two standard deviations in duration above

the mean were removed, resulting in total of 23 participants being dropped, leaving 303

with a mean participation duration of 24.08 minutes ($SD = 9.91$, range = 10.5 to 58.2

minutes).

This research used a 2 (lexical: simple vs. complex) x 2 (semantic: simple vs. complex) x 2 (source: doctor vs. peer) x 2 (appeal: prevention vs. promotion) design. Participants initially completed measures on current attitude, involvement, and demographic information for use as covariates. Following these scales, participants read a message encouraging testing for sexually transmitted diseases. After receiving the message, participants completed measures concerning source and message derogation, credibility of the source, message effectiveness, and affective responses. Finally, participants completed cognitive complexity and regulatory focus orientation measures.

Message Construction

Messages pilot tested in study 1 were primed with source characteristics at the beginning of each message by attributing it to either Dr. John Appleton, for the physician conditions, or to a "college sophomore," for the peer conditions. To amplify the difference in source, an image was provided for each source (see Figures 1 and 2).

After reading the message, participants responded to items concerning how difficult it was to comprehend, which served as a manipulation check for message complexity. The seven semantic differential items described in study 1 (complex/simple, intricate/straightforward, complicated/uncomplicated, difficult/easy, compound/uniform, demanding/undemanding, and convoluted/simplistic) were subjected to a confirmatory factor analysis (CFA) using maximum likelihood extraction to establish their dimensionality, and used as a manipulation check for the two language complexity predictor variables ($\alpha = .90$, $M = 2.30$, $SD = 1.11$).

Predictor Variables

Involvement was included as an independent variable to predict the difference in high- and low-involved individuals' reactions to the messages, and involvement was assessed by measuring participants' perceived hedonic relevancy (Miller & Averbeck, 2011), subjective importance, and vested interest (Sivacek & Crano, 1982) concerning the topic of STDs. While Zaichkowsky's (1985) measure of involvement has been utilized to operationalize involvement in the past, the nature of testing for STDs was likely to elicit relatively high involvement based on the hedonic relevancy of overall sexual health; and since Zaichkowsky's measure does not differentiate between important topics based on the potential consequences associated with those topics, and because some attitudes may be assessed as highly involving, yet contribute little if anything to behavioral outcomes, vested interest and outcome-relevant involvement were also assessed and utilized in this study. Because highly vested attitudes are more reliable at predicting behavioral outcomes (Sivacek & Crano, 1982), vested interest—or the relative subjective outcome relevant importance of an attitude object to an individual—was deemed more suited to capture the attitudes most likely to result in attitude behavioral consistency. Vested interest was assessed in this study by measures developed in Miller, Adame, and Moore (in press). Vested interest was assessed using five subscales measuring: salience (2-item, $r = .65$, $\alpha = .79$, $M = 3.48$, $SD = 1.84$), stake (2-item, $r = .60$, $\alpha = .75$, $M = 2.72$, $SD = 1.83$), immediacy (2-item, $r = .27$, $\alpha = .43$, $M = 3.50$, $SD = 1.80$), certainty (2-item, $r = .60$, $\alpha = .75$, $M = 3.50$, $SD = 1.62$), and efficacy (2-item, $r = .52$, $\alpha = .68$, $M = 4.10$, $SD = 1.93$) (see Appendix 2).

Hedonic relevancy and subjective importance were measured to assess outcome relevant involvement in the topic using two subscales developed by Miller & Averbeck (2011). First, a hedonic relevance subscale assessed how pleasant/unpleasant, pleasurable/unpleasurable, punishing/not punishing, and satisfying/unsatisfying outcomes associated with screening—or failing to screen for—STDs would be for participants (4-item α = .76, M = 4.93, SD = 1.27). Next, a subjective importance subscale measured how important/unimportant, relevant/irrelevant, significant/insignificant, and consequential/inconsequential participants believed the topic of STDs was to them personally (4-item α = .71, M = 5.67, SD = 1.11).

Cognitive complexity was assessed using the Role Category Questionnaire (RCQ; Crockett, 1965; Delia, 1976), Cognitive Complexity Instrument (CCI; Bagdasarov, 2009), and the Need for Cognition Scale (NFC; Cacioppo & Petty, 1982). The RCQ asked participants to list a person their own age liked and another disliked. They were then asked to describe each person with as much detail about that person's personality as possible. Two coders scored these comments, and a 20% sample using the scoring rules for differentiation coding (Crockett et al., 1974) was examined to establish intercoder reliability, which was indicated as excellent (Cohen's Kappa = .98). The few disagreements found were addressed via discussion, and the remaining sample was separated and coded. Each unique attribute ascribed to the liked and disliked person was counted and summed, with the resulting score (M = 10.39, SD = 6.86) providing the measure of cognitive complexity for each participant.

The CCI consists of a 21-item three-dimensional measure of cognitive complexity capturing abstractness, integration, and differentiation (Bagdasarov, 2009). Abstractness

consisted of seven items, including: "I like to think about abstract ideas," "I like to keep things simple," and, "Typically, I avoid philosophical discussions" (7-item α = .69, M = 4.51, SD = 0.92). Integration was comprised of seven items, including: "I spend a lot of time reflecting on how things are connected," "Before making a decision, I tend to think about possible outcomes," and, "I can bring a new perspective to a situation" (7-item α = .84, M = 5.44, SD = 0.85). Differentiation also consisted of seven items, including: "When describing a person, I typically go beyond just physical description," "I like to read detailed descriptions of various things," and "When someone is telling a story I wish they would get straight to the point" (7-item α = .58, M = 4.63, SD = 0.73).

The NFC scale was used to capture participant's perceived need to develop structure in a variety of situations. Because the development of structure requires a higher level of cognitive abilities, NFC has been used as an indicator of cognitive complexity. Cacioppo and Petty (1982) also assert NFC may be assessed as a dispositional trait indicating the extent to which an individual will process a message. NFC items include: "I would prefer complex to simple problems," "I like to have the responsibility of handling a situation that requires a lot of thinking," and "Thinking is not my idea of fun." (13-item α = .84, M = 4.20, SD = 0.80).

Regulatory focus was assessed using two subscales developed by (Lockwood, Jordan, & Kunda, 2002), with promotion orientation indicated by 11 items, including "I frequently imagine how I will achieve my hopes and dreams" and "In general, I am focused on achieving positive outcomes in my life" (11-item α = .75, M = 5.67, SD = 0.86), and prevention orientation indicated by 9 items, including "In general, I am focused on preventing negative events in my life" and "I frequently think about how I can

prevent failures in my life" (9-item $\alpha = .86$, $M = 4.39$, $SD = 1.06$).

Dependent Variables

Attitude was assessed using six 7-point semantic differential scales developed by Burgoon, Cohen, Miller, and Montgomery (1978). Scale items included acceptable/unacceptable, wise/foolish, favorable/unfavorable, positive/negative, good/bad, and right/wrong (6-item $\alpha = .90$, $M = 5.99$, $SD = 1.07$).

The credibility of the source of the message was be assessed by measuring perceived source credibility (McCroskey & Teven, 1999; McCroskey & Richmond, 1996), using 18 7-point semantic differentials measuring three dimensions: competence, sociability, and trustworthiness. Competence included items such as intelligent/unintelligent and untrained/trained (6-item, $\alpha = .89$, $M = 5.68$, $SD = 1.04$); sociability contained items such as insensitive/sensitive and not understanding/understanding (6-item, $\alpha = .87$, $M = 5.45$, $SD = 1.03$); and trustworthiness contained items such as honest/dishonest and trustworthy/untrustworthy (6-item, $\alpha = .90$, $M = 5.78$, $SD = 0.96$).

Source derogation was included to examine potential boomerang effects. If a message was rejected after an initially positive attitude, the source derogation scores indicated this (6-item, $\alpha = .84$, $M = 2.16$, $SD = 0.94$). The scale consisted of six 7-point Likert items, including: "The source of this message was manipulative," "The source of this message was misleading," and "The source of this message tried to manipulate me" (Smalec & Klingle, 2000).

Message derogation (4-item, $\alpha = .93$, $M = 2.19$, $SD = 1.07$), concerned the extent to which a message was considered manipulative, and thus likely to be rejected, and was

assessed by four 7-point items (Smalec & Klingle, 2000), including: "This message was exaggerated," and "This message was overblown."

How persuasive a message was perceived to be is typically operationalized by measuring attitude change or behavioral intentions, however, to ensure messages within this study were actually *rated* as being persuasive—even if they do not result in attitude change or behavioral intentions—a measure of persuasiveness using a scale developed by Miller and Averbeck (2011), was used. Thus, perceived persuasiveness (5-item, $\alpha = .95$, $M = 5.30$, $SD = 1.30$) was assessed with five items measured along a 7-point semantic differential scale, asking if the message was: persuasive/unpersuasive, effective/ineffective, convincing/unconvincing, compelling/not compelling, and influential/not influential.

Behavioral intentions was assessed using three 7-point items adapted from Park, Klein, and Smith (2007), including: "I intend to get tested for sexually transmitted diseases before my next sexual encounter," and "I plan to get tested for sexually transmitted diseases before my next sexual encounter," and "I will be tested for sexually transmitted diseases before my next sexual encounter." Behavioral intention (3-item, $\alpha = .95$, $M = 3.61$, $SD = 1.76$), is a consistent predictor of behavior, and a meta-analysis of the theory of reasoned action supported this connection (Sheppard, Hartwick, & Warshaw, 1988).

Agitation and dejection-related emotions were measured with items drawn from Dillard, Kinney, and Cruz (1996). Based on a factor analysis in Miller (2007), dejection (7-item, $\alpha = .93$, $M = 2.16$, $SD = 1.09$) consisted of seven items: afraid, scared, fearful, sad, ashamed, miserable, and guilty. Agitation (4-item, $\alpha = .94$, $M = 2.10$, $SD = 1.19$)

consisted of four items: angry, annoyed, irritated, and aggravated. These items, measured along a 7-point semantic differential scale, were subject to maximum likelihood confirmatory factor analysis (CFA). Using Maximum Likelihood estimation, two correlated latent factors were fit against the data. All paths were significant at $p < .001$ and all squared multiple correlations were above .31, but overall model fit was poor. Relative chi-square = 14.82, CFI = .81, NFI = .80, and RMSEA = .21. All path coefficients are reported in Figure 3.

Data Analysis

A two-way ANOVA was used for the manipulation check for message complexity. The measure of perceived complexity was examined against the lexical complexity manipulations and a main effect for lexical complexity was found, indicating the high lexical complexity manipulations created significantly higher levels of perceived complexity, $F(1, 261) = 7.61, p < .01, \eta^2 = .03$. The main effect for semantic complexity was not significant, however, $F(1, 263) = .15, ns, \eta^2 = .00$, nor was the interaction between lexical and semantic complexity, $F(1, 263) = .70, ns, \eta^2 = .00$. Hypotheses were tested using MANOVA and correlations.

Chapter 7

Study 2 Results

Hypothesis 1-3 predicted that. compared to lexically complex messages, lexically simple messages will be considered positive expectancy violations resulting in higher ratings of perceived persuasiveness, higher attitude ratings, more optimal behavioral intentions, lower levels of message derogation, and higher ratings of source credibility. A MANOVA was calculated with lexical complexity as the independent variable and the dependent variables were perceived persuasiveness, attitude, behavior intentions, message derogation, and source credibility. Multivariate tests are reported first then, followed by univariate effects only if a main effect was observed. There was not a significant main effect for lexical complexity, Wilks' Lambda $= .98$, $F(7, 243) = .63$, ns, $\eta_p^2 = .02$. Hypotheses 1, 2, and 3 were not supported. Means and standard deviations are reported in Table 2. There were no significant differences in perceived persuasiveness, attitude, behavior intentions, message derogation, and source credibility between lexically simple and lexically complex messages.

Hypothesis 4 predicted a positive relationship between involvement and perceived persuasiveness and behavior intentions. Vested interest and hedonic relevance were measured to assess involvement. The five indicators of vested interest were stake, salience, certainty, immediacy, and self-efficacy. Hedonic relevance and importance were the indicators for hedonic relevance. Full correlations are reported in Table 4. Perceived persuasiveness was positively related to subjective importance ($r = .21, p < .001$), and behavioral intentions were positively related to importance ($r = .17, p < .01$), salience ($r = .30, p < .001$), certainty ($r = .30, p < .001$), and immediacy ($r = .30, p < .001$). The more

the issue of being screened for STDs was considered subjectively important, the more

persuasive the message was perceived and the greater behavioral intentions were reported.

As the topic was considered relevant to the individual, the impacts of the topic certain,

and the outcomes immediate, greater behavioral intentions were reported. Thus,

hypothesis 4 received partial support. Importance was positively related to both perceived

persuasiveness and behavior intentions. Involvement was positively related to

persuasiveness and behavioral intentions. Behavioral intention was also positive related

to salience, certainty, and immediacy.

Hypothesis 5 predicted involvement would intensify message and source

derogation. Two regressions were calculated both with the seven indicators of

involvement as independent variables. For source derogation, self-efficacy, $b = -.08$,

$t(241) = -2.31$, $p < .05$, and importance, $b = -.18$, $t(241) = -3.20$, $p < .01$, explained a

significant proportion of variance, $R^2 = .06$, $F(7, 248) = 3.10$, $p < .01$. For message

derogation, self-efficacy, $b = -.13$, $t(246) = -3.39$, $p < .001$, and importance, $b = -.21$,

$t(246) = -3.37$, $p < .001$, explained a significant proportion of variance, $R^2 = .08$, $F(7,$

$253) = 4.14$, $p < .001$. Not only was hypothesis 5 not supported, there were significant

findings in the opposite direction predicted. Increases in self-efficacy and importance of

the issue resulted in significantly message and source derogation.

Hypothesis 6 predicted involvement would interact with lexical complexity, such

that for lexically simple messages, higher involvement will elicit lower ratings of

persuasiveness, lower ratings of attitude, less optimal behavioral intentions, higher

ratings of message derogation, and higher ratings of source derogation relative to

lexically complex messages. To test this hypothesis, a MANOVA was computed wherein

the seven involvement indicators were included in the model as independent variables. Multivariate tests are reported first then, followed by univariate effects only if a significant interaction t was observed.

There was a not a significant interaction between lexical complexity and stake, Wilks' Lambda = .96, $F(10, 442) = .92$, ns, $\eta_p^2 = .02$, lexical complexity and salience, Wilks' Lambda = .94, $F(10, 442) = 1.48$, ns, $\eta_p^2 = .03$, or lexical complexity and hedonic relevancy, Wilks' Lambda = .95, $F(10, 442) = 1.07$, ns, $\eta_p^2 = .02$. There was a significant interaction between lexical complexity and certainty, Wilks' Lambda = .91, $F(10, 442) = 2.23$, $p < .05$, $\eta_p^2 = .05$, lexical complexity and immediacy, Wilks' Lambda = .88, $F(10, 442) = 3.05$, $p < .001$, $\eta_p^2 = .07$, lexical complexity and self-efficacy, Wilks' Lambda = .87, $F(10, 442) = 3.10$, $p < .001$, $\eta_p^2 = .07$, and lexical complexity and importance, Wilks' Lambda = .71, $F(10, 442) = 8.32$, $p < .001$, $\eta_p^2 = .16$.

To analyze the interactions between the continuous involvement or cognitive complex variable and lexical complexity, semantic complexity, or regulatory focus, Aiken and West (1991) suggest plotting the interaction from multiple regression. The dependent variable was the same as the dependent variable from the MANOVA. The independent variables in the regression were the binomial experimental manipulation (e.g. lexical complexity), the moderating variable (e.g. involvement), and a multiplicative term of the two independent variables. The regression equation was then restructured through algebra to express Y on X at levels of Z:

$$\hat{Y} = (b_1 + b_3 Z)X + (b_2 Z + b_0)$$

Graphs were generated based on values entered in to the above equation. Values of Z were chosen based on Cohen and Cohen's (1983) recommendation of designating a

high and low value of Z based on one standard deviation above and below the mean of Z. The high and low values of Z were entered in the equation where X equaled one and two for the high and low experimentally manipulated variables. These equations were then plotted to display the interactions.

For lexical complexity and certainty, there were significant univariate effects for behavior intentions, $F(2, 241) = 6.15$, $p < .01$, $\eta_p^2 = .05$. As shown in Figure 4, participants who were less certain about the outcomes concerning STD screening were more likely to seek screening when they received a lexically complex rather than lexically simple message. However, the inverse was true when the participants were more certain about the outcomes of the message. Greater behavior intentions were reported when for those who were more certain when they received a lexically simple message. The interaction between certainty and lexical complexity was in the opposite direction as predicted. The more involved the participants were—as a function of their certainty—the more likely a lexically simple message resulted in higher behavior intentions. There were no other significant univariate effects for the interaction between lexical complexity and certainty.

For lexical complexity and immediacy, there were significant univariate effects for behavior intentions, $F(2, 241) = 9.55$, $p < .001$, $\eta_p^2 = .08$. As Figure 5 indicates, the slopes for both lexically simple and complex messages were rather steep. The more immediate the outcome was perceived to be, the more likely the participant was to indicate their intentions to seek STD screenings. Overall, the lexically simple message was more effective regardless of the perceived immediacy of the outcomes. This finding was also in the opposite direction from what was hypothesized. The lexically simple

message resulted in higher behavior intentions when participants received the lexically simple rather than the lexically complex message. There were no other significant univariate effects for the interaction between lexical complexity and certainty.

For lexical complexity and self-efficacy, there was a significant effect for behavior intentions, $F(2, 241) = 3.06, p < .05, \eta_p^2 = .03$. As Figure 6 shows, participants with higher self-efficacy reported higher behavior intentions when they received the lexically simple message. As Figure 7 shows, participants derogated the source, $F(2, 241) = 63.43, p < .05, \eta_p^2 = .03$, more when they were less self-efficacious and received a lexically simple message. However, when they perceived they were more efficacious the source was derogated more when they received a lexically complex message, but the source was derogated less when participants were more efficacious.

Message derogation $F(2, 241) = 5.91, p < .01, \eta_p^2 = .05$, was higher when participants reported lower self-efficacy. As Figure 8 shows, participants lower in self-efficacy derogated the source more when they received a lexically complex message. More efficacious individuals derogated more when they received a lexically simple message. Overall, greater self-efficacy resulted in less message and source derogation and higher behavior intentions. Lexically simple messages resulted in greater behavior intentions for more efficacious individuals. These findings provide mixed support for the hypothesis. Greater self-efficacy resulted in less message derogation for the lexically complex messages but greater source derogation and less behavior intentions. There were no other significant univariate effects for the interaction between lexical complexity and self-efficacy.

For lexical complexity and importance, there was a significant univariate effect for persuasiveness, $F(2, 241) = 5.36$, $p < .01$, $\eta_p^2 = .05$. Figure 9 shows higher perceived persuasiveness as the topic was considered more important. When the topic was less important, the lexically complex message was more persuasive. When the topic was more important, the lexically simple message was more persuasive. Figure 10 shows more favorable attitudes, $F(2, 241) = 37.78$, $p < .001$, $\eta_p^2 = .26$, when the lexically simple message was received. This was true regardless of the level of importance of the topic. However, greater importance of the issue was associated with more favorable attitudes.

There was greater source derogation, $F(2, 241) = 3.62$, $p < .05$, $\eta_p^2 = .03$, for the lexically complex message regardless of the perceived importance of STD screening. As Figure 11 shows, the more important STD screenings were perceived to be, the less message derogation was reported. Finally, message derogation, $F(2, 241) = 5.44$, $p < .01$, $\eta_p^2 = .05$, was lower as topic importance increased. Message derogation was greater among the less involved for the lexically simple message (see Figure 12), and message derogation was greater among the more involved for the lexically simple message. These findings were also in the opposite direction from the interaction hypothesized. There were no significant univariate effects for behavior intentions.

There was minimal support for hypothesis 6. The only support provided was higher message derogation for lexically simple messages as involvement increased. Rather, the majority of the significant findings were in the opposite direction from what was hypothesized. For lexically simple messages, higher involvement elicited higher ratings of persuasiveness, more favorable attitudes, more optimal behavior intentions, and lower source derogation.

Hypothesis 7 predicted a positive relationship between involvement and cognitive complexity. The seven involvement indicators were correlated against five cognitive complexity measures: need for cognition (NFC), the three dimensions of the cognitive complexity instrument (CCI), and the role category questionnaire (RCQ). Table 3 provides all correlation. Results indicated hedonic relevance was negatively related to NFC ($r = -.13$, $p < .05$), importance was positively related to integration ($r = .25$, $p < .001$) and differentiation ($r = .17$, $p < .01$), and salience was positively correlated with differentiation ($r = .13$, $p < .05$). Results also indicated self-efficacy was positively correlated with NFC ($r = .16$, $p < .01$), integration ($r = .13$, $p < .05$), and differentiation ($r = .13$, $p < .05$), and RCQ was positively associated with hedonic relevance ($r = .12$, $p < .05$). Thus, hypothesis 7 was partially supported, however, the relationship between hedonic relevance and NFC was indicated as being in the opposite direction; those with higher NFC tended to report lower levels for the hedonic relevance of STD screening.

Hypothesis 8 predicted cognitive complexity would interact with lexical complexity, such that for lexically complex messages, higher cognitive complexity would elicit greater perceived persuasiveness, positive attitude, more positive behavioral intentions, decreased source derogation, and decreased message derogation compared to lexically simple messages. To test this, a MANOVA was calculated. The independent variables were lexical complexity and the five indicators of cognitive complexity: need for cognition (NFC), the three dimensions of the cognitive complexity instrument (CCI), and the role category questionnaire (RCQ). The dependent variables were perceived persuasiveness, attitude, behavior intentions, source derogation, and

message derogation. Multivariate tests are reported first then, followed by univariate effects only if a significant interaction was observed.

There was a not a significant interaction between lexical complexity and integration, Wilks' Lambda = .92, $F(10, 412) = 1.78$, ns, $\eta_p^2 = .04$. There was a significant interaction between lexical complexity and NFC, Wilks' Lambda = .91, $F(10, 412) = 2.03$, $p < .05$, $\eta_p^2 = .05$, lexical complexity and abstractness, Wilks' Lambda = .91, $F(10, 412) = 2.09$, $p < .05$, $\eta_p^2 = .05$, lexical complexity and differentiation, Wilks' Lambda = .9, $F(10, 412) = 2.22$, $p < .05$, $\eta_p^2 = .05$, and lexical complexity and RCQ, Wilks' Lambda = .90, $F(10, 412) = 2.16$, $p < .05$, $\eta_p^2 = .05$.

For lexical complexity and NCF, there were significant univariate effects for perceived persuasiveness, $F(2, 210) = 5.44$, $p < .01$, $\eta_p^2 = .05$. Figure 13 shows lower need for cognition was associated with higher ratings of persuasiveness for the lexically simple message relative to the lexically complex message. Higher need for cognition was associated with lower ratings of persuasiveness, especially for the lexically simple message. This provided partial support for the hypothesis. Higher cognitive complexity elicited greater perceived persuasiveness for the lexically complex message. There were no other significant univariate effects.

For lexical complexity and abstractness, there were significant univariate effects for behavior intentions, $F(2, 210) = 3.12$, $p < .05$, $\eta_p^2 = .03$. As Figure 14 indicates, lexically simple messages were derogated more than lexically complex messages as abilities to think on an abstract level increased. This provided partial support for the hypothesis. Greater cognitive complex resulted in less message derogation, and this was

especially true for those who received a lexically complex message. There were no other significant univariate effects.

For lexical complexity and differentiation, there were significant univariate effects for perceived persuasiveness, $F(2, 210) = 5.92$, $p < .01$, $\eta_p^2 = .05$. As Figure 15 shows, greater differentiation abilities were associated with higher ratings of perceived persuasiveness. Lower reported differentiation was associated with greater perceived persuasiveness for the lexically simple message while greater differentiation was associated with higher perceived persuasiveness for the lexically complex message. Behavior intentions, $F(2, 210) = 3.05$, $p < .05$, $\eta_p^2 = .03$, was relatively unchanged as differentiation increased. As Figure 16 shows, the lexically simple message elicited greater behavior intentions when participants' differentiation was low. There were greater behavior intentions for the lexically complex message when differentiation was high.

Message derogation, $F(2, 210) = 5.16$, $p < .01$, $\eta_p^2 = .05$, decreased as differentiation increased. As Figure 17 shows, lexically simple messages were derogated more when differentiation was low but derogated less as differentiation increased. The interaction between lexical complexity and differentiation provided mixed support for the hypothesis. There were greater perceived persuasiveness and behavior intentions for the lexically complex messages as differentiation increased, but there was also greater message derogation compared to the lexically simple message. However, message derogation decreased as differentiation abilities increased. There were no significant univariate effects for attitude or source derogation.

For lexical complexity and RCQ, there were significant univariate effects for persuasiveness, $F(2, 210) = 4.60$, $p < .01$, $\eta_p^2 = .04$, as depicted in Figure 18. The more

cognitively complex the individuals were, the more likely they were to find the lexically simple message persuasive. Less cognitively complex individuals found lexically complex messages more persuasive. Behavior intentions, $F(2, 210) = 3.91$, $p < .05$, $\eta_p^2 = .04$, were higher among less cognitively complex individuals. As Figure 19 demonstrates, lexically complex messages were more effective among less cognitively complex individuals, but lexically simple messages were more effective among more cognitively complex individuals. As shown in Figure 20, message derogation, $F(2, 210) = 3.78$, $p < .05$, $\eta_p^2 = .04$, was higher among the less cognitively complex individuals. While there was less message derogation among more cognitively complex individuals, lexically complex messages were derogated more than lexically simple messages regardless of cognitive complexity. There were no significant univariate effects for attitude or source derogation. The findings concerning RCQ indicate lexically complex messages were preferred and more effective for those who were less cognitively complex. Lexically simple messages were preferred and were more effective among the more cognitively complex. These findings were in the opposite direction from what was hypothesized.

There were mixed findings for hypothesis 8. Higher cognitive complexity was associated with less behavior intentions for lexically complex messages rather than the lexically simple messages as predicted. There were contradictory findings concerning persuasiveness and message derogation. For lexically complex messages, there was greater perceived persuasiveness when individuals reported higher levels of NFC and differentiation but lower levels for the RCQ. There was less message derogation for the lexically complex messages when individuals were higher in abstraction but lower in

differentiation. Lexically complex messages were derogated more then lexically simple messages regardless of level on the RCQ.

Hypothesis 9-11 predicted compared to semantically simple messages, semantically complex messages would be considered positive expectancy violations and elicit higher ratings of perceived persuasiveness, more favorable attitudes, more optimal behavioral intentions, lower ratings of message derogation, and higher source credibility. To test this, a MANOVA was computed with semantic complexity as the independent variable and perceived persuasiveness, attitude, behavior intentions, message derogation, and source credibility as dependent variables. There was not a significant main effect for semantic complexity, Wilks' Lambda = .97, $F(7, 243) = 2.20$, ns, $\eta_p^2 = .03$. Hypotheses 9, 10, and 11 were not supported. Means and standard deviations are reported in Table 2. There were no significant differences in perceived persuasiveness, attitude, behavior intentions, message derogation, or source credibility between semantically simple and semantically complex messages.

Hypothesis 12 predicted involvement would interact with semantic complexity, such that for semantically complex messages, lesser involvement would elicit higher ratings of persuasiveness, more favorable attitudes, higher behavioral intentions, greater source credibility, and less message derogation compared to semantically simple messages. To test this hypothesis, a MANOVA was computed wherein semantic complexity and the seven involvement indicators were included in the model as independent variables. Multivariate tests are reported first then, followed by univariate effects only if a significant interaction is observed.

There was a not a significant interaction between semantic complexity and stake, Wilks' Lambda = .93, $F(14, 432) = 1.09$, ns, $\eta_p^2 = .03$, semantic complexity and salience, Wilks' Lambda = .92, $F(14, 432) = 1.31$, ns, $\eta_p^2 = .04$, semantic complexity and certainty, Wilks' Lambda = .95, $F(14, 432) = .84$, ns, $\eta_p^2 = .03$, semantic complexity and self-efficacy, Wilks' Lambda = .92, $F(14, 432) = 1.26$, ns, $\eta_p^2 = .04$, or semantic complexity and hedonic relevance, Wilks' Lambda = .93, $F(14, 432) = 1.16$, ns, $\eta_p^2 = .03$.

There was a significant interaction between semantic complexity and immediacy, Wilks' Lambda = .88, $F(14, 432) = 1.96$, $p < .05$, $\eta_p^2 = .06$, and semantic complexity and importance, Wilks' Lambda = .70, $F(14, 432) = 6.14$, $p < .05$, $\eta_p^2 = .17$.

For semantic complexity and immediacy, there were significant univariate effects for behavior intentions, $F(2, 222) = 5.49$, $p < .01$, $\eta_p^2 = .05$. As indicated in Figure 21, semantically complex messages were more effective as the outcomes of the message were perceived to be more immediate. When the outcomes were perceived to be less immediate the semantically simple message was more effective. However, greater immediacy resulted in more favorable behavior intentions than less perceived immediacy of outcomes. This did not provide support for the hypothesis. Less involvement resulted in greater behavior intentions for the semantically simple message rather than the hypothesized semantically complex messages. There were no other significant univariate effects.

For semantic complexity and importance, there were significant univariate effects for perceived persuasiveness, $F(2, 210) = 4.05$, $p < .05$, $\eta_p^2 = .04$. As Figure 22 demonstrates, this was in the opposite direction as hypothesized. Semantically simple messages were perceived as more persuasive than the semantically complex messages

when issue importance was high and low. As Figure 23 depicts, attitude, $F(2, 210) =$ 34.96, $p < .001$, $\eta_p^2 = .24$, was more favorable as importance increased, and the semantically simple messages elicited more favorable attitudes than the semantically complex messages. Competence, $F(2, 210) = 9.11$, $p < .001$, $\eta_p^2 = .08$, caring, $F(2, 210)$ $= 7.13$, $p < .001$, $\eta_p^2 = .06$, and trustworthiness, $F(2, 210) = 8.39$, $p < .001$, $\eta_p^2 = .07$, had similar results. As indicated in Figures 24, 25, and 26, the source was rated as more credible as importance increased. The source of semantically simple messages was rated as more competent, caring, and trustworthy than the source of semantically complex messages. As indicated in Figure 27, message derogation, $F(2, 210) = 4.60$, $p < .01$, η_p^2 $= .04$, was higher for the semantically complex messages when importance was perceived to be low. However, message derogation was higher for the semantically simple messages when importance was perceived to be higher. Thus, the message derogation finding provides some support for hypothesis 12.

Although hypothesis 12 received partial support with regard to message derogation, the significant effects for source credibility, behavior intentions, attitude, and persuasiveness were in the opposite direction predicted: As involvement increased, participants found semantically simple messages more effective and rated source credibility more favorably. However, semantically simple messages were also more likely to be derogated when issue importance was high.

Hypothesis 13 predicted cognitive complexity would interact with semantic complexity, such that for semantically simple messages, higher cognitive complexity would elicit greater perceived persuasiveness, more favorable attitudes, more positive behavioral intentions, decreased source derogation, and decreased message derogation

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compared to semantically complex messages. To test this, a MANOVA was calculated

for which the independent variables were semantic complexity and the five indicators

of cognitive complexity: need for cognition (NFC), the three dimensions of the cognitive

complexity instrument (CCI), and the role category questionnaire (RCQ), and the

dependent variables were perceived persuasiveness, attitude, behavior intentions, source

derogation, and message derogation. Multivariate tests are reported first, followed by

univariate effects only if a significant interaction was observed.

There was not a significant interaction between semantic complexity and

abstractness, Wilks' Lambda = .92, $F(10, 414) = 1.67$, ns, $\eta_p^2 = .04$, however, there was a

significant interaction between semantic complexity and NFC, Wilks' Lambda = .90, $F(10,$

$414) = 2.14$, $p < .05$, $\eta_p^2 = .05$, semantic complexity and integration, Wilks' Lambda = .86,

$F(10, 414) = 3.35$, $p < .001$, $\eta_p^2 = .08$, semantic complexity and differentiation, Wilks'

Lambda = .82, $F(10, 414) = 4.25$, $p < .001$, $\eta_p^2 = .09$, and semantic complexity and RCQ,

Wilks' Lambda = .92, $F(10, 414) = 1.87$, $p < .05$, $\eta_p^2 = .04$.

For semantic complexity and NFC, there were significant univariate effects for

persuasiveness, $F(2, 211) = 8.08$, $p < .001$, $\eta_p^2 = .07$. As Figure 28 indicates, higher need

for cognition resulted in less behavior intentions. However, semantically simple messages

were more effective when the receiver had a higher need for cognition, thus providing

some support for hypothesis 13. There were no other significant univariate effects.

For semantic complexity and integration, there were significant univariate effects

for persuasiveness, $F(2, 211) = 5.20$, $p < .01$, $\eta_p^2 = .05$. As Figure 29 indicates,

semantically simple messages were perceived to be more persuasive when the receiver

had less information integration abilities. The semantically complex message was more

persuasive when integration abilities were high. This did not provide support for the hypothesis. As Figure 30 indicates, attitude, $F(2, 211) = 9.02, p < .001, \eta_p^2 = .08$, towards STD screenings was more favorable when semantically simple messages were received by those who were lower in integration abilities. There was a minimal difference between high and low semantically complex messages when integration was high. This did not support hypothesis 13. Message derogation, $F(2, 211) = 6.94, p < .001, \eta_p^2 = .06$, was higher for semantically complex messages when integration scores were low. As Figure 31 indicates, semantically complex messages were derogated less when integration scores were high, which also was contrary to hypothesis 13. As Figure 32 indicates, source derogation, $F(2, 211) = 5.07, p < .01, \eta_p^2 = .05$, was higher for semantically complex messages when integration abilities were low. Semantically complex messages produced less source derogation when the message receivers' integration skills were high. This also was contrary to the relationship specified in hypothesis 13. There were no significant univariate effects for behavior intentions.

For semantic complexity and differentiation, there were significant univariate effects for persuasiveness, $F(2, 211) = 7.35, p < .001, \eta_p^2 = .07$. As Figure 33 indicates, messages were rated as being more persuasive as differentiation increased. Semantically simple messages were more persuasive than semantically complex messages regardless of level of differentiation abilities, providing some support for hypothesis 13. As Figure 34 demonstrates, behavior intentions, $F(2, 211) = 3.35, p < .05, \eta_p^2 = .03$, were higher as differentiation scores were higher. Despite the semantically simple message eliciting greater behavior intentions when differentiation was higher, the difference between semantically complex and simple messages was minimal. Attitude, $F(2, 211) = 6.18, p$

$< .01, \eta_p{}^2 = .06$, was most favorable when receivers were high in differentiation skills and they received a semantically simple message. As Figure 35 shows, semantically simple messages were also more effective than semantically complex messages when differentiation scores were low. This provided support for the hypothesis. As Figure 36 shows, message derogation, $F(2, 211) = 13.57, p < .001, \eta_p{}^2 = .11$, was highest for the semantically complex message and low differentiation. Semantically complex messages were derogated more regardless of differentiation scores. This provided support for the hypothesis. Figure 37 shows source derogation, $F(2, 211) = 5.05, p < .01, \eta_p{}^2 = .05$, was highest for low differentiation scoring receivers who received semantically complex messages. Sources who used semantically simple messages were derogated less, and derogation decreased as differentiation skills increased. This also provided support for the hypothesis.

For semantic complexity and RCQ, there were significant univariate effects for behavior intentions, $F(2, 211) = 3.61, p < .05, \eta_p{}^2 = .03$. As Figure 38 demonstrates, behavior intention decreased as RCQ scores increased, especially for the semantically simple messages, however, there was little to no difference between semantically complex and simple message when RCQ scores were low. As Figure 39 shows, message derogation, $F(2, 211) = 4.41, p < .05, \eta_p{}^2 = .04$, was in the opposite direction predicted, and there was greater derogation for the semantically simple message when cognitively complexity increased, and less derogation of the semantically simple message when RCQ scores were low. There were no other significant univariate effects.

In sum, hypothesis 13 produced mixed results; increases in integration abilities and RCQ scores were associated with higher ratings of persuasiveness and attitude, and

less message derogation for semantically complex messages. Semantically simple messages were more persuasive, elicited more favorable attitudes, and resulted in less message and source derogation when differentiation skills increased, and there was a higher need for cognition. Finally, behavior intentions did not appear to be effected by semantic complexity.

Hypothesis 14 predicted lexical complexity would interact with semantic complexity for persuasiveness, source credibility, message derogation, behavioral intentions, and attitude change, such that lexically simple and semantically complex messages will be the most persuasive and least derogated, followed by lexically and semantically complex, then by lexically complex and semantically simple, and finally by lexically and semantically simple messages. To test this, a MANOVA was calculated with semantic complexity and lexical complexity as the independent variables. Perceived persuasiveness, caring, competence, trustworthiness, message derogation, behavior intentions, and attitude were the dependent variables. The interaction between lexical complexity and semantic complexity was not significant, Wilks' Lambda = .96, $F(7, 241)$ = 1.32, ns, η_p^2 = .04, thus hypothesis 14 received no support.

Hypothesis 15 predicted that compared a high credibility source (i.e., the physician), messages attributed to a low credibility source (i.e., the peer) should negatively violate expectations, be rated as less persuasive, and be associated with less optimal behavioral intentions. To test this hypothesis, a MANOVA was calculated with message source (physician/peer) as the independent variable, and competence, caring, trustworthiness, persuasiveness, and behavioral intentions as the dependent variables. The source credibility scales were included as a manipulation check for the source of the

message. Table 5 provides means and standard deviations. The multivariate analysis showed a main effect for source, Wilks' Lambda $= .87$, $F(5, 253) = 7.76$, $p < .001$, $\eta_p^2 = .13$, with significant univariate effects for competence $F(1, 259) = 23.54$, $p < .001$, $\eta_p^2 = .08$, caring $F(1, 259) = 5.14$, $p < .05$, $\eta_p^2 = .02$, trustworthiness $F(1, 259) = 6.19$, $p < .05$, $\eta_p^2 = .02$, but not for behavioral intentions, although it did closely approach significance $F(1, 259) = 3.64$, $p = .06$, $\eta_p^2 = .01$. As anticipated, the physician was considered more competent, caring, and trustworthy than the peer, and the physician's message also produced greater behavioral intentions than the peer's message, and although the univariate effect for persuasiveness only approached significance, $F(1, 259) = 1.92$, ns, $\eta_p^2 = .01$, it was nonetheless in the predicted direction, thus, hypothesis 15 received partial support.

Hypotheses 16-20 predict differences between promotion and prevention message. Hypothesis 16 predicted that, compared to prevention messages, negative outcomes related to promotion messages would be more strongly associated with dejection-related emotions, and hypothesis 17 predicted that, compared to promotion messages, negative outcomes related to prevention messages will be more strongly associated with agitation-related emotions. Hypothesis 18 predicted that, compared to prevention messages, messages with a promotion orientation will elicit higher ratings of perceived persuasiveness, more favorable attitudes, and more optimal behavioral intentions. Hypothesis 19 predicted that, compared to prevention messages, promotion oriented messages will elicit lower levels of message derogation, and hypothesis 20 predicted that, compared to prevention messages, messages with a promotion orientation will result in higher ratings of source competence, trustworthiness, and caring. To test these

hypotheses, a MANOVA was computed with regulatory focus as the independent

variable, with agitation and dejection related emotions, persuasiveness, attitude, behavior

intentions, message derogation, and source credibility entered as dependent variables.

The multivariate effect for regulatory focus was, however, not significant, Wilks'

Lambda = .99, $F(9, 237) = .22$, ns, $\eta_p^2 = .01$, and there were no significant differences

between promotion and prevention message for any of the dependent variables. Thus, no

support was found for hypotheses 16-20.

Hypothesis 21 predicted lexical complexity will interact with regulatory focus

for persuasiveness, attitude, behavioral intentions, source credibility, and message

derogation, such that more complex language will be perceived as better fitting (thus

producing more optimal outcomes) when used within a prevention message, and less

complex language will be perceived as better fitting when used within a promotion

message. To test this prediction, a MANOVA was computed with lexical complexity

and regulatory focus as the independent variables, and persuasiveness, attitude,

behavior intentions, source credibility, and message derogation as the dependent

variables. However, interaction between lexical complexity and regulatory focus was

not significant, Wilks' Lambda = .98, $F(7, 241) = .62$, ns, $\eta_p^2 = .02$, thus hypothesis 21

received no support.

Hypothesis 22 predicted semantic complexity will interact with regulatory focus

for perceived persuasiveness, attitude, more optimal behavioral intentions, more

enhanced source credibility, and lesser message derogation, such that more complex

language will be perceived as better fitting (thus producing more optimal outcomes)

when used within a prevention message, and less complex language will be perceived

as better fitting when used within a promotion message. To test this, a MANOVA was computed with semantic complexity and regulatory focus as the independent variables, and persuasiveness, attitude, behavior intentions, source credibility, and message derogation as the dependent variables. Again, however, the interaction between semantic complexity and regulatory focus was not significant, Wilks' Lambda = .98, $F(7, 241) = .88$, ns, $\eta_p^2 = .03$, thus hypothesis 22 received no support.

Hypothesis 23 predicted there would be a three-way interaction between semantic complexity, lexical complexity, and regulatory focus for perceived persuasiveness, positive attitude, more optimal behavioral intentions, more enhanced source credibility, and lesser message derogation. A MANOVA was computed with semantic complexity, lexical complexity, and regulatory focus as the independent variables, and perceived persuasiveness, attitude, behavioral intentions, source credibility, and message derogation as the dependent variables. However, this three-way interaction was not significant, Wilks' Lambda = .98, $F(7, 237) = .58$, ns, $\eta_p^2 = .02$, thus hypothesis 23 also received no support.

Research question 1 asked how would involvement interact with regulatory focus to predict perceived persuasiveness, attitude, behavioral intentions, perceived source credibility, message derogation, agitation-related emotions, and dejection-related emotions. To answer this, a MANOVA was computed with regulatory focus and the seven indicators of involvement as independent variables, and persuasiveness, attitude, behavior intentions, source credibility, message derogation, agitation-related emotions, and dejection-related emotions as the dependent variables. Multivariate tests

are reported first, followed by univariate effects only if a significant interaction was observed.

No significant interactions between regulatory focus and stake, Wilks' Lambda = .91, $F(18, 420) = 1.07$, ns, $\eta_p^2 = .04$, salience, Wilks' Lambda = .90, $F(18, 420) = 1.34$, ns, $\eta_p^2 = .05$, certainty, Wilks' Lambda = .94, $F(18, 420) = .79$, ns, $\eta_p^2 = .03$, self-efficacy, Wilks' Lambda = .89, $F(18, 420) = 1.40$, ns, $\eta_p^2 = .06$, or hedonic relevance, Wilks' Lambda = .92, $F(18, 420) = .98$, ns, $\eta_p^2 = .04$ were found. However, there were significant interactions between regulatory focus and immediacy, Wilks' Lambda = .84, $F(18, 420) = 2.13$, $p < .01$, $\eta_p^2 = .08$, and importance, Wilks' Lambda = .70, $F(18, 420) = 4.61$, $p < .001$, $\eta_p^2 = .17$.

For regulatory focus and immediacy, there were significant univariate effects for behavior intentions, $F(2, 218) = 6.29$, $p < .01$, $\eta_p^2 = .06$, and as Figure 40 indicates, promotion messages resulted in greater behavior intentions than prevention messages, regardless of immediacy of the outcomes. As immediacy increased, behavior intentions increased as well. The more effective message was the promotion message received by those who perceived the outcomes associated with STD screening to be immediate. There were no other significant univariate effects for the interaction between regulatory focus and immediacy.

For regulatory focus and importance, there were significant univariate effects for persuasiveness, $F(2, 218) = 5.67$, $p < .01$, $\eta_p^2 = .05$. As Figure 41 indicates, prevention messages were less persuasive when the topic was unimportant, whereas, the prevention message was the more persuasive when the topic was perceived as important. As Figure 42 shows, attitude, $F(2, 218) = 33.07$, $p < .001$, $\eta_p^2 = .23$, was more favorable for the

prevention message when the topic was perceived as important, and when the topic was perceived as less important, the prevention message was les effective. However, the difference between the promotion and prevention messages' effects on attitudes was minimal when importance was low. Message derogation, $F(2, 218) = 6.34, p < .01, \eta_p^2 = .06$, was highest when the topic was less important and the message was prevention focused. As Figure 43 shows, the prevention message was the least derogated with the topic was perceived as more important. As Figures 44, 45, and 46 show, the three indicators of source credibility competence, $F(2, 218) = 10.74, p < .001, \eta_p^2 = .09$, caring, $F(2, 218) = 7.69, p < .001, \eta_p^2 = .07$, and trustworthiness, $F(2, 218) = 9.56, p < .001, \eta_p^2 = .08$, were affected similarly by the interaction between regulatory focus and importance. Sources were rated as more credible when they presented prevention messages to receivers who found the topic to be important. Sources were perceived as less credible when they presented prevention messages to receivers who found the topic to be less important. There were no significant univariate effects for behavior intentions, agitation-related emotions, or dejection-related emotions.

In answering research question 1, regulatory focus did significantly interact with involvement, and immediacy of the outcomes and importance of the topic both exerted significant effects. Promotion messages were perceived as more persuasive when the outcomes were immediate and prevention messages were more persuasive, elicited more favorable attitudes, and were derogated less when the topic was perceived as more important. Finally, the source of a prevention message was perceived as more credible when the topic was perceived as more important to the receiver.

Research question 2 asked what effects semantic complexity and lexical complexity have on agitation- and dejection-related emotions. To answer this question a MANOVA was calculated with semantic complexity and lexical complexity as independent variables, and dejection- and agitation-related emotions as the dependent variables. Table 6 provides means and standard deviations. Although there was a significant multivariate main effect for semantic complexity, Wilks' Lambda $= .97$, $F(2, 270) = 4.24$, $p < .05$, $\eta_p^2 = .03$, the main effect for lexical complexity was not significant, Wilks' Lambda $= 1.00$, $F(2, 270) = .03$, ns, $\eta_p^2 = .00$, nor was the interaction between lexical complexity and semantic complexity, Wilks' Lambda $= 1.00$, $F(2, 270) = .47$, ns, $\eta_p^2 = .00$. Results indicated a significant univariate effect for semantic complexity on dejection-related emotions, $F(1, 271) = 8.44$, $p < .01$, $\eta_p^2 = .03$, whereby the semantically complex messages appeared to evoke higher ratings of dejection-related emotions. There were, however, no other significant univariate effects.

Chapter 8

Discussion

To assess the effects of lexical complexity, semantic complexity, regulatory focus, and source on the persuasiveness of a health message, two studies were conducted. The first, serving as a pilot, demonstrated the differences in perceived message complexity for lexical and semantic complexity manipulations. The second study examined the effects of these message manipulations on message processing, and interactions were considered between the message manipulations and individual difference variables such as involvement and cognitive complexity. Based on the analyses performed, involvement and cognitive complexity appear to play major roles in the reception of lexically complex, semantically complex, and prevention focused messages. In the following sections these results will be discussed in terms of message characteristics, expectations affecting the process, theoretical contributions, and contextual contributions. Finally, limitations and future directions are discussed.

Message Characteristics

The language features examined in the present studies appear to have exerted no independent effects. However, based on study 1, it does appear people form expectations about the lexical and semantic complexity of the message they receive. In particular, messages designed to be higher in lexical complexity were considered more complex. The messages presented in a semantically simple fashion were also considered complex. However, these expectations appear to depend upon individual differences. While the lack of a main effect is disappointing, the interactions examined shed some light on the processing of these messages.

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Despite the lack of main effects, there are some general conclusions warranted by the present analyses of these message features. Involvement with the outcomes of STD screening predicted perceived persuasiveness and behavior intentions. The more important, salient, certain, and immediate the outcomes were perceived to be, the more likely participants found the message persuasive and were likely to seek screenings in the future.

Involvement interacted with lexical complexity to affect perceived persuasiveness, attitude, behavior intentions, and source derogation. Specifically, more involved individuals were likely to derogate messages that used lexically simple messages. This was in line with the prediction. Those who were involved should find lexically simple messages to be amateurish, manipulative, or find the message to be lacking some information needed by the receiver. However, a number of results were in the opposite direction predicted. More involved individuals found lexically simple messages more persuasive, indicated more favorable attitudes towards screening, reported greater behavior intentions to seek screenings, and less source derogation. Those who were more involved also showed a preference and expectation for lexically simple messages rather than complex ones. While this was unexpected, these findings can still be explained by LET. The only change from the original prediction is what expectations receivers have for lexical complexity. Based on these results, receivers who are involved in the topic expect and prefer messages that are lexically simple and more accessible. Perhaps this is due to the importance of the outcome; perhaps receivers don't want to chance not understanding the message's content. However, such messages appear to carry an increased risk of being derogated.

Given that involvement was generally positively related to cognitive complexity, interactions between cognitive complexity and lexical complexity seem logical. Individuals who were cognitively complex showed a preference for lexically simple message when reporting behavior intentions. Higher levels of need for cognition and differentiation and lower RCQ scores were associated with greater perceived persuasiveness for lexically complex messages. Individuals who think about issues longer, differentiate between ideas, but lack abilities to identify different personality constructs in others, found lexically complex messages more persuasive. Greater tendency to think on an abstract level and less abilities to differentiate between ideas resulted in less message derogation for lexically complex messages.

Thus, individuals who think on an abstract level but cannot differentiate between more concrete concepts prefer lexically complex message. Individuals who differentiate between concepts more and think about issues for a longer period of time prefer lexically simple message. It may be that lexically complex messages encourage more introspection, and may prompt individuals to ponder more ways the information could be used. Perhaps lexically simple messages do not allow for as much interpretation, nor effectively satisfy the reflective needs of receivers. The lexically complex message distinguishes concepts from one another and provides the differences for receivers to contemplate at length. Such expectations, as argued in the reasoning leading up to the hypotheses, may be tied to one's reading comprehension levels and experience with complex ideas. Individuals who do not have much experience with complex ideas may shy away from complex terminology and prefer lexically simple message. Those who have such experience with complicated terminology may be less concerned with how to understand the message in front of them.

Rather, these individuals may be more interested in thinking about all possible meanings and consider applications for the message's content. Lexically complex messages may do a better job of providing the raw materials for more cognitively complex individual to think on more abstract levels.

Involvement also interacted with semantic complexity, though not always as predicted. More involved individuals preferred semantically simple messages and rated them as more persuasive, reported greater behavior intentions, more favorable attitudes, and rates sources as more credible. However, involved individuals also derogated semantically simple messages more than semantically complex messages. Clearly, semantically complex messages were more effective for a more involved audience, but they carry the risk of being derogated. In terms of LET, the semantically simple messages may have been a confirmation resulting in mildly unfavorable ratings. However, the messages may have been at the bottom of the bandwidth of acceptable behavior. If the message was considered to only just meet the standard for acceptable behavior then it might more likely be derogated, since it approaches a negative expectancy violation.

Cognitive complexity also affected the reception of semantically complex messages. Greater abilities to integrate new information and differentiate between personality constructs in others were associated with a preference for semantically complex messages. Specifically, those with such abilities found semantically complex messages more persuasive, reported more favorable attitudes, and less message derogation than for semantically simple messages. Integration abilities should make semantically complex messages easier to process. Those who have integration abilities have a preference for messages that provide a context for integrating the information.

Semantically complex messages meet the expectations of those who have greater integration abilities. Those who had greater differentiation abilities and higher NFC, found semantically simple messages more persuasive, reported more favorable attitudes, and less message and source derogation. Differentiation and NFC together may create an expectation for messages to provide content without as much need for context. An individual with such an expectation might prefer to think about how this information is new or different from previous knowledge and decide whether or not to incorporate the new information. The semantically simple message meets the expectations of these receivers given the lack of contextualization in such messages.

Messages attributed to high credibility sources (physicians) were more effective than messages attributed to low credibility sources (peers). According to LET, the source with greater bandwidth should be more effective. The physician should be more effective given the topic of the message is medical. Peers have a narrower bandwidth. The findings concerning source replicate previous research on the effect of source credibility and message effectiveness (Burgoon, Birk, & Hall, 1991).

The regulatory focus of the message, according to multivariate tests, did not produce main effects. In answering research question 1, involvement with the issue affected the reception of promotion versus prevention-focused messages. Specifically, prevention messages were more effective when the topic was considered important. Promotion messages were more effective when the outcomes of the message were more immediate. Prevention-focused outcomes are more specific, and if important, are more motivating than more general promotion-focused messages. The more important the issue is, the more likely specific information is expected. However, when the outcome is

immediate more general information about the outcome will be preferred. There appears to be a temporal aspect to the preference of regulatory focus. For outcomes that are less immediate we expect information that is negative and specific. As the outcome approaches, our preference shifts to information that is more reassuring. General, positive information is expected for the immediate outcome.

LET & Process

The theoretical additions of lexical and semantic complexity demonstrate there is more for LET to consider beyond diversity and intensity. This is the first application of LET to address the effects of sentence structure on persuasive outcomes. In line with the logic of LET, one's experiences and expectations appear to be instrumental in predicting positive and negative violations of expectations (Burgoon & Miller, 1985).

When considering certain features of language, it is essential to identify relevant expectations. For instance, when considering expectations about diversity, the average normative diversity level could be assessed by carefully examining heavily used media and school texts. However, there will always be individual differences concerning one's satisfaction with these materials. Rather, relying on an individual level of expectation such as reading comprehension level or a logical skill test using vocabulary may be more predictive of one's expectancy violations concerning diversity. Additional language variables could be utilized in a similar approach. In the present study, the ability to integrate information based on sentence structure and lexical complexity appears to depend upon the receiver's ability to differentiate (lexical skill), integrate (information-uptake skill), and think on abstract levels (utilize general information). Cognitive

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complexity, therefore, would seem to predict the ability to process and appreciate lexically and/or semantically complex messages.

Regulatory Focus Theory

Regulatory Focus Theory provided the basis for several of the predictions made in this study. According to Higgins (1987; 1996; 1998), individuals prefer to achieve a level of fit with the messages they receive. Messages presented with a promotion focus should fit with individuals who have a positive outcome focus orientation. On the other hand, individuals with a prevention orientation should find better fit with messages framed in terms of avoiding negative outcomes. When presented with a mismatch, individuals should experience a degree of negative arousal relative to the extent of the mismatch (Higgins, Idson, Freitas, Spiegel & Molden, 2003).

Despite theoretical predictions, agitation and dejection related emotions did not significantly differ for promotion and prevention messages. Even a standard deviation above the mean score was below the mid-point of the scale. The messages did not generate much of an emotional response. This may be due to a weak manipulation. The positive and negative outcomes were general and may not have stood out enough to generate the levels of emotion predicted. A follow-up study should utilize stronger manipulations and examine whether these predictions are born out.

Another way of viewing this research would suggest individuals' regulatory orientations could be described in terms of the confirmation or violation of their expectations. A central assumption of the present research was that a message receiver's regulatory focus orientations could interact with the language features of a message in ways predicted by the explanatory framework of LET. And although the results reported

here may not provide support for this assumption, the theorizing may nevertheless be valid. Additional evidence is needed; future studies should examine whether there is an expectation about the regulatory fit of a message that extends across topics, or whether the effects of good or bad fit can be expected to vary by topic. For instance, it could be that promotion message are particularly persuasive and not susceptible to negative arousal on health or personally involving topics. In such cases, promotion oriented messages may be perceived as mildly positive expectancy conformations, or even preferred as positive violations.

Despite the limited findings presented here concerning regulatory focus, there is no reason to doubt RFTs usefulness as an explanatory framework for understanding the effects of normative expectations. Future investigations may be able to clarify the role of regulatory fit within the logic of LET by more precisely measuring regulatory orientation in terms of the expectations receivers have about the framing of promotion versus prevention messages. Another approach might involve measuring the comfort or fit of messages that otherwise violate or confirm receivers' expectations; in which case, the degree of comfort or fit could be characterized as indicating a positive or negative expectancy violation.

Practical Applications

There are several practical applications that would likely transcend contextual boundaries. General knowledge and reading levels of a population may be readily available, and regardless of the topic of a message, one could tailor its lexical complexity to be slightly above the reading level expectation of the target population for optimal message effectiveness.

Additionally, the combination of lexical and semantic complexities in messages could have a number of important health applications. Perhaps, in health message this may be more applicable, since health information often contains complicated terminology and careful descriptions of procedures (Sheer & Cline, 2006). In such cases, there may be a degree of uncertainty or ambiguity with health information (Valente, 2001) that could benefit by messages presented in a precise and lexically complex manner, combined with a semantically complex sentence structure. In many cases within the context of health communication, there may be few if any viable alternatives to presenting information in a lexically complex fashion. When lexical complexity is necessary, perhaps semantic complexity can be used to compensate for increased demands on cognitive load by decreasing the burden placed on receivers by making the complexity of health information easier to incorporate (Silverman & Ratner, 1995).

A similar approach could also be applied to classroom settings; for example, when training future doctors about bedside manner, students could be encouraged not to 'dumb down' the information. Rather, by presenting the information in a way that allows it to be more easily understood, the accuracy of the information may be preserved to better allow patients to understand the most pertinent and critical information.

Finally, health campaign messages should seek to follow these recommendation rather than relying on the practitioner's experience. Simply going with conventional wisdom is not working (Snyder, 2001); new approaches are necessary to enhance message effectiveness. The message features presented here are relatively straightforward alterations that could be readily employed without specialized equipment, or the need for complicated linguistic manipulations.

Future Directions and Limitations

As with any line of research there is always room for elaboration and improvement. One point in need of attention concerns the lack of an effect for involvement. It would seem more involving issues should result in greater affective responses. Closer examination of involvement could indicate stronger affective responses given the extent to which the topic is personally consequential. The hedonic relevancy of the issue should be assessed prior to message design, and messages should be manipulated to enhance perceived hedonic relevancy and increase the arousal in such as way as to increase message effectiveness. Future research should examine multiple topics with varying levels of involvement, and hedonic relevance, particularly, should be assessed in relation to behavioral outcomes in addition to the perceived importance of the expectation being examined. Perhaps the strength of expectations would be a better predictor of affective responses than involvement with behavioral outcomes.

Research using expectancy theories still needs better measurement of expectancy violations. One potential approach would be to assess receivers' expectations about a language feature prior to message exposure; then, after the message has been viewed, participants could complete the same measures in a posttest to indicate the extent to which the message met or violated their expectations. For instance, participants could be asked the extent to which they expect or prefer complex sentences. The message complexity scale used in the present studies could be applied to pretest message complexity; for example, participants could indicate how much they prefer messages to be complex or straightforward, then, after reading a message, its perceived level of

complexity could be assessed in a posttest, with the difference in scale means used to indicate both the direction and magnitude of any potential expectancy violations.

Although effects were observed for both the semantic and lexical complexity of messages manipulated within this study, the use of currently existing materials varying in semantic and lexical complexity could provide a more ecologically valid approach to this line of research, and better demonstrate the real world applicability of the findings reported here. Future research should seek to examine complexity as a continuous variable rather than a dichotomous high/low manipulation. It makes sense there should be a ceiling for complexity and effectiveness; perhaps, this relationship would be curvilinear in a way similar to the level of fear aroused within fear appeal messages.

Because the measurement of behavioral intentions may often be unreliable, future studies should seek collaboration with testing facilities to verify the number of individuals who seek testing after being exposed to stimulus materials. One might find a particular language behavior troubling, but nevertheless still allow a source to maintain credibility and persuasiveness. This could be from either initial source credibility or the wide latitude of behaviors deemed to be appropriate for such a source. It could also be due to the subjective importance of the expectation being violated. Lexical complexity may not be as important as semantic complexity, thus, a message that is undesirably high in lexical complexity may still be considered acceptable because expectations concerning semantic complexity were met by the source. It could also be that individuals allow certain sources to engage in undesirable language behaviors because their motivation to maintain a relationship with those sources impacts the valancing of expectancy violations.

Clearly, more theorizing and exploratory research is needed for lexical and semantic complexities. In several instances, the predictions in the present study were in the opposite direction hypothesized, yet these findings are not necessarily outside the explanatory framework of LET. Nevertheless, there is a lack of evidence available for accurate predictions. Replications with stronger manipulations would clearly be valuable to examine the reliability of these findings.

Conclusion

Having examined lexical complexity, semantic complexity, and regulatory focus in light of LET, lexically and semantically simple prevention messages appear to offer the most effective outcomes. Messages exhibiting these language features resulted in reduced negative affective responses, particularly among those who were high in cognitive complexity. This combination of message features was found to be the most persuasive, as indicated by more optimal behavioral intentions, and more favorable perceptions of source credibility. Moreover, the use of lexically simple and semantically simple messages was the most effective when the receiver was less likely to think on an abstract level. Future messages designs could benefit from the inclusion of such manipulations. Indeed, the findings presented here could be applied to increase the effectiveness of future persuasive campaigns, or repackage education materials to increase comprehension. Lexically and semantically simple message design variations could be used to minimize message rejection and maximize message reception.

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Table 1 Message Complexity Means (Standard Deviations) For Semantic and Lexical

Complexities from Study 1

	Complexity
Semantically Simple	
Lexically Simple	5.45
	(1.07)
Lexically Complex	5.52
	(1.17)
Semantically Complex	
Lexically Simple	4.47
	(1.26)
Lexically Complex	5.05
	(1.30)

Table 2 Means (Standard Deviation) for Semantic and Lexical Complexities from Study 2

	Persuasiveness	Behavior Intentions	Message Derogation	Attitude	Competence	Caring	Trustworthiness
Semantically Simple							
Lexically Simple	5.52	3.69	2.10	6.10	5.78	5.55	5.84
	(1.10)	(1.75)	(1.00)	(0.93)	(0.96)	(0.91)	(0.85)
Lexically Complex	5.34	3.37	2.16	6.12	5.79	5.44	5.83
	(1.41)	(1.66)	(1.10)	(0.94)	(0.94)	(1.07)	(0.92)
Semantically Complex							
Lexically Simple	4.91	3.58	2.32	6.14	5.55	5.31	5.83
	(1.48)	(1.78)	(1.24)	(1.10)	(1.25)	(1.27)	(1.07)
Lexically Complex	5.20	3.61	2.22	5.75	5.56	5.37	5.63
	(1.23)	(1.78)	(1.01)	(1.14)	(1.12)	(1.01)	(1.02)

Table 3 Correlations Between Involvement and Cognitive Complexity

	Stake	Salience	Certainty	Immediacy	Self Efficacy	Hedonic Relevance	Importance	NFC	Abstractness	Integration	Differentiation
Salience	.54**										
Certainty	.47**	.58**									
Immediacy	.41**	.45**	.49**								
Self Efficacy	.31**	.43**	.36**	.31**							
Hedonic Relevance	-.03	-.11	-.13*	-.06	-.08						
Importance	.14*	.27**	.20**	.10	.18**	-.01					
NFC	-.01	.12	.08	-.05	.16**	-.13*	.08				
Abstractness	-.02	.03	.05	-.10	.11	-.11	.12	.56**			
Integration	.04	.10	.03	-.07	.13*	.02	.24**	.35**	.43**		
Differentiation	-.01	.13*	.03	-.05	.13*	-.04	.17**	.26**	.26**	.45**	
RCQ	-.04	-.10	-.06	-.03	-.02	.12*	.08	-.06	.10	.06	.07

Note: * indicates $p < .05$, ** indicated $p < .01$.

Table 4 Correlations Between Involvement, Persuasiveness, Behavioral Intentions, and Derogation

	Stake	Salience	Certainty	Immediacy	Self Efficacy	Hedonic Relevance	Importance	Persuasive
Salience	.54**							
Certainty	.47**	.58**						
Immediacy	.41**	.45**	.49**					
Self-Efficacy	.31**	.43**	.36**	.31**				
Hedonic Relevance	-0.03	-0.11	-.13*	-0.06	-0.08			
Importance	.14*	.27**	.20**	0.1	.18**	-0.02		
Persuasive	0.01	0.04	0.05	0.11	0.04	-0.08	.21**	
Behavior Intentions	0.12	.30**	.30**	.30**	0.11	-0.1	.17**	.28**

Note: * indicates $p < .05$, ** indicated $p < .01$.

Table 5 Means (Standard Deviations) for Source for Study 2

	Persuasiveness	Behavior Intentions	Competence	Caring	Trustworthiness
Doctor	5.40	3.78	6.00	5.60	5.94
	(1.18)	(1.77)	(0.88)	(0.95)	(0.89)
Peer	5.18	3.37	5.39	5.31	5.64
	(1.35)	(1.72)	(1.09)	(1.08)	(0.99)

Table 6 Means (Standard Deviations) for Emotions for Study 2

		Agitation	Dejection
Lexically Simple			
	Semantically Simple	1.98	1.97
		(1.22)	(1.02)
	Semantically Complex	2.29	2.35
		(1.21)	(1.19)
Lexically Complex			
	Semantically Simple	2.08	1.97
		(1.19)	(0.95)
	Semantically Complex	2.14	2.37
		(1.15)	(1.16)

Figure 1 Picture of Physician Utilized in Study 2

Figure 2 Picture of Peer Utilized in Study 2
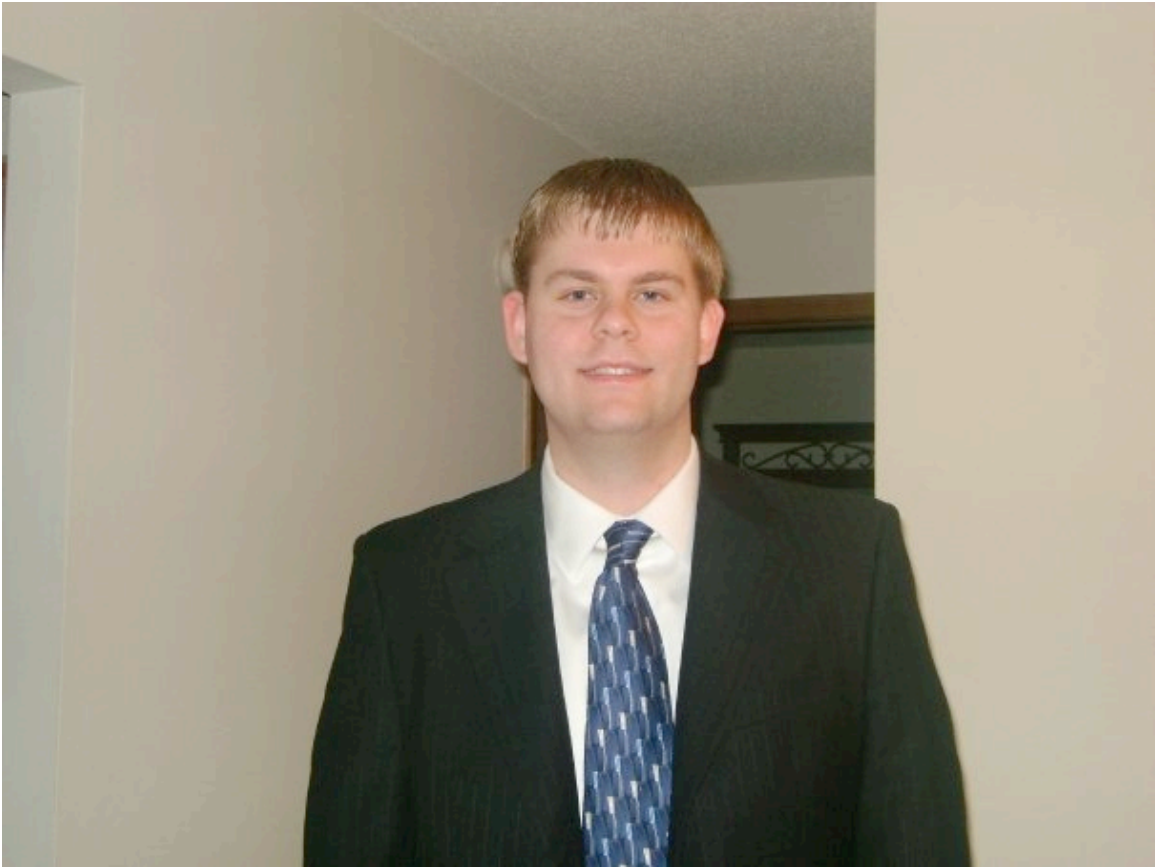
Figure 3 Confirmatory Factor Analysis Model for Agitation and Dejection Related Affect from Study 2
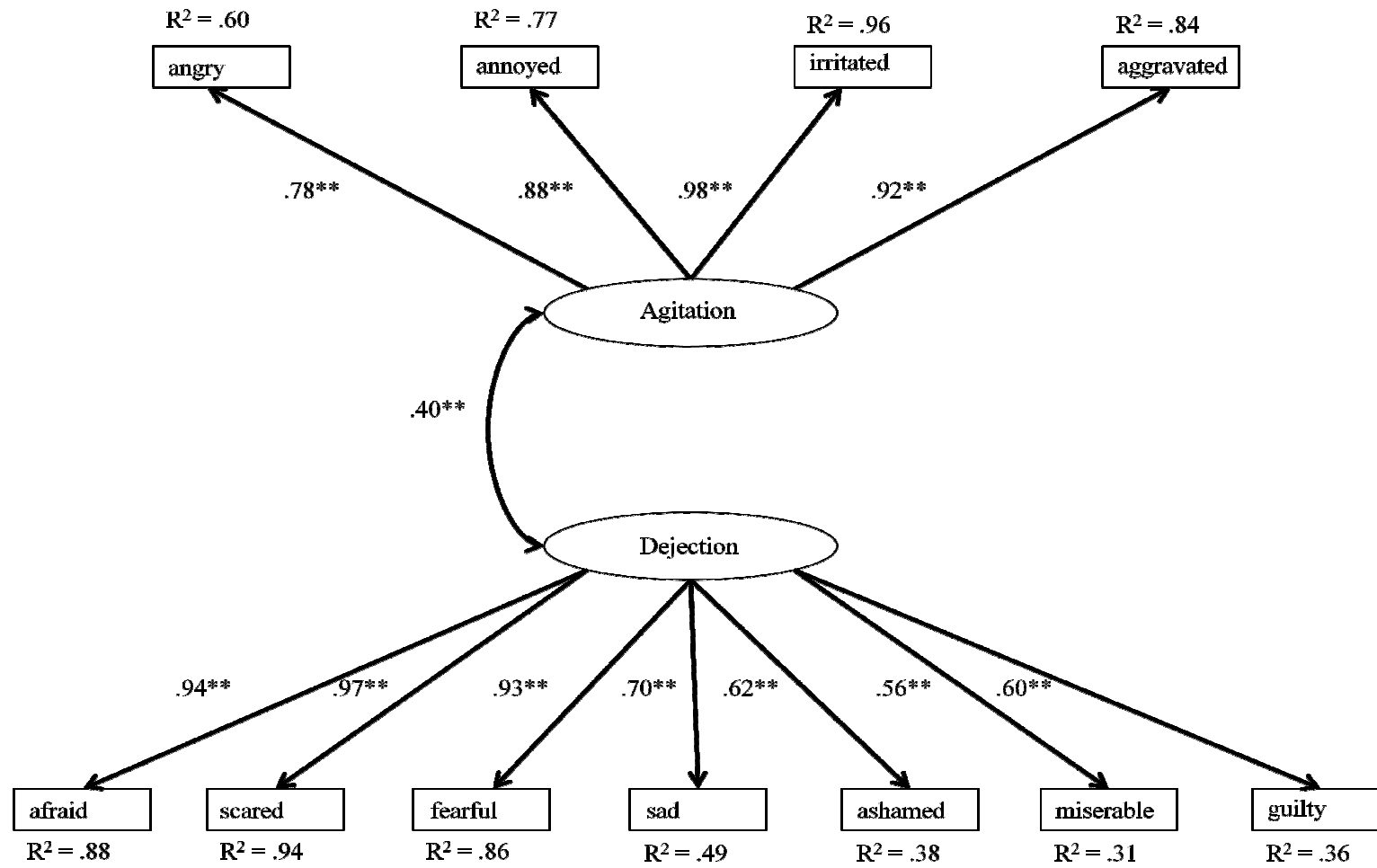
Note: ** indicates $p < .001$

Figure 4 Interaction Between Certainty and Lexical Complexity for Behavior Intentions
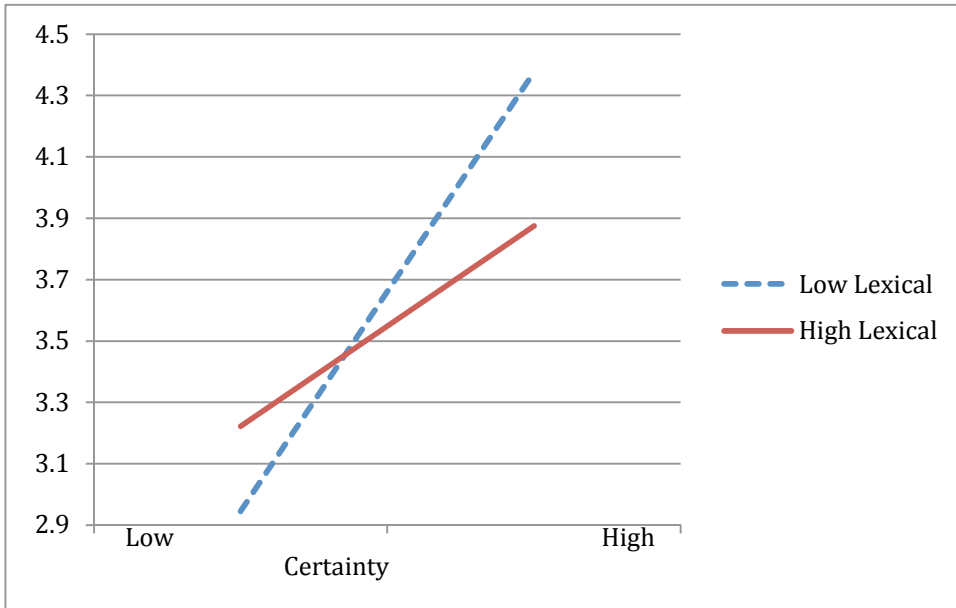
Figure 5 Interaction Between Immediacy and Lexical Complexity for Behavior Intentions
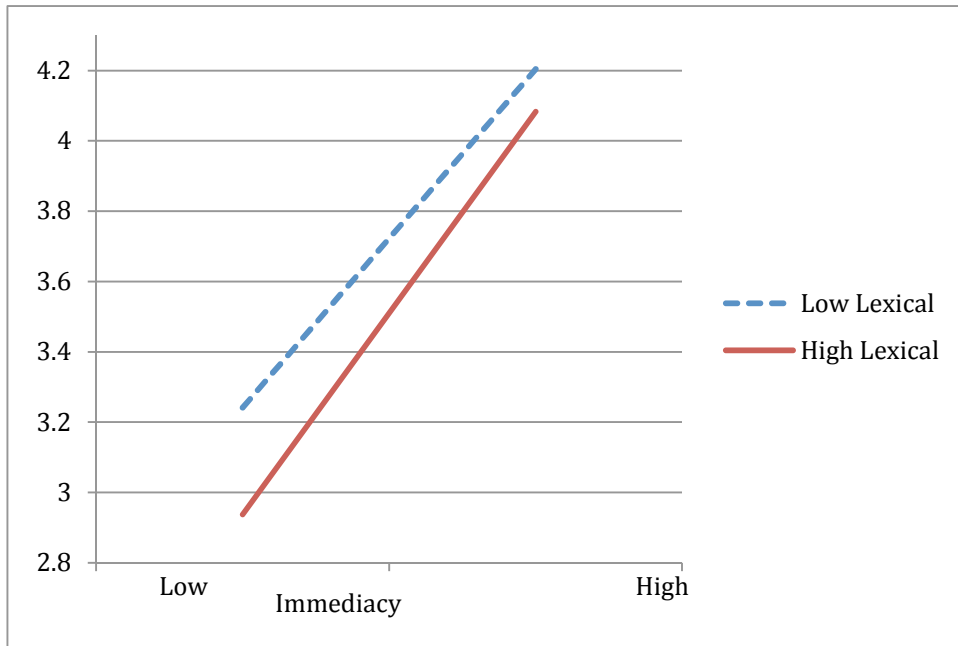
Figure 6 Interaction Between Self-Efficacy and Lexical Complexity for Behavior
Intentions
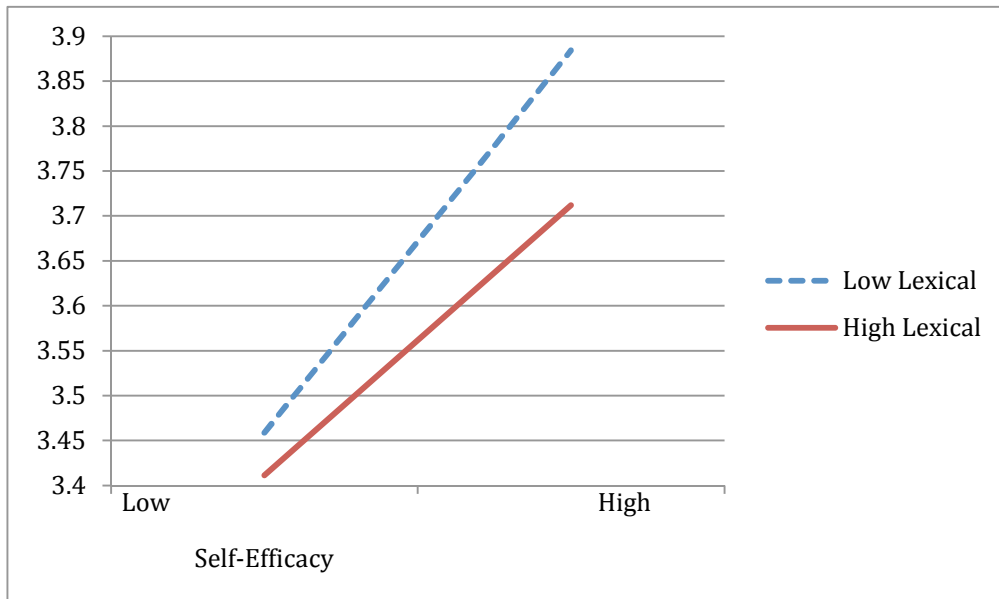
Figure 7 Interaction Between Self-Efficacy and Lexical Complexity for Source
Derogation
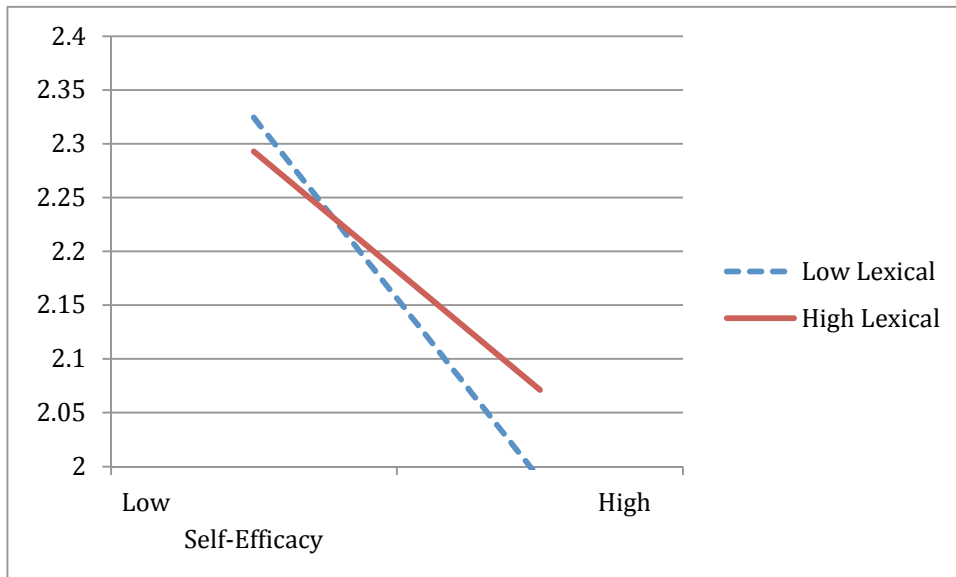
Figure 8 Interaction Between Self-Efficacy and Lexical Complexity for Message
Derogation
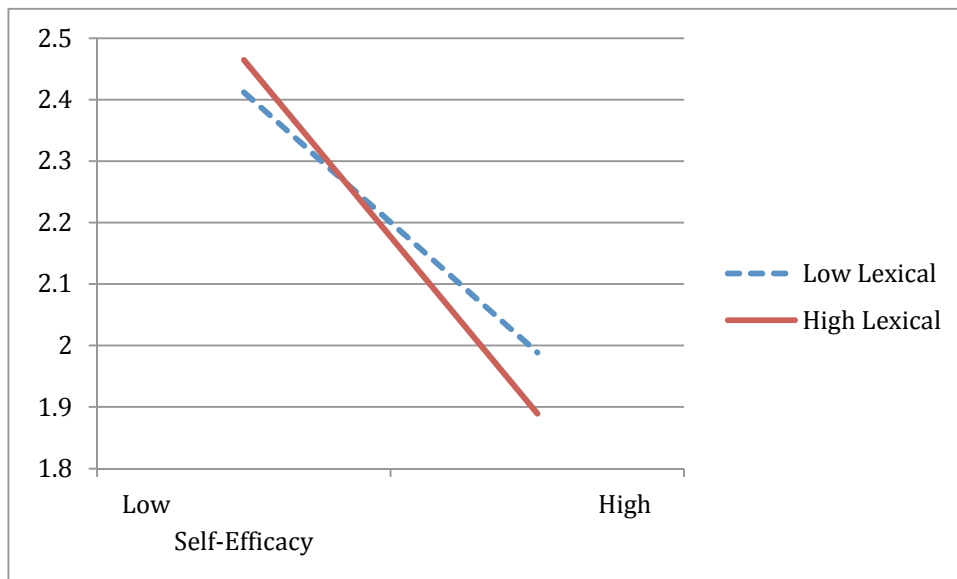
Figure 9 Interaction Between Importance and Lexical Complexity for Persuasiveness
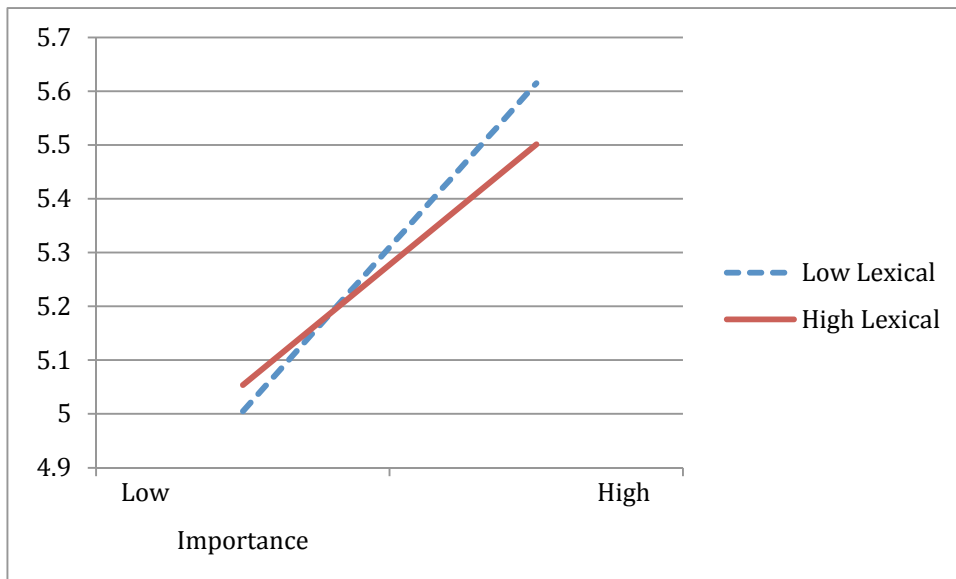
Figure 10 Interaction Between Importance and Lexical Complexity for Attitude
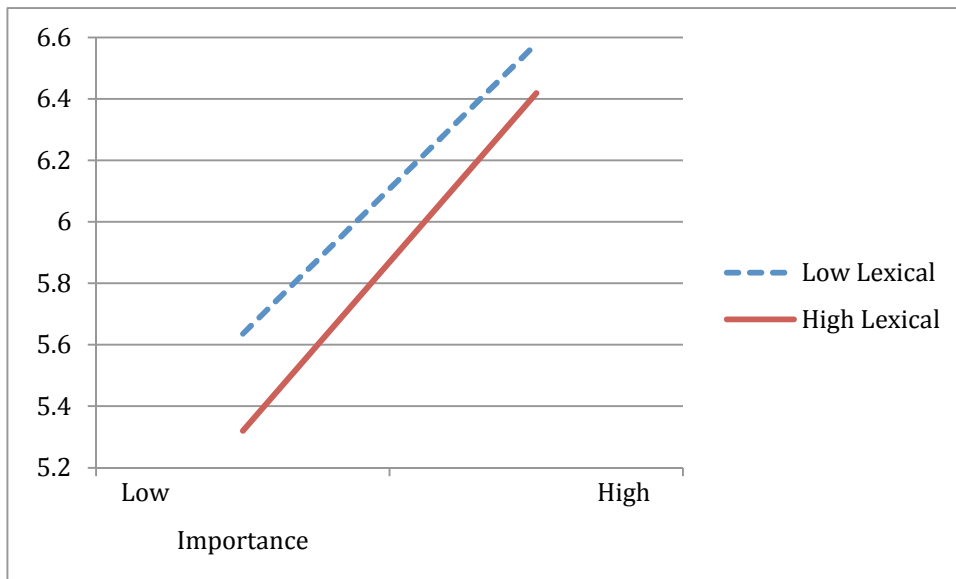
Figure 11 Interaction Between Importance and Lexical Complexity for Source Derogation
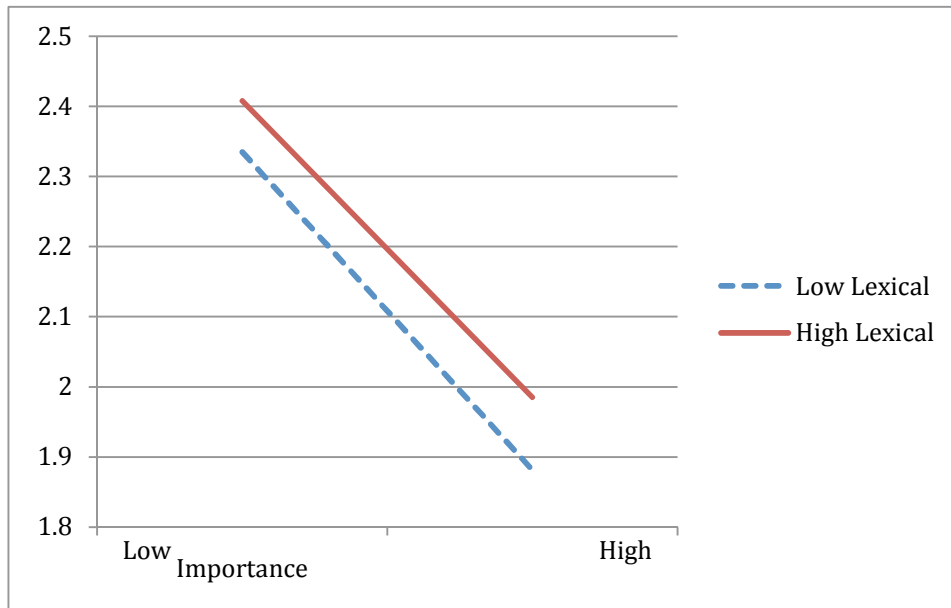
Figure 12 Interaction Between Importance and Lexical Complexity for Message
Derogation
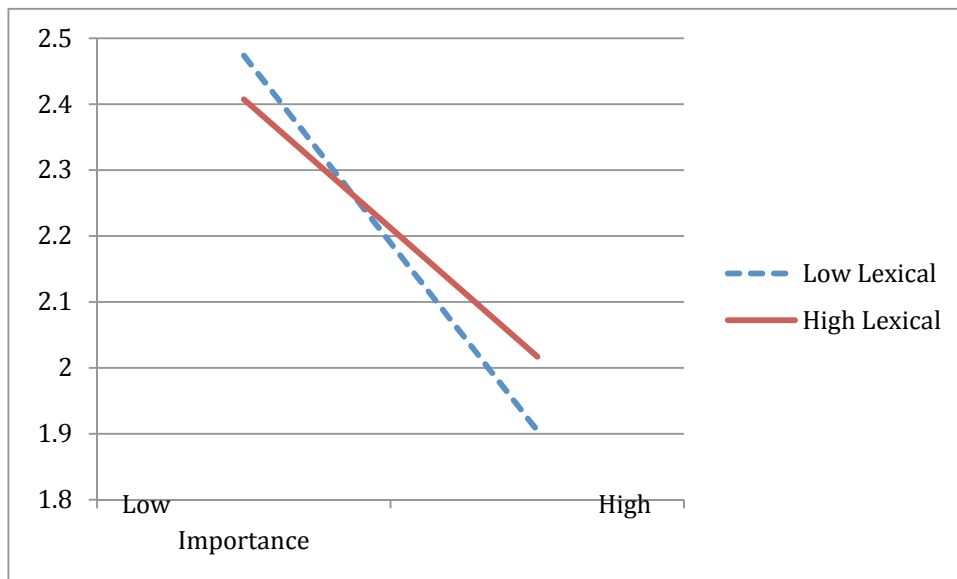
Figure 13 Interaction Between Need For Cognition and Lexical Complexity for
Persuasiveness
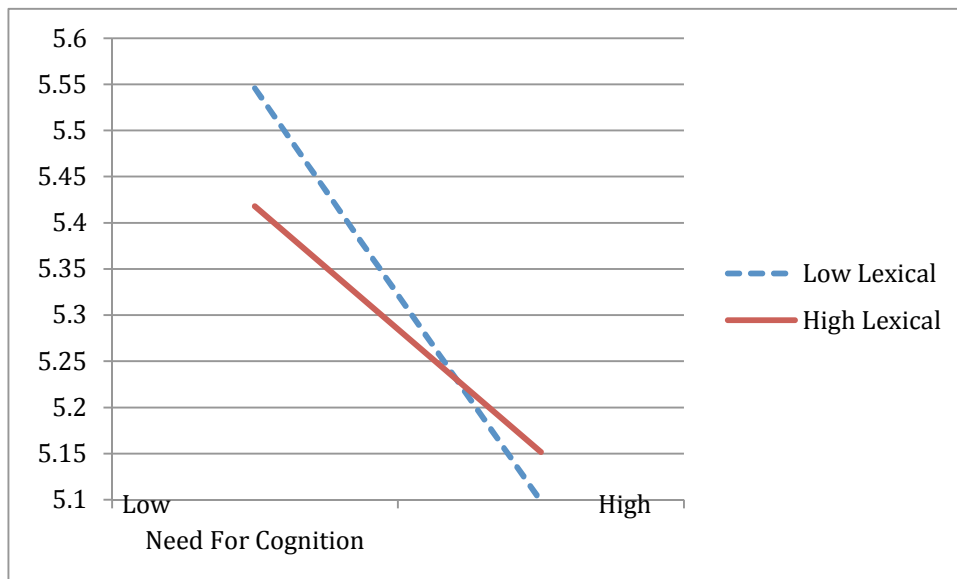
Figure 14 Interaction Between Abstraction and Lexical Complexity for Message Derogation
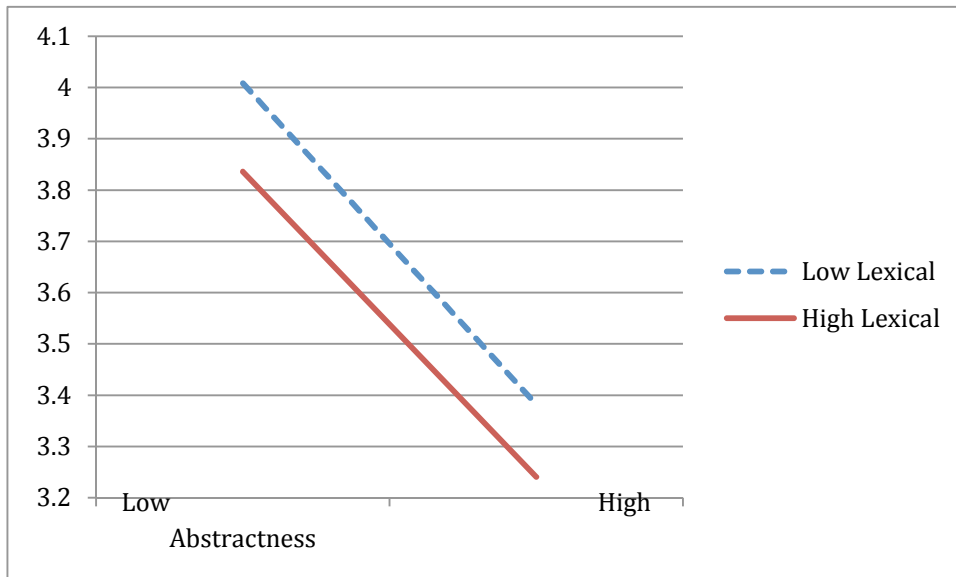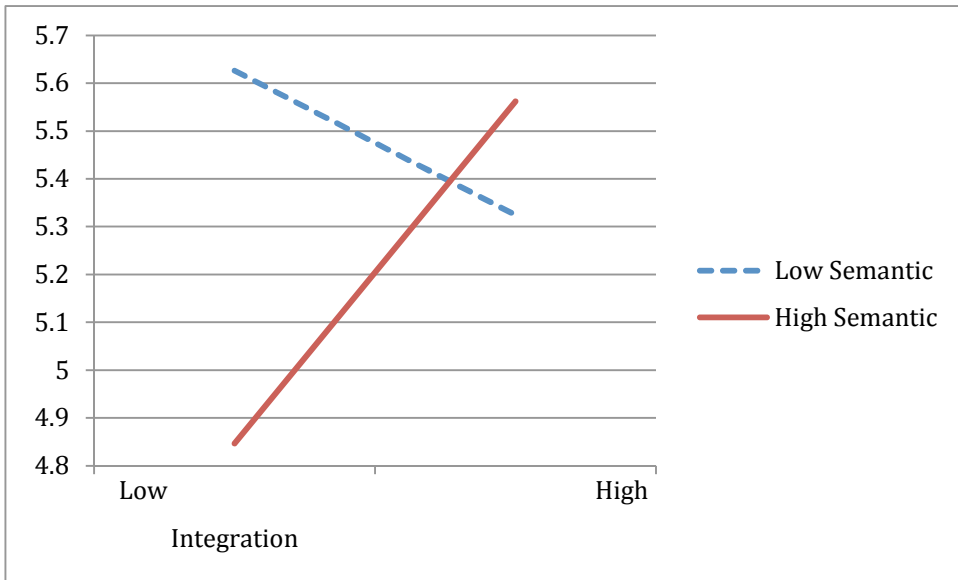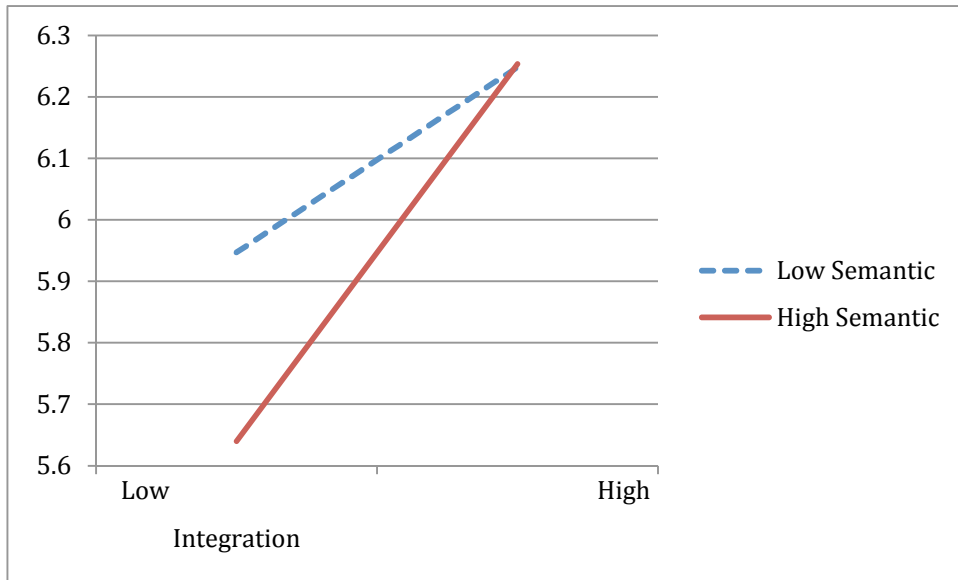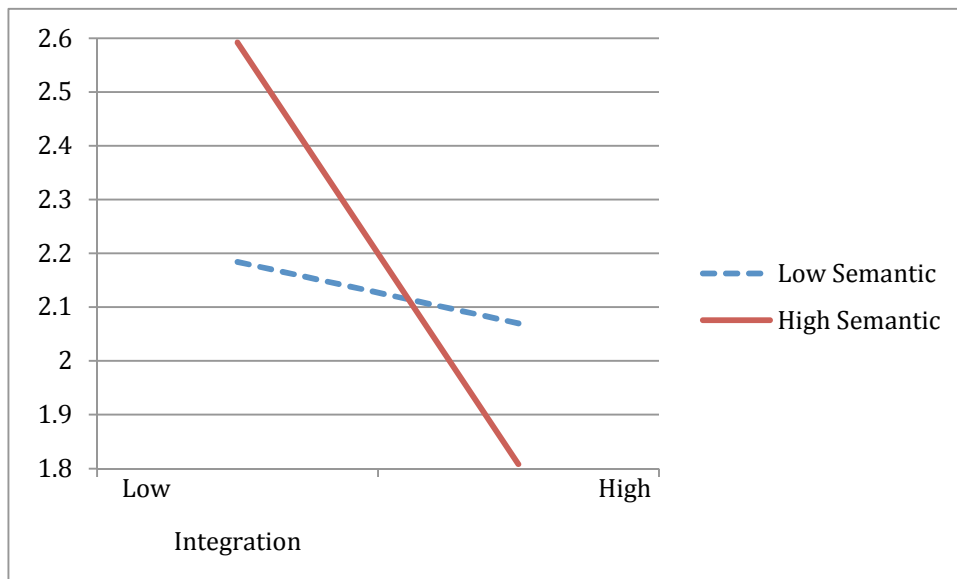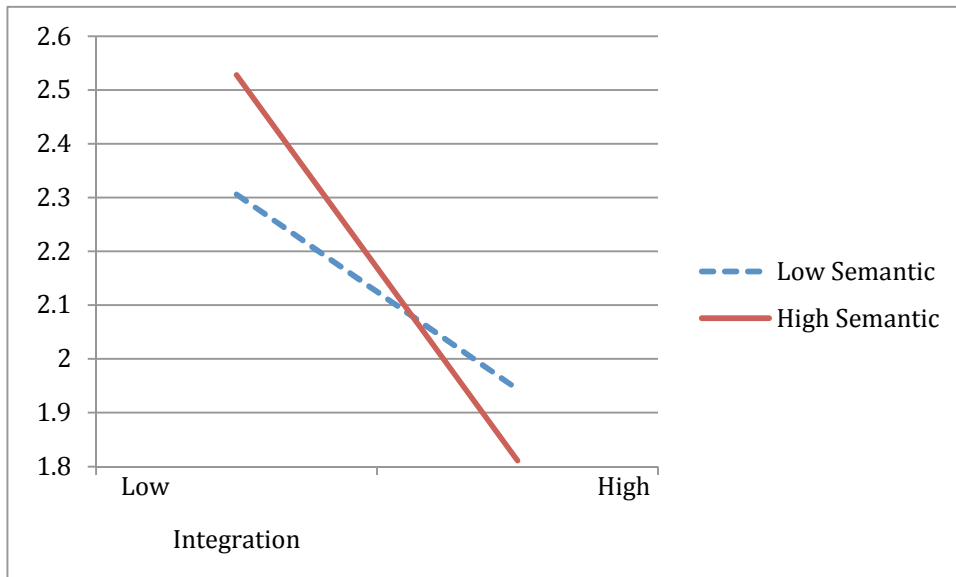
Figure 15 Interaction Between Differentiation and Lexical Complexity for Persuasiveness
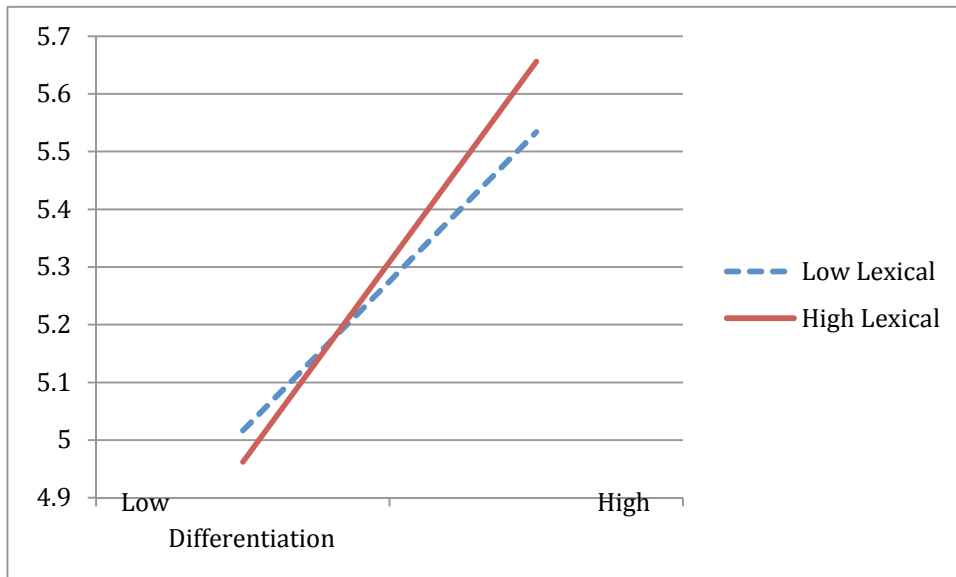
Figure 16 Interaction Between Differentiation and Lexical Complexity for Behavior Intentions
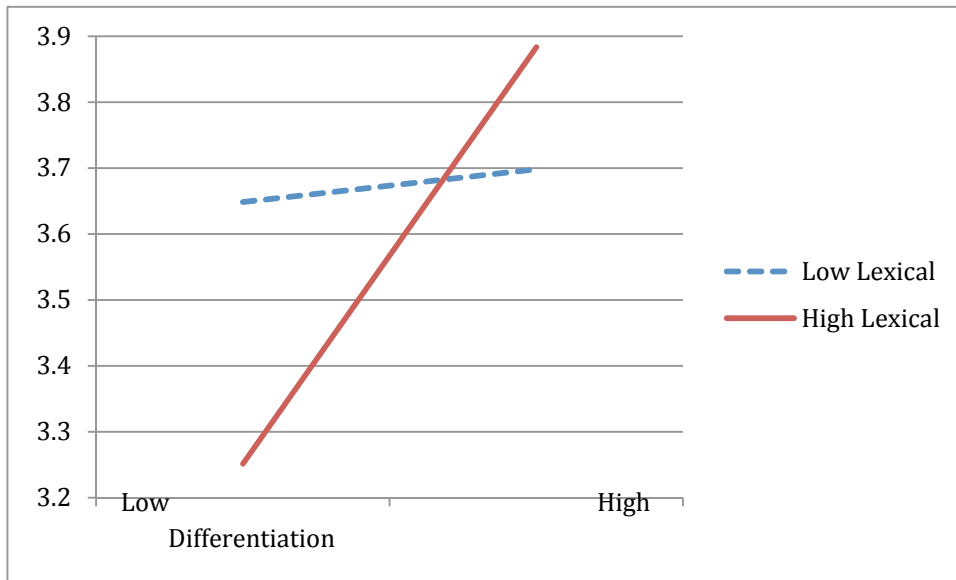
Figure 17 Interaction Between Differentiation and Lexical Complexity for Message Derogation
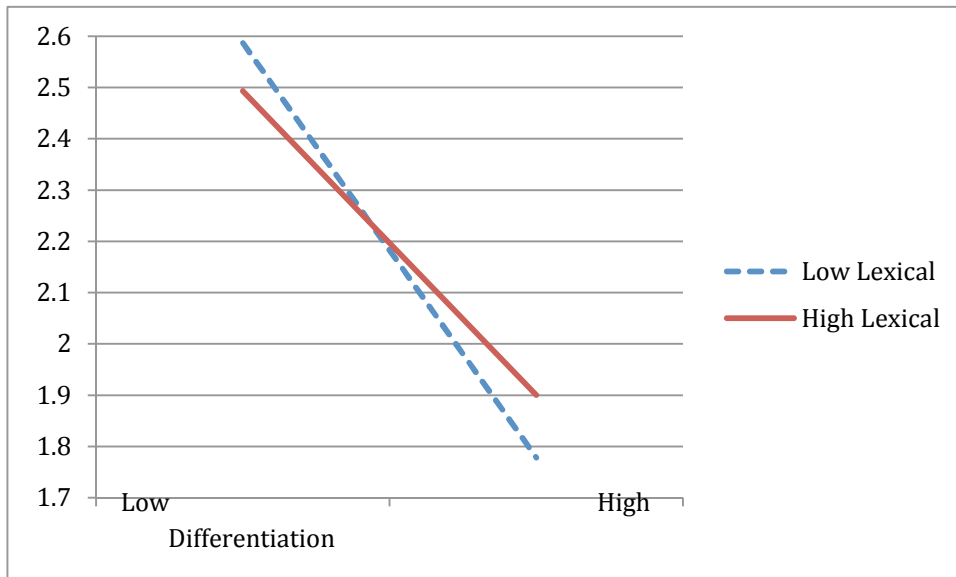
Figure 18 Interaction Between RCQ and Lexical Complexity for Persuasiveness
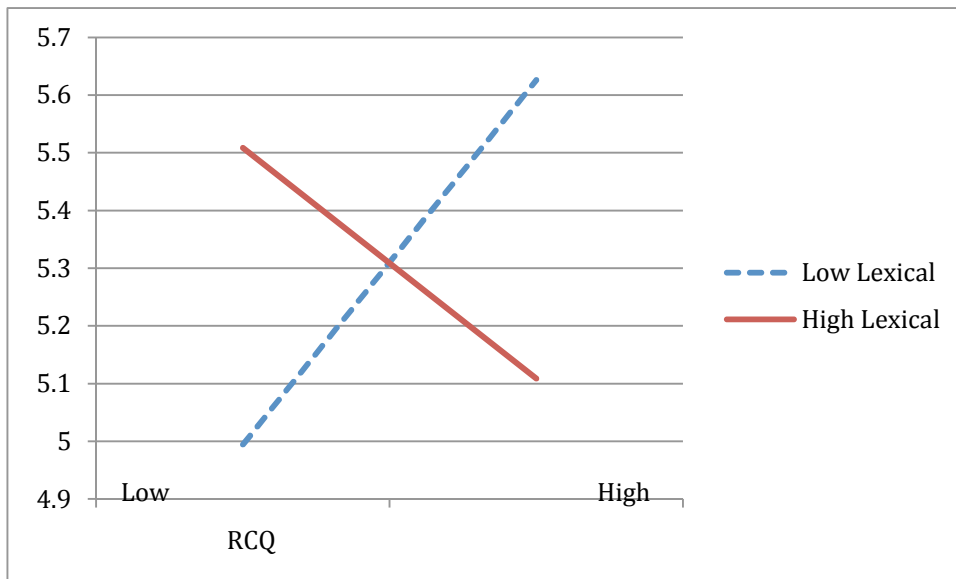
Figure 19 Interaction Between RCQ and Lexical Complexity for Behavior Intentions
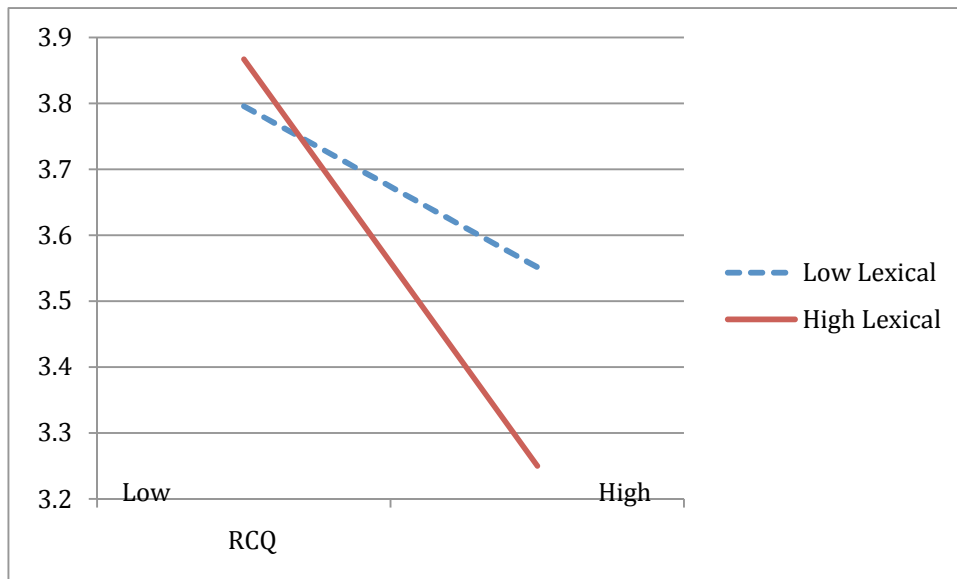
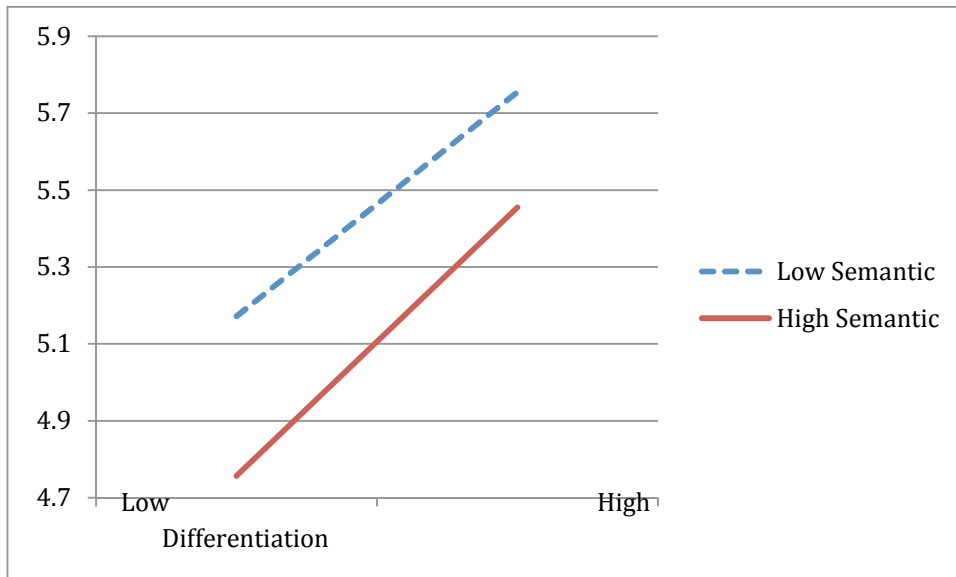Figure 20 Interaction Between RCQ and Lexical Complexity for Message Derogation
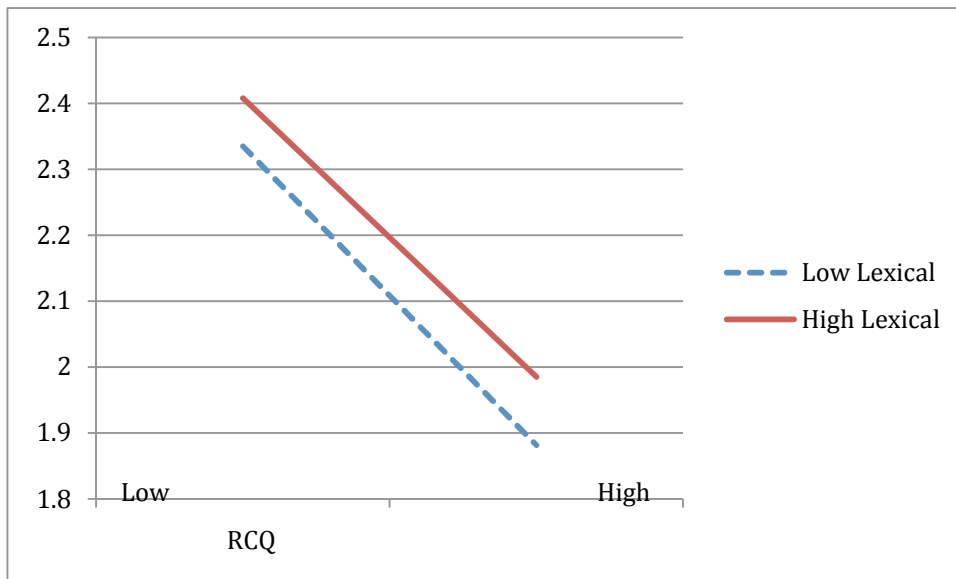
Figure 21 Interaction Between Immediacy and Semantic Complexity for Behavior
Intentions
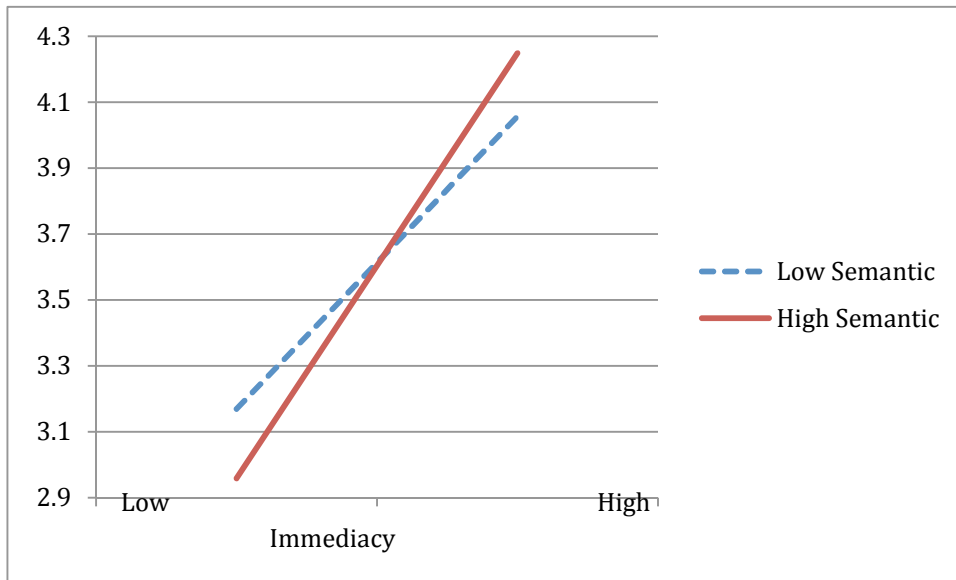
Figure 22 Interaction Between Importance and Semantic Complexity for Persuasiveness
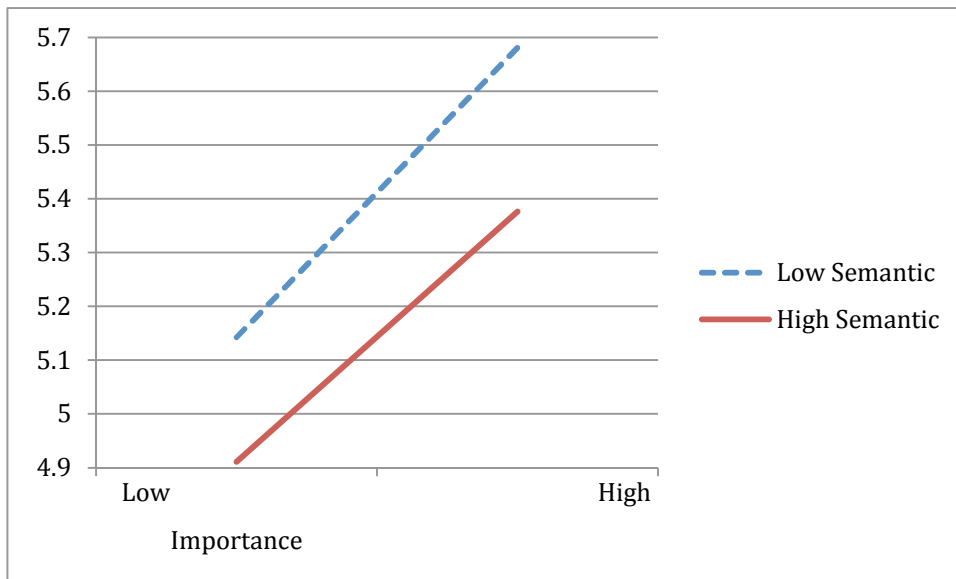
Figure 23 Interaction Between Importance and Semantic Complexity for Attitude
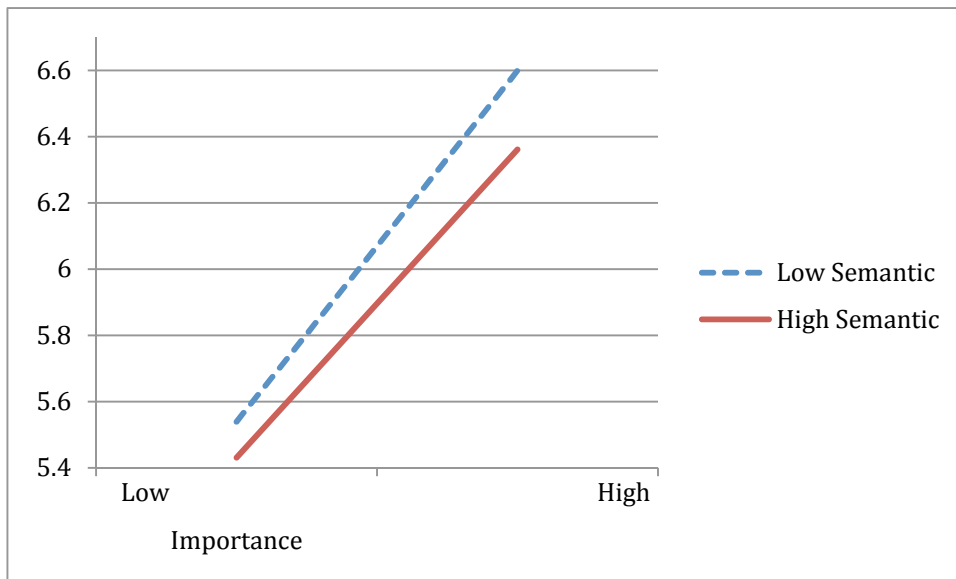
Figure 24 Interaction Between Importance and Semantic Complexity for Competence
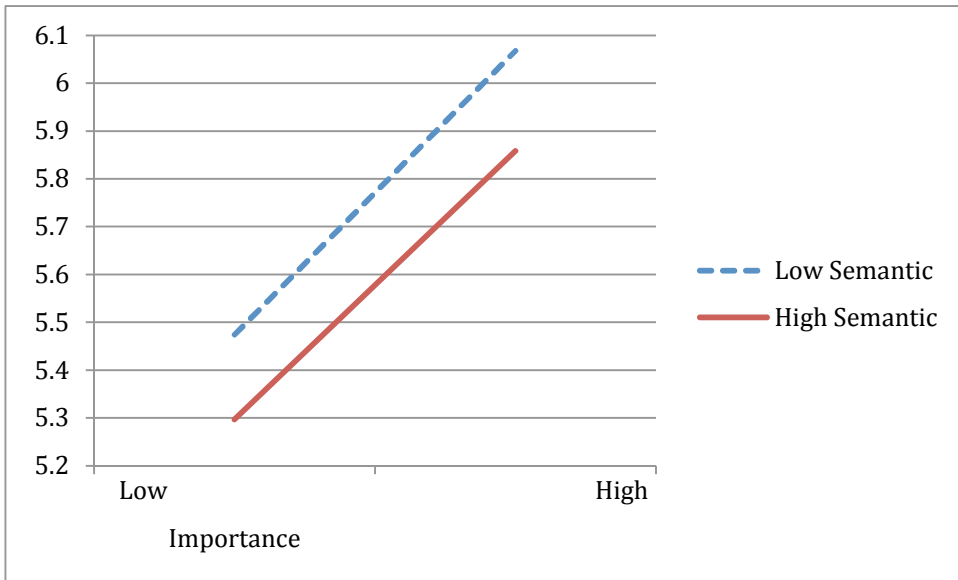
Figure 25 Interaction Between Importance and Semantic Complexity for Caring
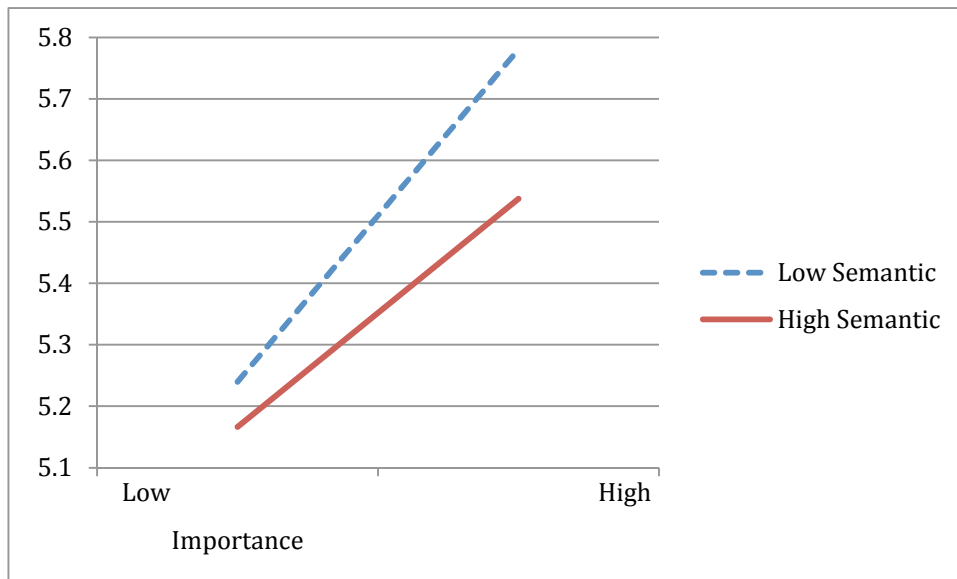
Figure 26 Interaction Between Importance and Semantic Complexity for Trustworthiness
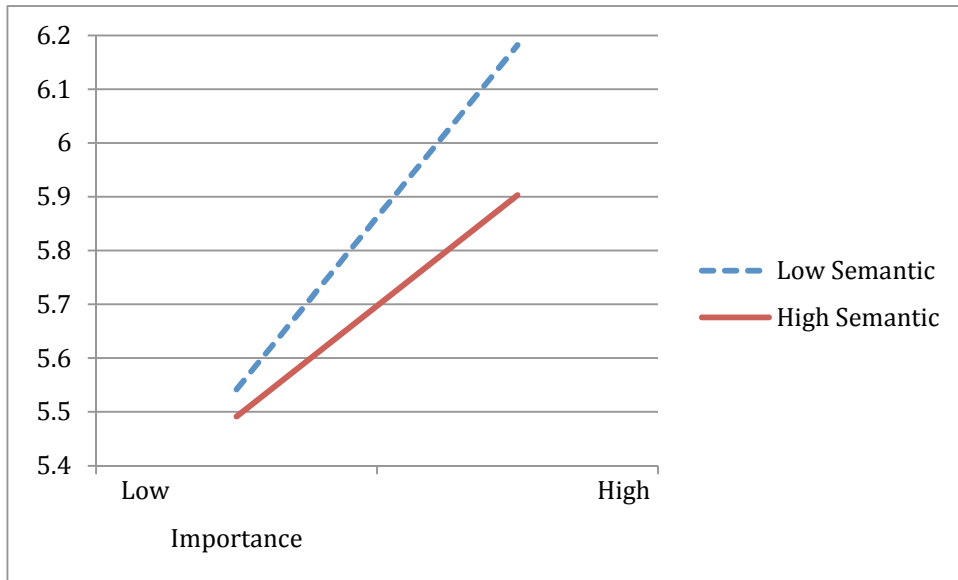
Figure 27 Interaction Between Importance and Semantic Complexity for Message
Derogation
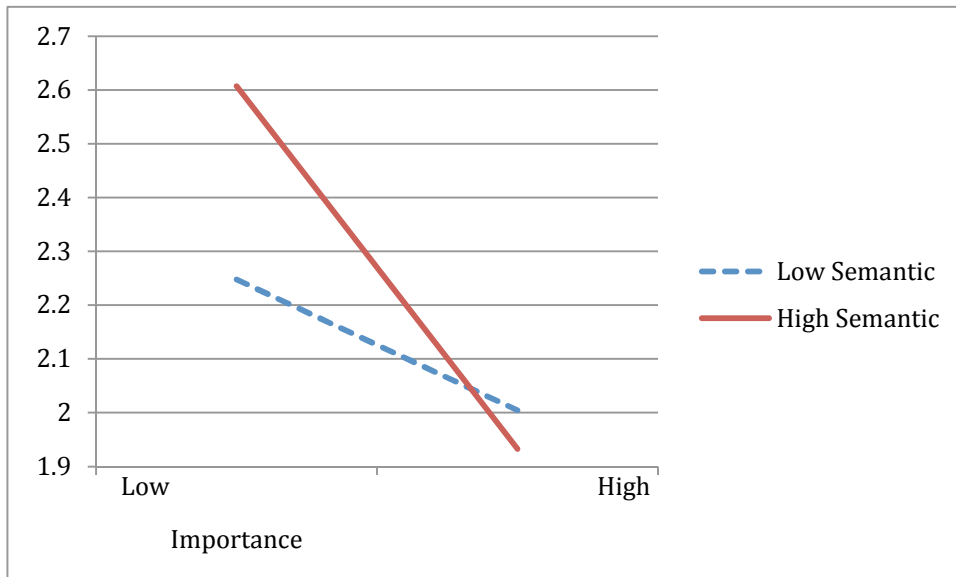
Figure 28 Interaction Between Need for Cognition and Semantic Complexity for Persuasiveness
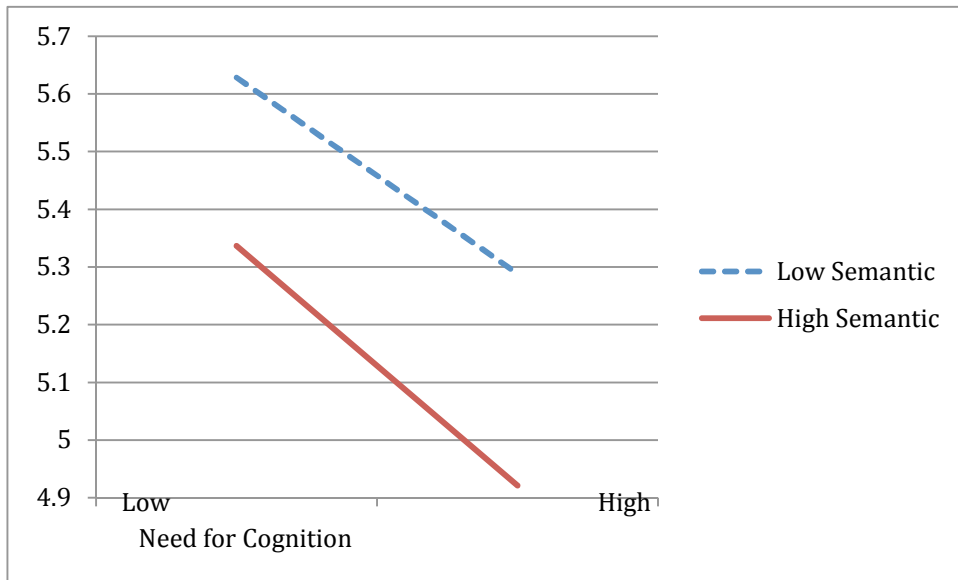
Figure 29 Interaction Between Integration and Semantic Complexity for Persuasiveness

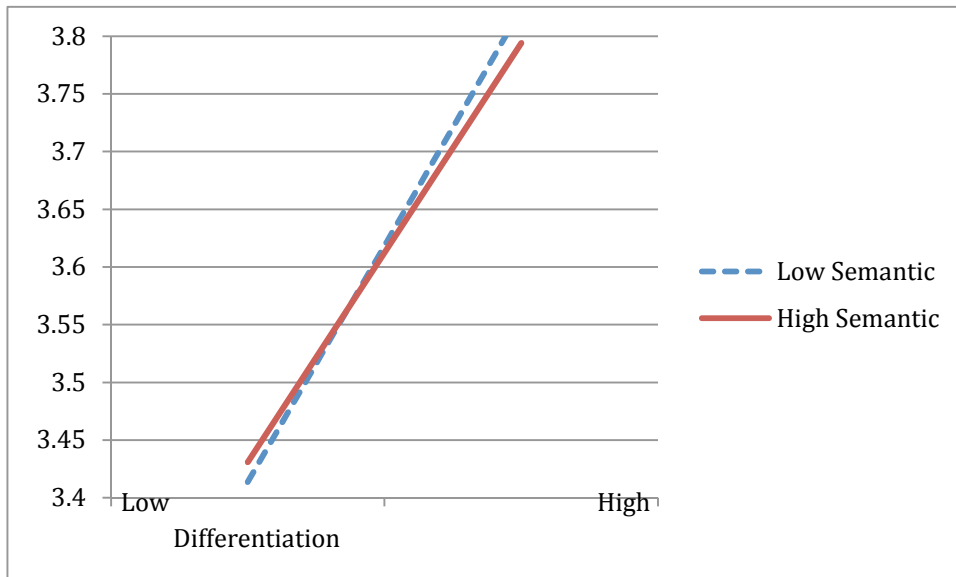Figure 30 Interaction Between Integration and Semantic Complexity for Attitude

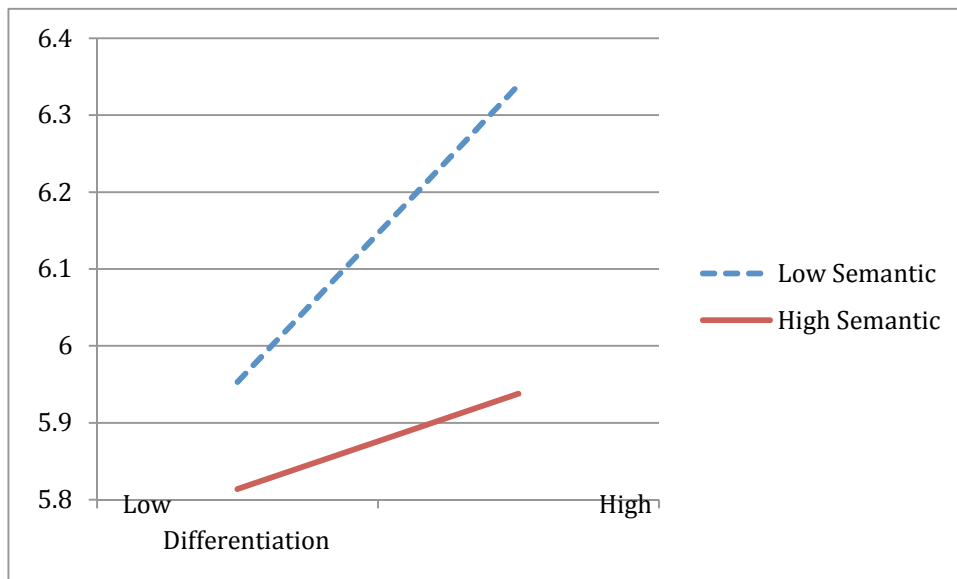Figure 31 Interaction Between Integration and Semantic Complexity for Message
Derogation

Figure 32 Interaction Between Integration and Semantic Complexity for Source Derogation

Figure 33 Interaction Between Differentiation and Semantic Complexity for Persuasiveness

Figure 34 Interaction Between Differentiation and Semantic Complexity for Behavior
Intentions

Figure 35 Interaction Between Differentiation and Semantic Complexity for Attitude

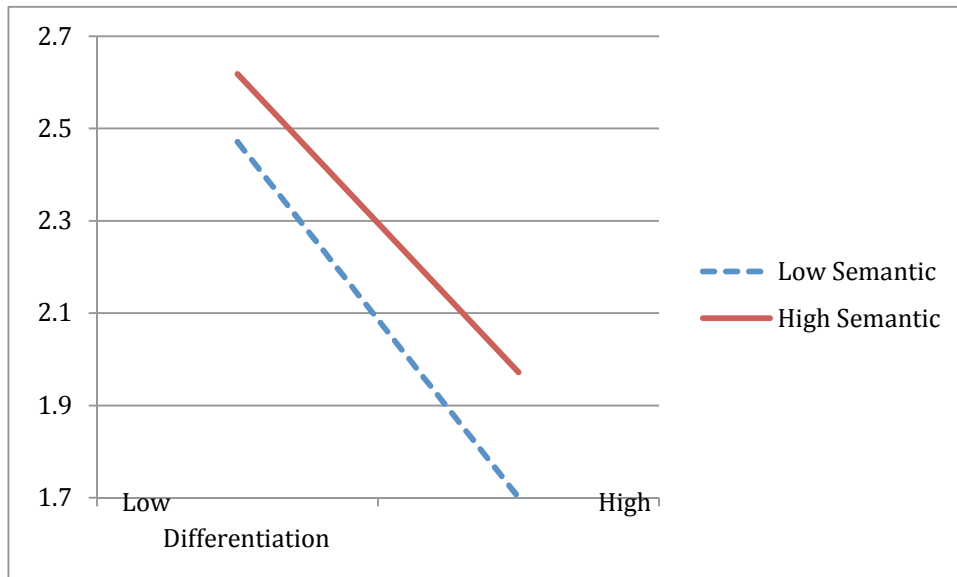Figure 36 Interaction Between Differentiation and Semantic Complexity for Message
Derogation

Figure 37 Interaction Between Differentiation and Semantic Complexity for Source Derogation
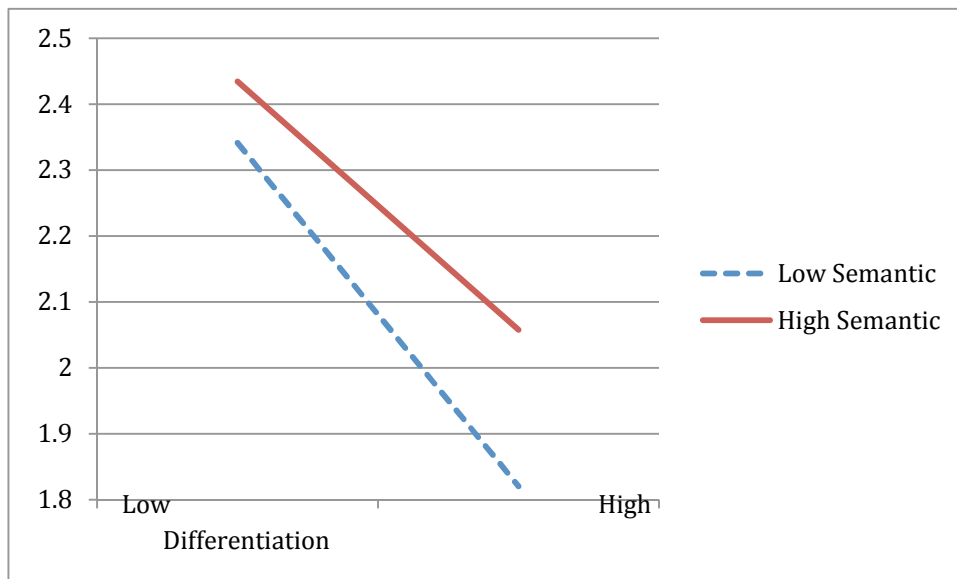
Figure 38 Interaction Between RCQ and Semantic Complexity for Behavior Intentions
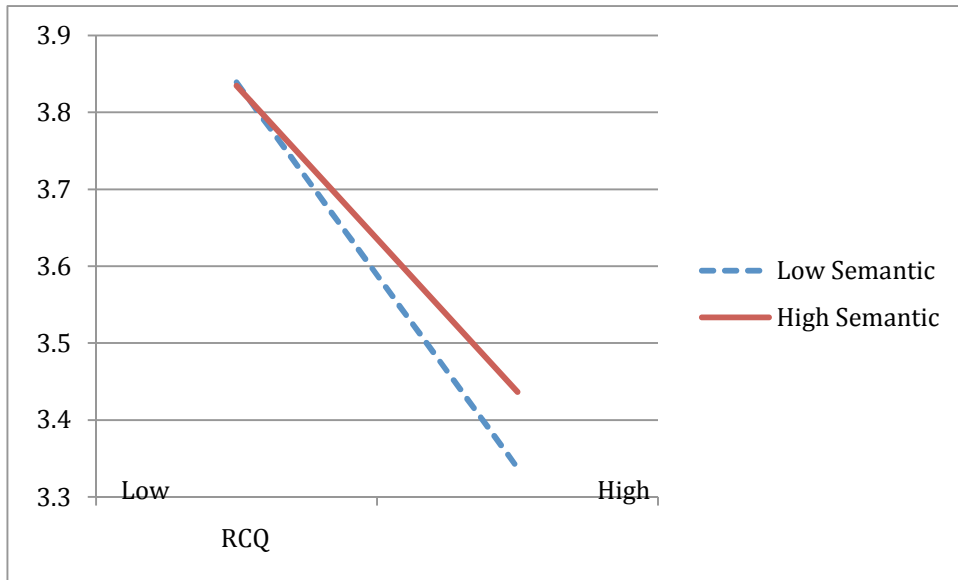
Figure 39 Interaction Between RCQ and Semantic Complexity for Message Derogation
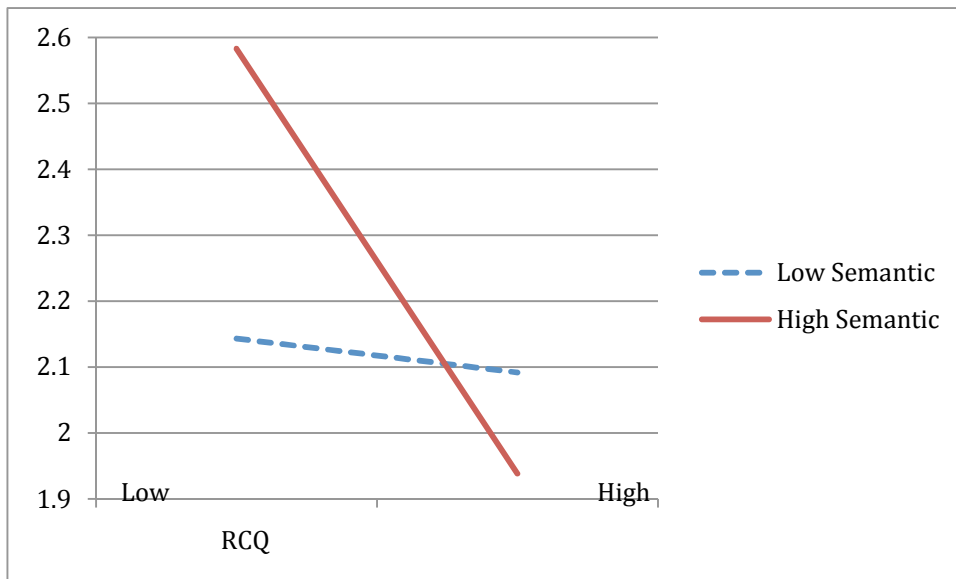
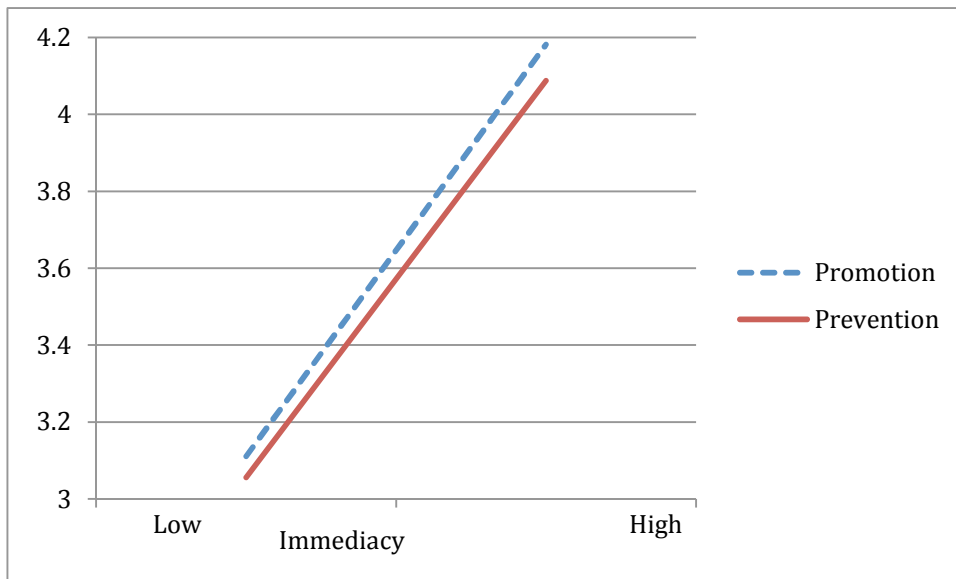Figure 40 Interaction Between Immediacy and Regulatory Focus for Behavior Intentions

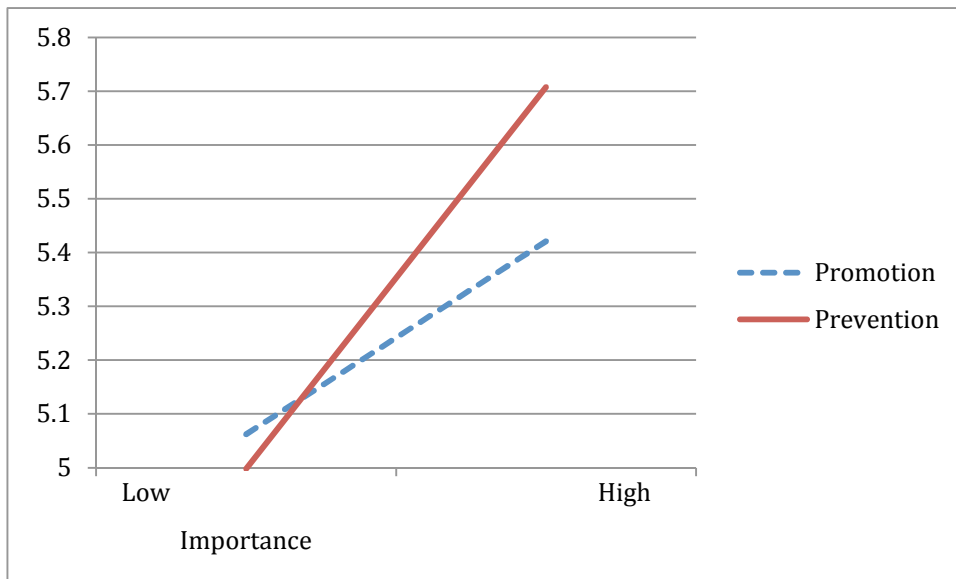Figure 41 Interaction Between Importance and Regulatory Focus for Persuasiveness

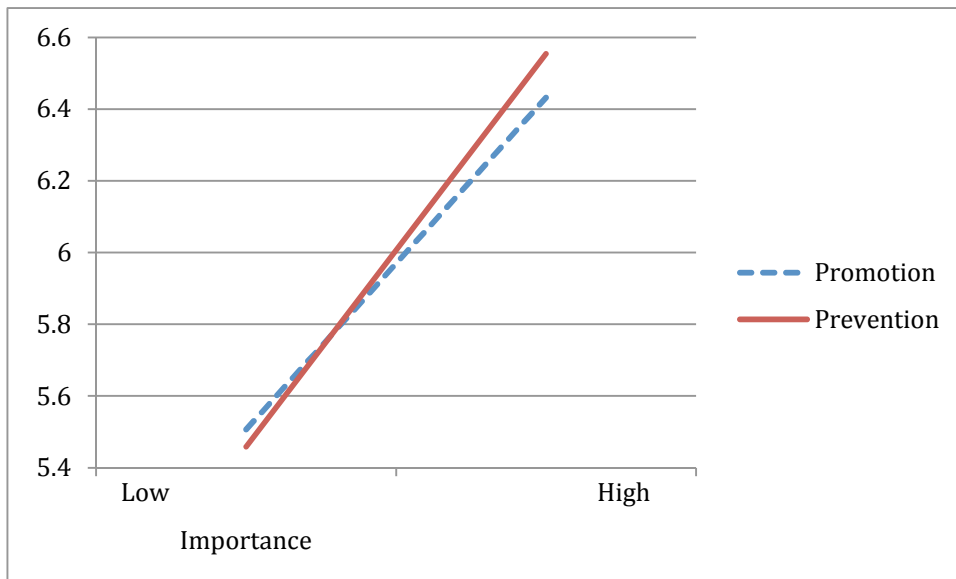Figure 42 Interaction Between Importance and Regulatory Focus for Attitude

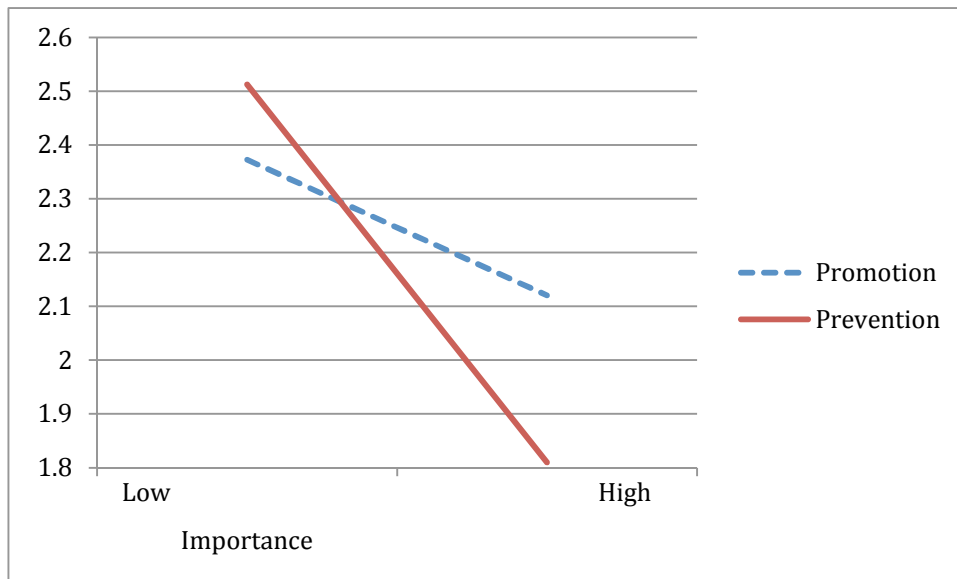Figure 43 Interaction Between Importance and Regulatory Focus for Message Derogation

Figure 44 Interaction Between Importance and Regulatory Focus for Competence
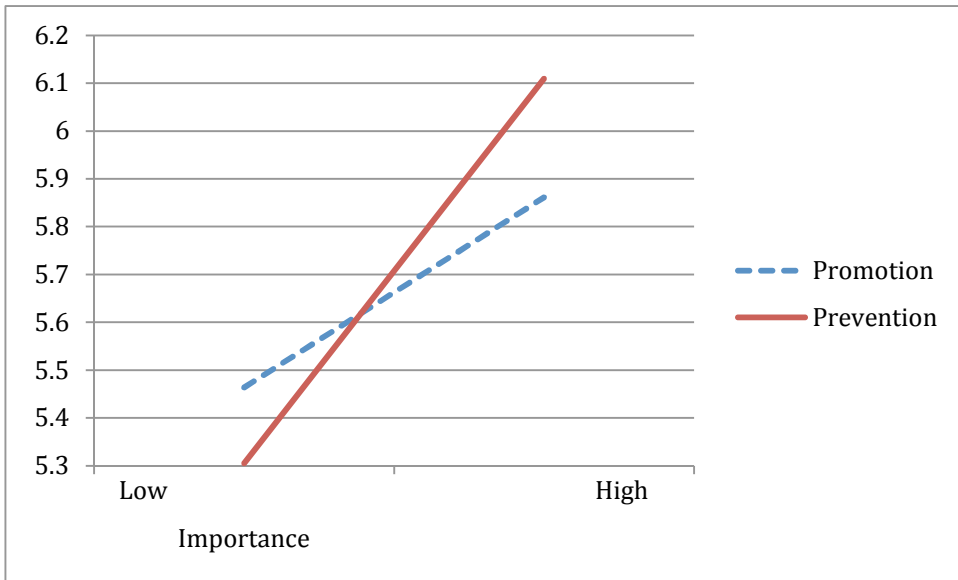
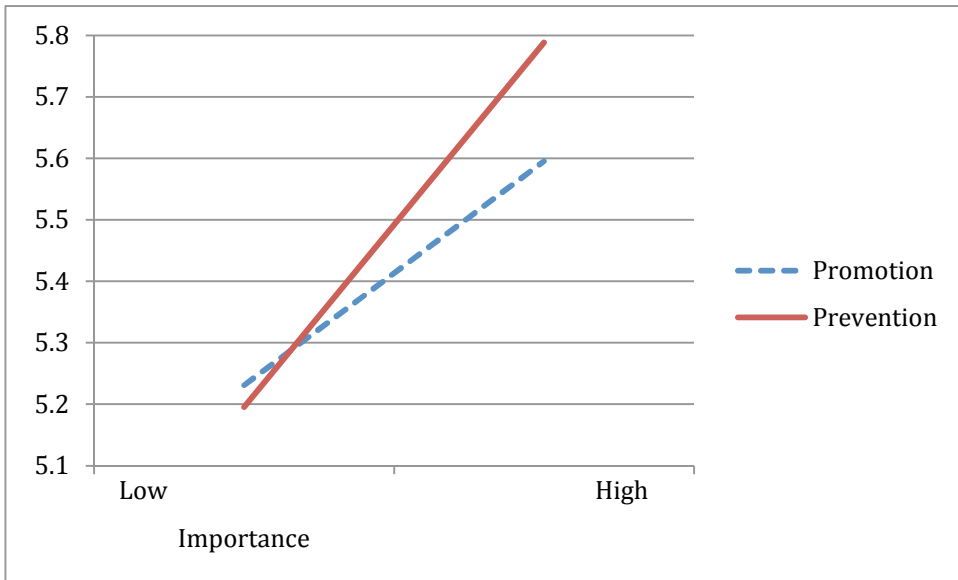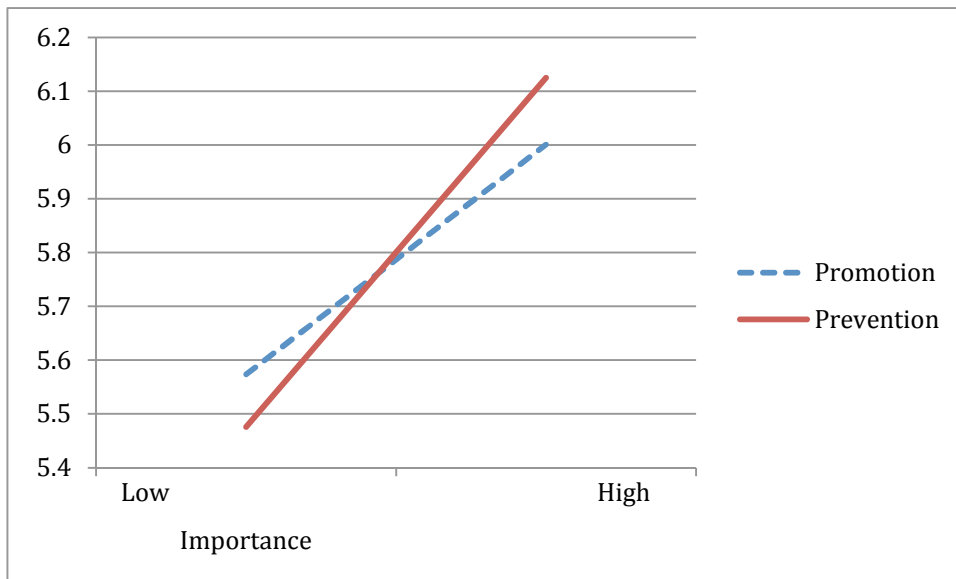Figure 45 Interaction Between Importance and Regulatory Focus for Caring

Figure 46 Interaction Between Importance and Regulatory Focus for Trustworthiness

APPENDIX A: MESSAGES

Semantically Simple, Lexically Simple Promotion Message
Being tested for STDs can be one of the most essential things you can do to stay healthy. You have to ask for an STD test. Doctors will not routinely test for STDs

You should feel comfortable to ask. It's absolutely essential to get tested. It is essential to be treated as soon as possible if you do have an STD— like chlamydia or gonorrhea, for example. You and your doctor will decide what STD tests make the most sense for your case.

Before Your Appointment

• Think of problems or questions you have. It is helpful to write them down even if you have only one or two questions so you have them with you.
• Tell the receptionist that you would like to be tested for STDs when you make your appointment and you will be tested.

The Appointment

It is the day of your appointment. Take a deep breath! Bring a family member or friend with you if you want company. It may even be OK to bring someone else into the room during your test. Just let the doctor know in advance that you would like to do that.

Also, tell your doctor if you want to talk in private. Ask lots of questions and be honest. Ask for explanations when you do not understand a question or answer so you can understand it.

The Talk
A good sexual health exam begins with a good sexual health history. Here are some common questions that doctors ask:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?
• When was your last period? (if you are a woman)

These questions might seem really personal. It is essential to be honest with your doctor so you get the most out of your test. Your doctor will help you make essential decisions about what test(s) you may need.

And remember! Be sure to ask about when you will get the results.

Below is contact information to schedule your screening today.

OU Health Services
Goddard Health Center
620 Elm Avenue
Norman, Oklahoma 73019-3146
405- 325-4441

Planned Parenthood
2100 W Lindsey St Ste B
Norman, Oklahoma 73069
405-360-1556
800-230-7526

Cleveland County Health Department
250 12th Ave NE
Norman, Oklahoma 73071
405-321-4048

Being tested for STDs can be one of the most essential things you can do to avoid getting sick. You have to ask for an STD test. Doctors do not routinely test for STDs

Do not let feeling nervous stop your question. It is absolutely essential to get tested. It is essential to be cured as soon as possible if you do have an STD— like chlamydia or gonorrhea, for example. You and your doctor will decide what STD tests make the most sense for your illness.

Before Your Appointment

•   Think of problems or questions you have. It is helpful to write them down even if you have only one or two questions so you do not forget them.
•   Tell the receptionist that you would like to be tested for STDs when you make your appointment or you will not be tested.

The Appointment
It is the day of your appointment. Take a deep breath! Bring a family member or friend with you if you do not want to be alone. It may even be OK to bring someone else into the room during your test. Just let the doctor know in advance so you can do that.

Also, tell your doctor if you do not want to talk in public. Ask lots of questions and do not lie. Ask for explanations when you cannot understand a question or answer you will not be able to understand it.

The Talk
A good sexual health exam begins with a good sexual health history. Here are some common questions that doctors ask:

•   How many sexual partners have you had recently?
•   How many sexual partners have you had in your lifetime?
•   Do you have sex with women, men, or both?
•   Do you have oral sex?
•   Do you have anal sex?
•   Do you use condoms?
•   Do you have symptoms?
•   Have you have had symptoms in the past?
•   Have you ever had a sexually transmitted infection?
•   Have you used over-the-counter medications to treat your symptoms?
•   Do your partner(s) have any STIs or symptoms of STIs?
•   Do you have any drug allergies?
•   When was your last period? (if you are a woman)

These questions might seem really personal. It is essential to be honest with your doctor or you will not get the most out of your test. Your doctor will help you make essential

decisions about what test(s) you may need.

And do not forget! Be sure to ask about when you will get the results.

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Being tested for sexually transmitted diseases can be one of the most important things you can do to stay healthy. You should petition for an STD test. Health care providers don't automatically screen for STDs

You should feel comfortable to request it. It's absolutely fundamental to your wellbeing to be assessed. It's important to seek treatment as soon as possible for comprehensive infection management if you do have an STD— like chlamydia or gonorrhea, for example. You and your physician will decide what STD tests make the most sense for your circumstances.

Before Your Appointment

• Think of concerns or questions you have. It's helpful to put them in writing even if you have only one or two inquiries to remember them.
• Tell the receptionist that you'd like to be checked for sexually transmitted infections when you make your appointment so you receive a complete examination.

The Appointment

It's the day of your scheduled examination. Inhale deeply! Bring a family member or friend with you if you want. It may even be acceptable to bring someone else into the room during your assessment. Just let the provider know in advance that you would like to do that.

Also, tell your general practitioner if you want to speak in confidence. Ask numerous questions and be straightforward. Ask for explanations when you don't comprehend a query or response so you can best utilize the prognosis.

The Talk
A good sexual health exam commences with an extensive sexual health history. There are several inquiries that health care providers ask:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?

- When was your last period? (if you're a woman)

These questions might seem really delicate. It's necessary to be candid with your health care provider to obtain preeminent remedies. Your caregiver can assist you to make important judgments about what test(s) you may require.

Remember! Inquire about when you'll get the outcome.

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Being tested for sexually transmitted diseases can be one of the most important things you can do when avoiding illness. You should petition for an STD test. Health care providers won't automatically screen for STDs.

Don't let feeling uncomfortable stop you from requesting it. It's absolutely fundamental to avoid illness to be assessed. It's important to seek health restoration as soon as possible for comprehensive infection management if you do have an STD— like chlamydia or gonorrhea, for example. You and your physician will decide what STD tests are appropriate for your ailments.

Before Your Appointment

• Think of problems or questions you have. It's helpful to put them in writing even if you have only one or two so you don't forget them.
• Tell the receptionist that you'd like to be checked for sexually transmitted infections when you make your appointment or you won't receive a complete examination.

The Appointment

It's the day of your scheduled examination. Inhale deeply! Bring a family member or friend with you if you don't want to be by yourself. It may even be acceptable to bring someone else into the room during your assessment. Just let the provider know in advance so you can do that.

Also, tell your general practitioner if you don't want your information publicized. Ask numerous questions and be straightforward. Ask for explanations when you can't comprehend a query or response or you won't be able to best utilize the diagnosis.

The Talk
A good sexual health exam commences with an extensive sexual health history. There are several inquiries that health care providers ask:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?

- When was your last period? (if you're a woman)

These questions might seem really clandestine. It's necessary to be candid with your health care provider or you won't obtain preeminent remedies. Your caregiver can assist you to make important judgments about what test(s) you may require.

Don't forget! Inquire about when you'll get the outcome.

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Semantically Complex, Lexically Simple Promotion Message

One of the most essential things you can do for to stay healthy is to be tested for STDs. During a visit, doctors will not routinely test for STDs. In order to be tested, you have to ask.

You can feel comfortable about asking to be tested as it really is essential. If you have an STD – like Chlamydia or gonorrhea - it is essential to be treated as soon as possible to stay healthy. In terms of what STD tests to take, you and your doctor will decide what makes the most sense for your condition.

Before Your Appointment

• If you have questions, write them down to keep them in mind. It is essential, even if you have only one or two.
• When you make an appointment with the receptionist, ask to be tested for STDs to make sure you are tested.

The Appointment

On the day of your visit, take a deep breath! If you want someone else in the room with you during your test, it is okay to bring family or a friend. When you want someone to be with you just let the doctor know in advance.

If you want to talk in private, tell your doctor. As soon as there is a question or answer you would like explained, ask for an explanation, ask lots of questions, and be honest so you can use the answers you get.

The Talk
To have a good sexual health exam, you will provide a sexual health history. There are many questions a doctor can ask, and here are some common ones:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?
• When was your last period? (if you are a woman)

Some of these questions might seem really personal, but it is essential to be open with your doctor to stay healthy. When deciding what test(s) you may need, your doctor can help you make this essential decision.

Remember, ask about when you will get the results.

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Semantically Complex, Lexically Simple Prevention Message

One of the most essential things you can do to avoid illness is to be tested for STDs. During a visit, doctors will not routinely test for STDs. You will need to ask, or you will not be tested.

Feeling nervous may stop you from asking, but it really is essential. If you have an STD – like Chlamydia or gonorrhea - it is essential to be treated as soon as possible to avoid illness. In terms of what STD tests to take, you and your doctor will decide what makes the most sense for your illness.

Before Your Appointment

• If you have questions, write them down so you do not forget. It is essential, even if you have only one or two.
• When you make an appointment with the receptionist, ask to be tested for STDs or you will not be tested.

The Appointment

On the day of your visit, take a deep breath! If you do not want to be alone during your test, it is okay to bring family or a friend. As long as you tell the doctor in advance, you can have someone with you.

If you want to keep you information private, tell your doctor. As soon as there is a question or answer you do not get, ask for an explanation, ask lots of questions, and be honest or you will miss out on some information.

The Talk
To avoid a poor sexual health exam, you will provide a sexual health history. There are many questions a doctor can ask, and here are some common ones:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?
• When was your last period? (if you are a woman)

Some of these questions might seem really personal, but it is essential to be open with your doctor or you may not stay healthy. When deciding what test(s) you may need, your doctor can help you make this essential decision.
Do not forget, ask about when you will get the results.

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Semantically Complex, Lexically Complex Promotion Message

One of the most significant things you can do for your health is to be screened for sexually transmitted diseases. During a checkup, health care providers won't automatically test for STDs. In order to be tested, you'll need to ask.

You should feel comfortable about asking, and it's absolutely fundamental you are assessed. If you have an STD – like Chlamydia or gonorrhea- it's imperative to seek treatment as soon as possible to remain healthy. In terms of what STD tests to take, you and your physician will decide what makes the most sense for your circumstances.

Before Your Appointment

• If you have questions, put them in writing so you'll remember them. It's important, even if you have only one or two.
• When you make an appointment, inform the receptionist that you'd like to be checked for sexually transmitted infections to ensure you are screened.

The Appointment

On the day of your scheduled examination, inhale deeply! If you want someone else in the room with you during your assessment, it's acceptable to bring a family member or friend. When you want someone to accompany you just let the physician know beforehand.

If you prefer to speak in confidence, tell your general practitioner. As soon as there's a query or response you would prefer clarification on, then ask for an explanation, ask numerous questions, and be straightforward so you are better equipped to utilize the prognosis.

The Talk
For a good sexual health exam commences, you will provide an extensive sexual health history. There are several inquiries a health care provider can ask, and here are some typical ones:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?

- Do you have any drug allergies?
- When was your last period? (if you are a woman)

Some of these matters might seem really delicate, but it's necessary to be candid with your health care provider to obtain preeminent remedies. In order to decide what test(s) you may require, your caregiver can assist you to make this important judgment. Moreover, remember, inquire about when you'll get the outcome.

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Semantically Complex, Lexically Complex Prevention Message

One of the most significant things you can do to avoid infections is to be screened for sexually transmitted diseases. During a checkup, health care providers won't automatically test for STDs. You'll need to ask, or you won't be tested.

Don't let feeling uncomfortable stopping you from asking; it's absolutely fundamental you are assessed. If you have an STD – like Chlamydia or gonorrhea- it's imperative to seek treatment as soon as possible to prevent further complications. In terms of what STD tests to take, you and your physician will decide what tests are appropriate for your ailments.

Before Your Appointment

• If you have questions, put them in writing so you won't forget them. It's important, even if you have only one or two.
• When you make an appointment, inform the receptionist that you'd like to be checked for sexually transmitted infections or you won't be screened.

The Appointment

On the day of your scheduled examination, inhale deeply! If you don't want to be by yourself during your assessment, it's acceptable to bring a family member or friend. Unless you tell the doctor beforehand, you cannot have someone accompany you.

If you don't want your information publicized, tell your general practitioner. As soon as there's a query or response you do not comprehend, then ask for an explanation, ask numerous questions, and be straightforward so you don't miss valuable information.

The Talk
If you do not provide an extensive sexual history, you will not receive an adequate sexual health exam. There are several inquiries a health care provider can ask, and here are some typical ones:

• How many sexual partners have you had recently?
• How many sexual partners have you had in your lifetime?
• Do you have sex with women, men, or both?
• Do you have oral sex?
• Do you have anal sex?
• Do you use condoms?
• Do you have symptoms?
• Have you have had symptoms in the past?
• Have you ever had a sexually transmitted infection?
• Have you used over-the-counter medications to treat your symptoms?
• Do your partner(s) have any STIs or symptoms of STIs?
• Do you have any drug allergies?

- When was your last period? (if you are a woman)

Some of these matters might seem really personal, but it's necessary to be candid with your health care provider or you may not receive the care you have need of. In order to decide what test(s) you may require, your caregiver can assist you to make this important judgment.
Moreover, don't forget, inquire about when you'll get the outcome.

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Course Credit

For pre-approved course credit, please specify the following information.
NOTE: this information is detached from survey responses so your identity will not be associated with the information you provide.

Course Number (e.g., Comm 1113)

Time & days class meets

Instructor

Your Last Name

Your Student ID #

Vested Interest

Susceptibility
How susceptible are you to contracting an STD?
How susceptible are you to STD infections?

Self-efficacy
1. How capable are you at scheduling an STD test?
2. How able are you to take the time to get and STD test?

Outcome Certainty
1. How likely is an STD infection in your community?
2. What is the chance of you being infected with an STD?

Immediacy of Outcomes
1. How soon might an STD infection occur?
2. How far in the future might an STD affect you?

Threat Salience
1. How often do you think about STD infections?
2. How concerned are you about STD's?

Hedonic Relevance

Being screened for STDs is:
Pleasant/unpleasant
Pleasurable/unpleasurable
Punishing/not punishing
Satisfying/unsatisfying

Importance
Being screened for STDs is:

Important/unimportant
Relevant/irrelevant
Significant/insignificant
Consequential/inconsequential

Attitude

Being screened for STDs is:
acceptable/unacceptable
wise/foolish
favorable/unfavorable
positive/negative
good/bad
right/wrong

Message Complexity

This message is:
complex/simple
intricate/straightforward
complicated/uncomplicated
difficult/easy
compound/uniform
demanding/undemanding
effortful/effortless
unintelligible/self-explanatory
convoluted/simplistic
unclear/clear
elaborate/plain
unreadable/readable
incomprehensible/ comprehensible

Source Credibility

Use the following scales to rate the source of the message:
1)   Intelligent 1 2 3 4 5 6 7 Unintelligent
2)   Untrained 1 2 3 4 5 6 7 Trained
3)   Cares about me 1 2 3 4 5 6 7 Doesn't care about me
4)   Honest 1 2 3 4 5 6 7 Dishonest
5) Has my interests at heart 1 2 3 4 5 6 7 Doesn't have my interests at heart
6)   Untrustworthy 1 2 3 4 5 6 7 Trustworthy
7)   Inexpert 1 2 3 4 5 6 7 Expert
8)   Self-centered 1 2 3 4 5 6 7 Not self-centered
9)   Concerned with me 1 2 3 4 5 6 7 Not concerned with me
10)   Honorable 1 2 3 4 5 6 7 Dishonorable
11)   Informed 1 2 3 4 5 6 7 Uninformed
12)   Moral 1 2 3 4 5 6 7 Immoral
13)   Incompetent 1 2 3 4 5 6 7 Competent
14)   Unethical 1 2 3 4 5 6 7 Ethical

15)   Insensitive 1 2 3 4 5 6 7 Sensitive
16)   Bright 1 2 3 4 5 6 7 Stupid
17)   Phony 1 2 3 4 5 6 7 Genuine
18)   Not understanding 1 2 3 4 5 6 7 Understanding

Source Derogation

The source of this message was MANIPULATIVE.
The source of this message was MISLEADING.
The source of this message TRIED TO MANIPULATE ME.
The source of this message was EXPLOITIVE.
The source of this message was INTELLIGENT.
The source of this message was UNREASONABLE.

Message Derogation

This message was EXAGGERATED.
This message was DISTORTED.
This message was OVERBLOWN.
This message was OVERSTATED.

Persuasiveness

This message is:
Persuasive/unpersuasive
Effective/ineffective
Convincing/unconvincing
Compelling/ not compelling
Influential/not influential

Behavioral Intentions

I intend to get tested for sexually transmitted diseases before my next sexual encounter.
I plan to get tested for sexually transmitted diseases before my next sexual encounter.
I will be tested for sexually transmitted diseases before my next sexual encounter.

Agitation Emotions

I feel:
angry
annoyed
irritated
aggravated

Dejection Emotions

I feel:
afraid
scared
fearful
sad

ashamed
miserable
guilty

Cognitive Complexity Instrument (CCI)

Abstractness:
1. I like to think about abstract issues
2. I dislike all riddles (Reverse)
3. I am not interested in thinking on an abstract level (Reverse
4. I have difficulty understanding abstract ideas (Reverse)
5. I like to come up with new ideas how to solve some of the world problems
6. I like to keep things simple (Reverse)
7. Typically, I avoid philosophical discussions (Reverse)

Integration:
1. I spend a lot of time reflecting on how things are connected
2. I can typically link issues together
3. Before making a decision, I tend to think about possible consequences
4. I often try to understand logical relations between events
5. Typically, I can explain how one thing may lead to another
6. I can usually see different points of view
7. I can bring a new perspective to a situation

Differentiation:
1. I usually don't waste my time thinking about different nuances (Reverse)
2. When describing a person, I typically go beyond just physical description.
3. I often see details that others overlook
4. I like to read detailed descriptions of various things
5. In order to fully understand how a thing works one needs to know all the small details about it.
6. Small nuances may make all the difference
7. When someone is telling a story I wish they would get straight to the point (Reverse)

Role Category Questionnaire (RCQ)

Our interest in this questionnaire is to learn how people describe other whom they know. Our concern here is with the habits, mannerisms – in general, with personal characteristics, rather than the physical traits – which characterize a number of different people.

In order to make sure you are describing real people, we have set down a list of two different categories of people. In the blank space beside each category below, please write the initials, nicknames, or some other identifying symbol for a person of you acquaintance who fits into that category. Be sure to use a different person for each category.

A person your own age whom you like. _____
A person your own age whom you dislike. _____

Spend a few moments looking over this list, mentally comparing and contrasting the people you have in mind for each category. Think of their habits, their beliefs, their mannerisms, their relations to others, any characteristics they have which you might use to describe them to other people.

Please look back to the first sheet and place the symbol you have used to designate the person in category 1 here _____.

Now describe this person as fully as you can. Write down as many defining characteristics as you can. Do not simply put down those characteristics that distinguish him/her from others on your list, but include any characteristics that he/she shares with others as well as characteristics that are unique to him/her. Pay particular attention to his/her habits, ways of treating others, mannerisms, and similar attributes. Remember, describe him/her as completely as you can, so that a stranger might be able to determine the kind of person he/she is from your description. Use the back of this page if necessary. Please spend only about five (5) minutes describing him/her.

This person is:

_____

Please look back to the first sheet and place the symbol you have used to designate the person in category 2 here _____.

Now describe this person as fully as you can. Write down as many defining characteristics as you can. Do not simply put down those characteristics that distinguish him/her from others on your list, but include any characteristics that he/she shares with others as well as characteristics that are unique to him/her. Pay particular attention to his/her habits, ways of treating others, mannerisms, and similar attributes. Remember, describe him/her as completely as you can, so that a stranger might be able to determine the kind of person he/she is from your description. Use the back of this page if necessary. Please spend only about five (5) minutes describing him/her.

This person is:

_____

Need for Cognition
1. I would prefer complex to simple problems.
2. I like to have the responsibility of handling a situation that requires a lot of thinking.
3. Thinking is not my idea of fun.*
4. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.*

5. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something.*
6. I find satisfaction in deliberating hard and for long hours.
7. I only think as hard as I have to.*
8. I prefer to think about small, daily projects to long-term ones.*
9. I like tasks that require little thought once I have learned them.*
10. The idea of relying on thought to make my way to the top appeals to me.
11. I really enjoy a task that involves coming up with new solutions to problems.
12. Learning new ways to think doesn't excite me very much.*
13. I prefer my life to be filled with puzzles that I must solve.

Demographic survey items
- Gender: Female _____   Male _____

- Age: _____

- What race would best describe you?

    1. _____ Asian/Asian American

    2. _____ African American

    3. _____ Latino/Hispanic

    4. _____ West Indian

    5. _____ White/non-Hispanic

    6. _____ Native American

    7. _____ Other (specify):_____

- What year of college are you in?

    1. Freshman

    2. Sophomore

    3. Junior

    4. Senior

    5. Other (specify): _____

Have you ever had an STD before?

    Yes

    No