

CHANGING DATING BEHAVIOR EXPECTATIONS BY USING JUDGMENTAL  
ANCHORS TO INDUCE COGNITIVE DISSONANCE

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**Title**

Changing Dating Behavior Expectations By Using Judgmental Anchors  
to Induce Cognitive Dissonance

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State University's regulations and meets the accepted standards for the degree of

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## **ABSTRACT**

This study expanded upon literature separately examining numerical anchors and cognitive dissonance, by attempting to use numerical anchors to induce cognitive dissonance and change dating behavior expectations. The high numerical anchors had an effect on dating behavior expectations, such that the expectations assimilated in a healthier direction toward the anchor value. The dissonance manipulation resulted in higher levels of psychological discomfort, as measured by the scale created for this thesis. Further, an exploration of assessing magnitude of dissonance and an examination of the theoretical antecedents of dating behavior intentions was conducted. Overall, future dating behavior intentions for respect, trust, communication and helping behaviors were in healthy directions. Additionally, dating behavior intentions assessed four to six weeks after the study remained in a healthy direction. These findings are informative and contribute to our knowledge regarding the use of numerical anchors, cognitive dissonance, and undergraduate dating behavior expectations and intentions.

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## INTRODUCTION

*“If I accept you as you are, I will make you worse; however, if I treat you as though you are what you are capable of becoming, I help you become that.”*

*– Johann von Goethe*

Seventy-two percent (107/149) of North Dakota State University undergraduates who participated in a recent survey reported dating within the past twelve months (Semanko & Hinsz, 2018). Previous research suggests that unhealthy dating relationships are frequently experienced by undergraduate students (Murray & Kardatzke, 2007). These relationships contain unhealthy dating behavior expectations, such as expecting one’s significant other to justify their every action (e.g., why they hung out with that person or why they went to that club; Hall Health Center Promotion Staff, 2014). Although many interventions have attempted to decrease overall unhealthy dating behaviors (cf. Berkowitz, 2010), little research has had the specific intent of altering dating behavior expectations. In this thesis, the theory of cognitive dissonance was used in pursuit of understanding how dating behavior expectations can be changed. Through the innovative approach of introducing judgmental anchors to influence personal dating expectations along with an original dissonance manipulation, cognitive dissonance was induced. Overall, participants were motivated to have high intentions toward engaging in future healthy dating behavior.

For purposes of this thesis, dating is defined as “a stage of romantic or sexual relationships ...whereby two or more people meet socially, possibly as friends or with the aim of assessing the other’s suitability as a prospective partner in a more committed intimate relationship” (Dating, 2017, para. 1). Dating behaviors refer to actions that occur on a date or during a dating relationship. Although dating behaviors differ extensively, college students often

have a perception of what they believe are common dating behaviors (Stinson, 2010). These can be thought of as normative beliefs and can reflect expectations of others about actions in a social environment (Fishbein & Ajzen, 2010).

Expectations are a salient component of dating relationships and can be defined as “enduring cognitions about the behavior anticipated of others” (Burgoon, 2015, p. 2). We often have expectations of what we believe *should* or *should not* occur on dates or in dating relationships. Expectations can result from perceptions of normative behavior, along with other normative information (Berkowitz, 2010; Burgoon, 2015). Consequently, misperceptions about common or appropriate dating behaviors can create expectations that may be unhealthy or impractical. These inappropriate expectations signal a need for introducing and increasing healthy dating behavior expectations, an area that has not been well-examined before in college students. This thesis sought to alter dating expectations and intentions that are important for healthy dating relationships.

### **The Theory of Cognitive Dissonance**

The theory of cognitive dissonance was used in attempt to understand how dating expectations can be altered. Cognitive dissonance theory states that people strive for internal consistency within themselves, reflected by cognitions (thoughts or actions) that are in agreement with one another (Festinger, 1957). When cognitions are inconsistent in specific ways, cognitive dissonance results. This dissonance produces a psychological discomfort which motivates the reduction of dissonance. In order to thoroughly understand cognitive dissonance and the drive for its reduction, a comprehensive explanation of the theory is necessary.

People strive for consistency between the cognitive elements they hold (Festinger, 1957). Cognitions are consonant if one element follows from another and dissonant cognitions result if



the obverse of an element follows. To further elaborate, a consonant relationship of two cognitions/actions would be: 1) that a person believes in having only one committed intimate relationship at a time and 2) the person does not date others if they are in a committed relationship. A dissonant relationship would be: 1) the person believes in having only one committed intimate relationship at a time and 2) the person has intimate relationships with two additional partners. In those two illustrations, the cognitions are related. Pairs of cognitive elements do not have to be relevant to one another though, as one can have two cognitions that are not in relation.

If a person has two relevant, inconsistent cognitive elements, it is predicted that dissonance will be aroused. The magnitude of the dissonance a person experiences can vary depending on the circumstances (Festinger, 1957; Harmon-Jones & Harmon-Jones, 2007). The magnitude of dissonance is a function of the importance of the cognitive elements involved, and the proportion of consonant and dissonant cognitions. The greater importance and higher number of consonant cognitions with the cognitive element, the more resistance there is towards change. Thus, the largest magnitude of dissonance that can be present cannot be greater than the willingness to change the weaker cognitive element. If that were to occur, then the weaker element would change and the dissonance would be reduced.

If dissonance is aroused at a substantial magnitude, a psychological discomfort will be created, motivating the reduction of dissonance. Cognitive dissonance is conceived of as an unpleasant state such that the person experiencing the aversive state is motivated to reduce or avoid it (Festinger, 1957; Gawronski, 2012). Research has examined cognitive dissonance and the means of its reduction through a number of paradigms. These paradigms relate to classic literatures such as post-decisional dissonance (Brehm, 1956; Festinger, 1957), forced compliance

(e.g., Festinger & Carlsmith, 1959), selective exposure to new information (Festinger, 1957), and disagreement in a group setting (e.g., Matz & Wood, 2005). In these situations, dissonance is typically reduced by adding new information consonant with existing elements, changing one of the dissonant elements to consonant, and reducing the importance of the dissonant cognitions. The chosen method of dissonance reduction may depend upon the relevance of the elements involved or magnitude of dissonance. Ultimately though, an individual experiencing dissonance is likely to take the path that will produce the least resistance to reducing the dissonance.

Since the original theory was published, research regarding cognitive dissonance has advanced and many alternative explanations have been offered. The occurrence of cognitive dissonance was immediately proposed to be explained through reward incentive, lack of reality (Aronson, 1969), relief, and accomplishment (Chapanis & Chapanis, 1964). These interpretations led to an abundance of studies examining dissonance theory, aiming to construct a more comprehensive explanation (i.e., Aronson & Mills, 1959; Brehm & Cohen, 1962; Festinger & Carlsmith, 1959; Gerard & Mathewson, 1966). Although most of these experimental findings were consistent with the original theory (Aronson, 1969), interest in cognitive dissonance was sparked and numerous studies followed.

The studies that followed the initial program of research on cognitive dissonance generated a plethora of alternative explanations. The alternative theoretical frameworks included self-perception theory (Bem, 1967; Bem & McConnell, 1970; Bem, 1972), a “new look” for the theory of cognitive dissonance (Cooper & Fazio, 1984), and an action-based model of dissonance (Harmon-Jones & Harmon-Jones, 2007; Harmon-Jones, Harmon-Jones & Levy, 2015). Many of the other conceptualizations focus on the importance of the self-concept being engaged in the situation (Aronson, 1969, 1972, 1992) and include notions related to self-

affirmation (Steele 1983, 1988). A self-standards model of dissonance was also developed that describes dissonance arousal as a result of a behavior inconsistent with a relevant self-standard or expectancy (Stone & Cooper, 2001), with the motivation to reduce cognitive dissonance resulting from violated self-expectancies (Stone & Cooper, 2001; Proulx, Inzlicht, & Harmon-Jones, 2012). Multiple reviews of cognitive dissonance theory and related research have been published (cf. Greenwald & Ronis, 1978; Harmon-Jones & Harmon-Jones, 2007; Metin & Camgoz, 2011) which conclude that the central mechanisms of cognitive dissonance have yet to be disproven. These theoretical conceptualizations can directly contribute to an investigation of how cognitive dissonance relates to dating behavior expectations and changes in those expectations.

### **Cognitive Dissonance and Dating Behavior Expectations**

Misperceptions about the appropriateness and frequency of different dating behaviors often exist. These misperceptions have been shown in expectations about dating activities (Berkowitz, 2010), but we can imagine expectations regarding dating behavior may be present as well (such as when the truth should be told). Through the lens of cognitive dissonance theory, we can understand how dating behavior expectations could theoretically be modified. For example, if information is introduced (e.g., Most people important to you are honest with their dating partner) that is inconsistent with common perceptions and behaviors (e.g., It is okay to keep some things from my dating partner), cognitive dissonance could arise due to the two inconsistent cognitive elements.

The dissonance that arises from the discrepancy between a person's common expectations of dating and their individual dating behaviors can result in a psychological discomfort (Festinger, 1957). The magnitude of the discomfort will depend upon the importance

of the cognitions to the individual (e.g., How important do I think it is to be honest in a dating relationship? How important is it for me to have a dating relationship?) and the ratio of dissonant cognitions to consonant cognitions the person holds. The resulting discomfort will motivate the individual to avoid increasing the level of dissonance and eventually, motivate the individual to reduce the dissonance.

The reduction of dissonance can occur in various ways. Ultimately, the inconsistency between cognitive elements will be reduced through the path of least resistance, most likely by changing the person's dissonant elements (e.g., I intend to be completely honest with my dating partner). However, dissonance reduction could occur through two other methods: (1) increasing consonant elements (e.g., I've been told sharing too much information isn't good for dating relationships) or (2) decreasing the importance of the dissonant relations (e.g., It doesn't matter if I'm honest, my partner will like me for who I am rather than for what I do or don't say). Depending on the path taken, the induction of cognitive dissonance has the potential to result in attitude change or altered dating behavior expectations.

Additionally, the experience of cognitive dissonance should prompt an individual to avoid information or behaviors that would increase the dissonance, such as acting dishonest. This tendency to avoid producing greater dissonance has powerful implications for promoting healthy aspects of dating relationships because cognitive dissonance has the potential to alter beliefs, values, attitudes and behaviors. If unhealthy behavior is successfully avoided in the future, it could have implications for interventions concerning dating behaviors and more general theoretical applications.

## **Anchoring**

The research in this thesis used judgmental anchors as an innovative attempt to induce dissonance by changing dating behavior expectations. An anchor is an initial value or piece of information to which people adjust from when making judgments or decisions (Tversky & Kahneman, 1974). Two types of anchors include numerical anchors and self-generated anchors (Epley & Gilovich, 2001). Numerical anchors are typically presented in an inquiry as a numerical value, whereas self-generated anchors are created by the decision maker during consideration of the judgment or decision (Epley & Gilovich, 2001; Kahneman, 2011).

The introduction of numerical anchors could have direct effects on participants' expectations regarding dating behavior. Prior research provides evidence to suggest that numerical anchors could influence these expectations. For example, asking prices for homes listed for sale were given to real-estate agents and average citizens before touring various properties. Once the properties were thoroughly viewed, the individuals were then asked to provide their own estimates of the worth of the homes (Northcraft & Neale, 1987). The asking prices given to participants (numerical anchors) were experimentally manipulated to be either well-above the actual value or well-below it. Despite receiving listing details, viewing the property and even having expertise in the case of real estate agents, final estimates given by participants assimilated to the numerical anchor rather than to the actual appraised value. Similar to how the anchor influenced home value expectations, anchors can also impact behavior.

To elaborate, numerical anchors have been found to alter established goals and related behavior. When participants were asked to create a numerical goal for how many uses they could think of for common objects (e.g., paperclip) and then asked to generate uses, a high introduced anchor increased the goal and number of uses generated while a low anchor decreased the goal

and uses generated (Hinsz, Kalnbach, & Lorentz, 1997). The assimilation towards the numerical anchor value is known as an anchoring effect and has been demonstrated for a variety situations and judgment contexts (Kahneman, 2011).

The application of a numerical anchor can be applied to dating behavior expectations. For instance, one could introduce an anchor concerning the amount of money expected to spend on a date. Participants could then be asked to estimate the amount of money spent on dates for his or her dating relationships. This could appear as “How much money do you typically spend on a date? Please provide a specific numerical value. For example, \$700.” (cf. Hinsz et al., 1997). Presumably, participants’ answers will assimilate toward the anchor value of \$700, although the responses may not be the same as the introduced anchor. Even though extreme values typically produce larger movement toward the anchor (Plous, 1993), adjustment from the anchor will stop once an implicit range of values is reached (Epley & Gilovich, 2005). If anchoring is to influence judgments about dating behavior expectations, it will require the participant to attend to the introduced anchor and to perceive some relevance between the anchor and target judgment (Chapman & Johnson, 2002).

Judgmental anchors have been successfully introduced in a multitude of circumstances to affect subsequent judgments. Anchoring has been shown to be effective for auditing (Joyce & Biddle, 1981), spousal predictions of product preferences (Davis, Hock & Ragsdale, 1986), task motivation (Switzer & Sniezek, 1991), purchase quantity decisions (Wansink, Kent & Hoch, 1998), task performance goals (Hinsz et al., 1997) and even judgments of facial attractiveness (Kondo, Takahasi & Wantanabe, 2012). Despite the numerous manipulations of anchoring, it has yet to be applied specifically to dating behavior expectations. Importantly, anchoring also has not been used to induce cognitive dissonance.

## **The Current Study**

This thesis used numerical anchors concerning dating behaviors to change participants' expectations and attempt to induce dissonance. If an introduced numerical anchor concerning dating behavior expectations can create inconsistent cognitive elements (i.e., the dating behavior expectation that results from the introduction of an anchor is inconsistent with personal beliefs, values or behavior) then psychological discomfort should result in the individual whose expectations were modified by the anchor. In this fashion, an anchored judgment about dating behavior expectations should induce dissonance if the anchored expectation is discrepant from the person's prior values, beliefs, or behaviors. This dissonance can be reduced by behaving consistently with the expressed expectation (anchored) in future relationships.

To elaborate, assume a participant responded to the question "How much money do you expect to spend on a typical date? Please provide a specific numerical value" with a value of \$12. If a numerical anchor was introduced such that the question was phrased "How much money do you expect to spend on a typical date? Please provide a specific numerical value. For example, \$700", then the participant's expectation for money spent on a date would presumably assimilate towards the anchor with a value such as \$60. Later, if participants are asked to think of times when they haven't met their (manipulated) expectation of spending \$60 on a date, the inconsistency between their expectation and past dating behavior would become salient. This salient inconsistency could create cognitive dissonance and psychological discomfort. The presence of the discomfort would motivate the participants to reduce the dissonance and avoid increasing it. When given a chance to state future dating behavior intentions concerning the amount of money to spend on a date, participants may respond with an answer that is consistent with their reported expectation (\$60), so as not to increase the amount of psychological

discomfort experienced. The experiment in this thesis provided a novel means of inducing dissonance with anchors in attempt to change dating behavior expectations.

Additionally, this experiment examined varying predictors of dating behavior intentions derived from the theory of reasoned action (Fishbein & Ajzen, 2011). Specifically, attitudes, social norms, and perceived behavioral control with regard to the healthy dating behavior expectations were assessed. Although no hypotheses were created for these measures, these three predictors assisted in determining if differential impacts on intentions occur from one component (e.g., attitudes). Moreover, assessing attitudes, social norms, and perceived behavioral control increases our understanding of the reported future dating behavior intentions and generalizability of the findings.

My hypotheses for the present study were:

1. *Relative to conditions in which no anchor is introduced, the introduction of a numerical anchor regarding specific dating behaviors will alter the participants' dating behavior expectations such that their expectations will assimilate toward the value stated as the anchor.* This hypothesis is consistent with much research on the impact of numerical anchors for many judgmental topics and contexts (e.g., Hinsz et al., 1997; Kahneman, 2011; Northcraft & Neale, 1987; Tversky & Kahneman, 1974).
2. *Relative to conditions in which there is no attempt to induce dissonance, the introduction of a manipulation intended to produce dissonance will result in a higher psychological discomfort* (Elliot & Devine, 1994; Jordens & Van Overwalle, 2005).  
The dissonance manipulation involved having participants describe times when they have not lived up to their own dating behavior expectations. When the instances in which they did not meet their dating behavior expectations were made salient,



cognitive dissonance was predicted to be aroused because their past dating behaviors are inconsistent with the dating behavior expectations they have just stated (Aronson, Fried & Stone, 1991; Stone, Aronson, Crain, Winslow & Fried, 1994; Stone & Fernandez, 2011). The inconsistency between two relevant cognitive elements (dating behavior expectations and past dating behavior) was expected to create the psychological discomfort that has been labeled as dissonance (Festinger, 1957).

3. Although significantly higher psychological discomfort was expected in the dissonance versus no dissonance conditions, the introduction of a numerical anchor was proposed to exaggerate the effect of the dissonance manipulation. Specifically, I predicted that *the condition that has a numerical anchor and a dissonance manipulation will have exaggerated ratings of discomfort relative to the other conditions*. Because the participants' expectations regarding dating behaviors were to be manipulated by the numerical anchor, the participant would presumably have more instances in which their past behavior was inconsistent with their current dating behavior expectations that have been modified by the numerical anchor. This combination of a numerical anchor and a dissonance manipulation could differentially impact the amount of psychological discomfort (Festinger 1957), such that there is proportionally greater discomfort when participants are expected to consider the inconsistency between their expectancies and past dating behavior particularly when the expectancies have been elevated by a numerical anchor.
4. The student participants were asked to indicate the degree they intend to behave in certain ways in their future relationships. *These intentions will vary dependent on condition*.

- A. *There will be a main effect of the numerical anchors on future dating behavior intentions.* Due to the presence of a numerical anchor, participants' dating behavior expectations will presumably be altered such that their responses assimilate toward the anchor value (e.g., Hinsz et al., 1997; Kahneman, 2011; Northcraft & Neale, 1987; Tversky & Kahneman, 1974). When asked about future healthy dating behavior intentions, I predicted that their intentions would be consistent with their anchored dating behavior expectations, resulting in more favorable healthy dating behavior intentions relative to intentions for which no anchor was introduced.
- B. *There will be a main effect of dissonance on future dating behavior intentions.* In the theory of cognitive dissonance, it states that individuals strive for cognitive consistency (Festinger, 1957; Gawronski, 2012). Thus, participants in the dissonance conditions should respond in a fashion that is consistent with their dating behavior expectations. Participants in the dissonance condition were predicted to have intentions toward healthy dating behaviors that are strong, so as to avoid any potential increase of psychological discomfort. Consequently, individuals with dissonance aroused were proposed to have greater intentions to engage in the healthy dating behaviors than those for whom dissonance was not manipulated.
- C. *There will be an interaction effect of anchoring and dissonance on future dating behavior intentions.* In the anchor with dissonance condition, intentions to engage in healthy dating behaviors were predicted to be the strongest. Because the anchor with dissonance condition was proposed to create expectations that assimilate

toward healthy dating behaviors and remind participants of their inconsistencies between their dating behavior expectations, a psychological discomfort should result. This dissonance was hypothesized to motivate participants to strive for cognitive consistency and avoid increasing the discomfort (Festinger, 1957; Gawronski, 2012). Therefore, it was predicted that the participants' intentions would shift toward the healthy dating behavior and reflect stronger intentions as a function of the combination of dissonance and numerical anchors.

5. *Psychological discomfort will partially mediate the relationship between the anchor and dissonance manipulations and intention strength.* Those who experience psychological discomfort, such as that which results from the inconsistency in dating behavior expectations and previous dating behaviors, were predicted to strive for cognitive consistency and attempt to avoid increasing their dissonance (Festinger, 1957). Thus, a strong desire to match their dating behavior expectations was proposed to result. Consequently, the presence of psychological discomfort may mediate the relationship between the effects of the anchor and dissonance manipulations and intention strength. Because the experience of discomfort is known to serve as a motivator for the cognitive consistency, it was predicted that there would be strong intentions to engage in healthy dating behaviors that match dating behavior expectations. A full mediation was not expected because the anchor alone is predicted to influence future dating behavior intentions without the need for psychological discomfort.

## METHOD

### Participants and Design

Undergraduate students ( $N = 294$ ,  $M_{age} = 19.37$ ,  $SD_{age} = 1.88$ , 66.4% female) at North Dakota State University were recruited for this experiment. In exchange for participation, the students received points for extra credit or for fulfillment of course requirements in one of their psychology courses. Participants were randomly assigned to a condition in the 2 (anchor or no anchor) x 2 (dissonance or no dissonance) between-subjects factorial design.

### Procedure

Participants were welcomed to the experiment and randomly assigned to a room that was arranged with a computer workstation and task chair. Participants received information upon which they provided their consent to participate. Subsequently, they responded to several questionnaires on their computer monitor presented via the MediaLab© software program. The manipulations of the numerical anchor and the generation of statements regarding not meeting personal expectations about dating behaviors were also completed on the computer workstation. Once all of the tasks were complete, participants were debriefed and thanked for their participation.

**Dating Behavior Expectations.** Initial dating behavior expectations were assessed first in this experiment. Participants were asked to provide answers regarding expectations for the topics of: respect, trust, communication and helping (please refer to Appendix A.) An example of an expectation is: “How frequently do you exhibit appreciation towards your dating partner(s)? Please provide a specific numerical value in times per week.” Participants entered the numerical value in a space provided on the computer monitor.

**Numerical Anchor Manipulation.** For participants assigned to the anchor conditions, a numerical value was present when assessing dating behavior expectations. Thus, the example expectation read “How frequently do you exhibit appreciation towards your dating partner(s)? Please provide a specific numerical value in times per week. For example, I exhibit appreciation toward my dating partner(s) 700 times per week.” This phrasing for introducing a numerical anchor manipulation has been used successfully in prior research (Hinsz et al., 1997), and can be applied to dating behavior expectations (see Appendix A). The numerical value used as the anchor should lead the person to adopt positive dating behavior expectations, through assimilation to the anchor.

**Ratings of Dating Behavior Importance.** After each dating behavior expectation was assessed, participants responded to questions indicating their perceived importance of attaining that specific dating behavior expectation. For instance, after the expectation regarding exhibiting appreciation was assessed, participants were asked questions such as “How important is it to you that your actions match your opinions regarding the amount of times you exhibit appreciation towards your dating partner(s) in times per week?” “How important is it to you that your actions do NOT match your opinions regarding the amount of times you exhibit appreciation towards your dating partner(s) in times per week?” (1 = *Not at all important*, 9 = *Extremely important*). There were three distinct measures of importance, including (1 = *Not at all significant*, 9 = *Extremely significant*) and (1 = *Not at all meaningful*, 9 = *Extremely meaningful*). The importance measures are presented in Appendix B. A measure of importance allows for examination of the perceived importance of consonant and dissonant cognitions associated with the dating behavior and participants’ dating expectations. In particular, the potential magnitude of dissonance is a function of the importance of consonant and dissonant cognitions (Festinger,

1957). Although such a measure is not typically assessed in dissonance research, an importance rating can contribute to an independent means of assessing the magnitude of dissonance for attaining each dating behavior expectation.

**Dissonance Manipulation.** Once initial dating behavior expectations and importance ratings were assessed, participants assigned to a dissonance condition completed a dissonance manipulation. The dissonance manipulation reminded participants of their recorded expectation for a specific dating behavior (generated from previous response at the computer). After being reminded, the participants were asked to write about times they did not meet their dating behavior expectation. For example, “Consistent with the earlier questions on dating behavior expectations, please describe in detail *at least two instances* in which you have **NOT** exhibited appreciation towards your dating partner(s) **at least** (participant’s numerical expectation inserted by MediaLab program) times per week. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail *at least two instances* in which you have **not** exhibited appreciation towards your dating partner(s) **at least** (inserted numerical value) times per week, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.”

Asking participants to specifically describe at least two instances in detail may increase their magnitude of dissonance (Stone & Fernandez, 2011). This process involves meta-cognitive thoughts that can strengthen awareness of dissonant cognitions. Thus, this writing exercise aimed to make participants’ past dating behaviors salient and presumably induced dissonance for their behaviors that are inconsistent with the expectancies they reported. Additionally, participant

essays on inconsistent behaviors allowed for examination of magnitude of dissonance by counting the dissonant (and consonant) cognitions they recorded.

Participants who were assigned to a no dissonance condition were not reminded of their past instances in which they did not meet their dating behavior expectations. Instead, they were asked to write a different response related to the content of their dating behavior expectations. To demonstrate, prompts similar to “Consistent with the earlier questions on dating behavior expectations, please describe in detail appropriate gifts to give to a dating partner as a “surprise”. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail appropriate gifts to give to a dating partner as a surprise, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need” were used. Specific descriptions of the instructions for the no dissonance and dissonance manipulation prompts are found in Appendix C.

**Psychological Discomfort.** All conditions then completed the PANAS-X (Watson & Clark, 1994) and a measure assessing psychological discomfort (Elliot & Devine, 1994; Jordens & Van Overwalle, 2005) with additional discomfort items from Stangor (2000). The resulting discomfort scale included the items: uneasy, bothered, worried, uncomfortable, unpleasant, fearful, tense, and threatened (1 = *Not at all* 5 = *Extremely*). The created discomfort scale is in Appendix D. The PANAS- X measure is provided in Appendix E. By gathering responses to these questionnaires, the degree of cognitive dissonance that is present can be examined.

**Future Dating Behavior Intentions.** Upon completion of the PANAS-X and discomfort scales, participants’ future dating behavior intentions were assessed. Intention measures followed the guidelines mentioned in the reasoned action approach (Fishbein & Ajzen, 2011). Participants

were told to “Imagine that you are beginning a new dating relationship” before each intention was assessed. The intention measures were regarding a specific healthy dating behavior, such as “How likely are you to exhibit appreciation towards your dating partner **at least** 10 times per week?”. The numerical values for the healthy dating behavior intentions were informed by a preliminary survey of NDSU undergraduate students ( $N = 63$ ) assessing the average occurrence of each dating behavior. The numerical values used in the study were rounded up to the nearest value from the mean (Note: The numerical value concerning *helping behavior* was not informed by the average occurrence of that behavior, as that measure was added after the preliminary survey had been conducted). Each future dating behavior intention had three specific response indicators (1= *Extremely unlikely*, 7 = *Extremely likely*; 1 = *Extremely certain*, 7 = *Extremely uncertain*; 1 = *Extremely probable*, 7= *Extremely improbable*). The list of intentions assessed are presented in Appendix F.

**Dating Behavior Attitudes, Perceived Control, and Perceived Social Norms.** After future dating behavior intentions were assessed, three other critical components involved in the reasoned action approach (Fishbein & Ajzen, 2011) were measured: attitude toward the behavior, perceived behavioral control, and perceived social norms. These three components are considered the theoretical antecedents of intentions. Consequently, by assessing these three components, it allowed for the opportunity to see if any of these three has a differential impact on dating behavior intentions or if they vary as a function of the specific dating behavior. Thus, our understanding of the specific factors that might influence future dating behavior intentions and the magnitude of dissonance may be enhanced.

Attitudes toward dating behaviors were assessed with items that reflect evaluation of engaging in specific healthy dating behaviors. Each item had three different response scales. The



items were framed as: “My exhibiting appreciation towards my dating partner **at least** 10 times per week is” (1 = *Extremely unpleasant*, 7 = *Extremely pleasant*; 1 = *Extremely bad*, 7 = *Extremely good*, 1 = *Extremely favorable*, 7 = *Extremely unfavorable*). The list of attitudes assessed can be found in Appendix G.

Participants’ perceived behavioral control reflects the degree that the participant perceives to have control over engaging in the dating behavior. This section contained questions regarding autonomy for the healthy dating behaviors, such as “My exhibiting appreciation **at least** 10 times per week is completely up to me” (1 = *Strongly agree*, 7 = *Strongly disagree*), “If I really wanted to, I could exhibit appreciation towards my dating partner(s) **at least** 10 times per week” (1 = *Extremely unlikely*, 7 = *Extremely likely*), and “I am confident that I can exhibit appreciation towards my dating partner(s) **at least** 10 times per week” (1 = *Extremely true*, 7 = *Extremely false*). The list of measures concerning perceived behavioral control are in Appendix H.

The participants’ perceived social norms regarding the behaviors were assessed with items concerning descriptive and injunctive norms (Fishbein & Ajzen, 2011). Injunctive norms regarding healthy dating behaviors were assessed in the typical fashion: “Most people who are important to me think I should exhibit appreciation towards my dating partner(s) **at least** 10 times per week” (1 = *Extremely true*, 7 = *Extremely false*) and “Most people whose opinions I value would approve of my exhibiting appreciation towards my dating partner(s) **at least** 10 times per week” (1 = *Extremely improbable*, 7 = *Extremely probable*). Descriptive norms were assessed with items resembling “Most people like me exhibit appreciation towards their dating partner(s) **at least** 10 times per week” (1 = *Strongly agree*, 7 = *Strongly disagree*) and “Most people I respect and admire will communicate with their dating partner at least 3 times per day”

(1 = *Not at all likely*, 7 = *Extremely likely*). The set of items used to assess perceived social norms can be found in Appendix I.

**Post-Session Questionnaire.** After participants finished the above mentioned measures, they completed a final survey designed to assess their reactions to the study. This post-session questionnaire also gathered information on respondents' gender, age, ethnicity, and importantly, dating experience. Furthermore, the post-session questionnaire asked participants if they would be willing to complete a brief online questionnaire in the future.

**Follow-up questionnaire.** A follow-up questionnaire was sent to participants that indicated they would be willing to participate in a follow-up survey for one additional point. This survey was sent four weeks after the participants had completed the study. The follow-up questionnaire asked questions about participant future dating behavior intentions (the same intention measures mentioned in Appendix F). This follow-up questionnaire allowed examination of potential longer-term effects from the manipulations.

**Debriefing.** Upon completion of the above study, participants were thanked and thoroughly debriefed regarding the purpose of this study. They had the opportunity to converse with research assistants and have their questions answered. The participants were reassured that they should continue with the dating behavior expectations and dating behaviors that are appropriate for them. Moreover, all participants were provided with a sheet that contained information about resources that are available on campus (e.g., counseling center, student health clinic) and online, in case they had concerns about their dating partners or dating relationships.

## RESULTS

Two hundred and ninety-four undergraduate students participated in this study. However, the following analyses were conducted on the 274 participants ( $M_{age} = 19.39$ ,  $SD_{age} = 1.92$ , 65.5% female) that reported dating in the past.<sup>1</sup> The decision to include only participants who have prior dating experience was made to increase generalizability of the findings to the dating population. Participants who have not dated before had limited responses to items such as the dissonance essay prompts that asked participants to think of instances in which their past dating behaviors were inconsistent with their current expectations. Many students who had not dated gave responses such as “*I have not dated before so I have never not met my expectation*”. Individuals without prior dating experience could alter the meaning of the results, particularly the assessments of the magnitude of dissonance and psychological discomfort (if participants have not dated before, they should not have dissonant cognitions concerning past dating behavior – potentially altering the amount of psychological discomfort experienced). Even though these concerns about non-dating participants were anticipated, non-dating participants were not excluded from the study based upon prior dating experience as the study had potential benefits to all participants, whether they have dated in the past or not. The participants included in the following analyses did not differ significantly by condition as a function of the amount of prior dates,  $F(3, 269) = .281$ ,  $p = .839$ . The following analyses had 67 participants in the anchor and dissonance condition, 69 participants in the anchor and no dissonance condition, 67 participants in the no anchor and dissonance condition, and 71 participants in the no anchor and no dissonance condition.

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<sup>1</sup> Analyses were also conducted with all participants. The interpretation of the results did not change.

## **Anchor and Initial Dating Behavior Expectations**

A two-way ANOVA was proposed to examine the first four hypotheses. However, initial analyses revealed violations of the assumptions of homogeneity and normality in the dating expectations data. Due to these violations, non-parametric statistics were used. In order to examine the first hypothesis (H1: *Relative to conditions in which no anchor is introduced, the introduction of a numerical anchor regarding specific dating behaviors will alter the participants' dating behavior expectations such that their expectations will assimilate toward the value stated as the anchor*), a Mann-Whitney U was conducted for each of the four categories of dating behavior expectations: respect, trust, communication, and helping.

Some responses to the initial dating behavior expectations could not be translated to data because the responses did not include a specific numerical value in times per week or times per month as directed. For example, some respondents replied with “*I always exhibit appreciation*” or “*100%*”. In these cases, the response was coded as ‘missing’ because a specific numerical value within the time frame stated (times per week, times per month) could not be assigned. In other cases, responses were “*never*” and “*every day*”. If a response was *never*, a numerical value of zero was given. If the response was *every day*, a numerical value was assigned based upon the time frame in the question asked (e.g., “*every day*” in times per week was given a numerical value of 7, whereas “*every day*” in times per month was given a numerical value of 30). If a range of values was provided, such as “*5-7 times per week*”, the midpoint was used (6 times per week).

Results indicated that H1 was partially supported. Specifically, initial dating behavior expectations did assimilate toward the anchor value of 700 for the category of respect, differing significantly in the amount of times per week participants report exhibiting appreciation towards

their dating partner between the no anchor ( $Mdn = 7.00$ ) and anchor ( $Mdn = 50.00$ ) conditions,  $U = 14669.00$ ,  $z = 10.50$ ,  $p < .001$ ,  $r = .65$ . Initial dating behavior expectations also assimilated toward the anchor value of 3000 for the category of trust, differing significantly in the amount of times per month participants report following through on commitments to their dating partners between the no anchor ( $Mdn = 15.00$ ) and anchor ( $Mdn = 100.00$ ) conditions,  $U = 13181.50$ ,  $z = 9.29$ ,  $p < .001$ ,  $r = .59$ . Although expectations differed significantly between the no anchor and anchor conditions for the categories of respect and trust, the participants' expectations did not differ significantly for communication and helping. Specifically, initial dating behavior expectations concerning communication did not significantly assimilate toward the anchor value of two, with the amount of times per month participants report NOT paying attention when they should be to their dating partner differing only slightly between the no anchor ( $Mdn = 5.00$ ) and anchor ( $Mdn = 4.00$ ) conditions,  $U = 8335.00$ ,  $z = -.92$ ,  $p = .358$ ,  $r = -.06$ . Moreover, initial dating behavior expectations concerning helping did not significantly assimilate toward the anchor value of one, with the amount of times per month participants report NOT helping their dating partner when it would be supportive to do so for the no anchor ( $Mdn = 0$ ) and anchor ( $Mdn = 1.00$ ) conditions,  $U = 9400.50$ ,  $z = .72$ ,  $p = .470$ ,  $r = .04$ . The majority of responses in the helping category were '0', with 55% of participants in the no anchor condition responding '0' and 45.6 % of participants in the anchor condition responding '0'. It is important to note that the values introduced as the anchors were expected to lead participants' expectations to assimilate toward values that are indicative of healthy dating behaviors. Differences in initial dating behavior expectations between the no anchor and anchor conditions for all dating behavior categories are depicted below in *Figure 1*.

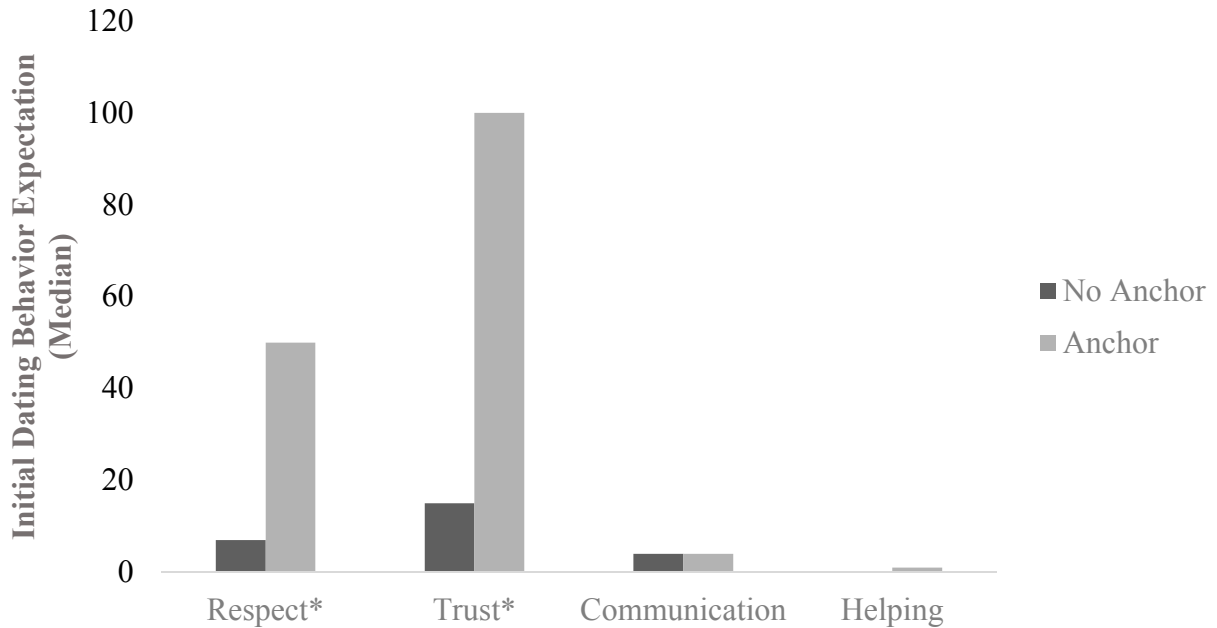
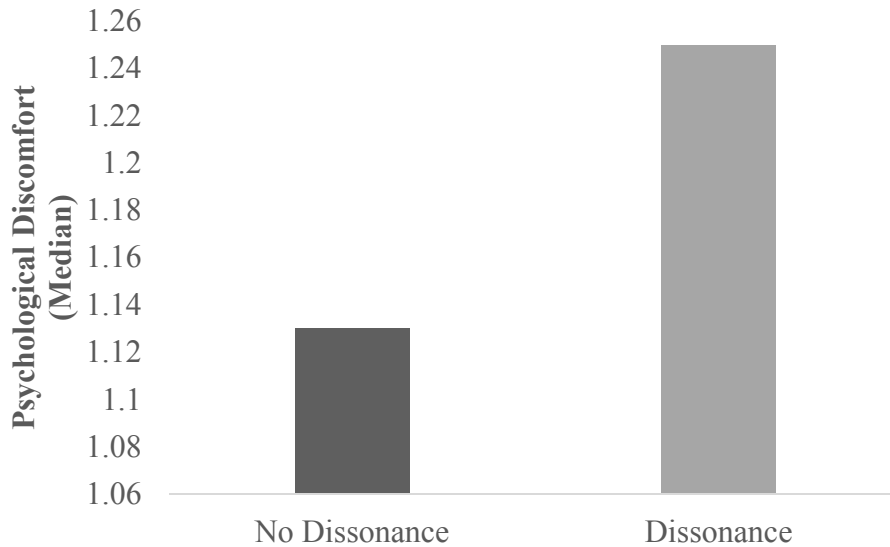


Figure 1. Median values of initial dating behavior expectations for the no anchor and anchor conditions. The anchors for the dating behavior categories were: A) Respect - For example, I exhibit appreciation 700 times per week, B) Trust - For example, I follow through on commitments 3000 times per month, C) Communication- For example, I find myself not paying attention when I should be 2 times per month, D) Helping - For example, I do not help my dating partner when it would be supportive to do so 1 time per month.

### Dissonance Manipulation and Psychological Discomfort

To test the second hypothesis (H2: *Relative to conditions in which there is no attempt to induce dissonance, the introduction of a manipulation intended to produce dissonance will result in higher psychological discomfort*), another Mann-Whitney U was performed. Prior to performing the Mann-Whitney U, a reliability analysis was conducted for all discomfort items (uneasy, bothered, worried, uncomfortable, pleasant, fearful, tense, and threatened). Most of the discomfort items were moderately correlated, and the discomfort scale consisting of eight items was found to be highly reliable ( $\alpha = .82$ ). This hypothesis predicting higher levels of psychological discomfort due to a dissonance manipulation was supported, as a significant difference in levels of discomfort between the no dissonance ( $Mdn = 1.13$ ) and dissonance ( $Mdn = 1.25$ ) conditions was observed,  $U = 10726.00$ ,  $z = 2.10$ ,  $p = .036$ ,  $r = .13$ . Note that the level of

discomfort was relatively low, approximating the lowest value on the response scale of one. These differences in psychological discomfort between the no dissonance and dissonance conditions are depicted below in *Figure 2*. There were no significant differences in levels of psychological discomfort between the no anchor ( $Mdn = 1.25$ ) and anchor ( $Mdn = 1.25$ ) conditions,  $U = 8991.50$ ,  $z = -.61$ ,  $p = .54$ ,  $r = .04$ .

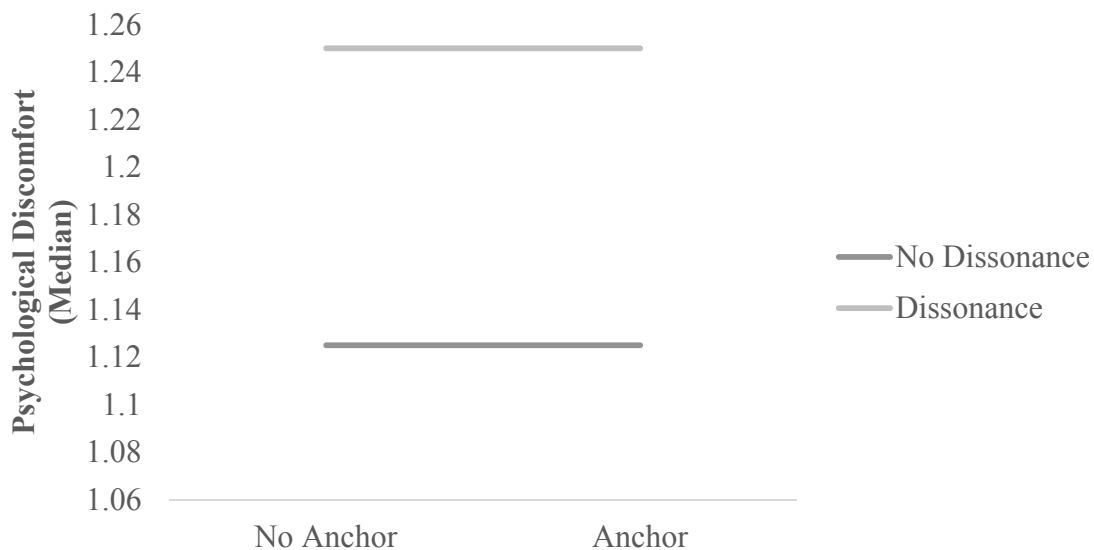


*Figure 2.* Median levels of psychological discomfort for the no dissonance and dissonance conditions. Psychological discomfort was assessed on a five-point scale, with one representing no discomfort and five representing extreme discomfort.

In addition to completing measures assessing psychological discomfort, participants also completed the PANAS-X. This measure was included to further assess potential feelings of discomfort. There were significant differences between the no dissonance ( $Mdn = 1.10$ ) and dissonance conditions ( $Mdn = 1.20$ ) for the 10 items used to assess negative affect ( $\alpha = .86$ ),  $U = 11176.00$ ,  $z = 2.78$ ,  $p = .005$ ,  $r = .17$ . There were no significant differences between the no dissonance ( $Mdn = 2.60$ ) and dissonance conditions ( $Mdn = 2.75$ ) for the 10 items used to compose positive affect ( $\alpha = .89$ ),  $U = 9755.50$ ,  $z = .57$ ,  $p = .57$ ,  $r = .03$ . Moreover, there were no

significant differences between the no anchor and anchor conditions for negative affect ( $U = 9569.00, z = .29, p = .774, r = .02$ ) or positive affect ( $U = 9221.00, z = -.26, p = .792, r = -.02$ ).

An interaction term was created to test the third hypothesis predicting elevated levels of psychological discomfort specifically in the anchor and dissonance condition (H3: *The condition that has a numerical anchor and a dissonance manipulation will have exaggerated ratings of discomfort relative to the other conditions*). A Kruskal-Wallis non-parametric test was conducted for the four conditions in the 2 x 2 between-subjects factorial design. Levels of psychological discomfort did not differ significantly depending on condition,  $H(3) = 3.92, p = .271$ . The median levels of psychological discomfort per condition are shown in *Figure 3*. This hypothesis concerning the impact of the interaction of anchor and dissonance on psychological discomfort was not supported.



*Figure 3.* Median levels of psychological discomfort per condition in the 2 x 2 between-subjects factorial design. Psychological discomfort was assessed on a five-point scale, with one representing no discomfort and five representing extreme discomfort.

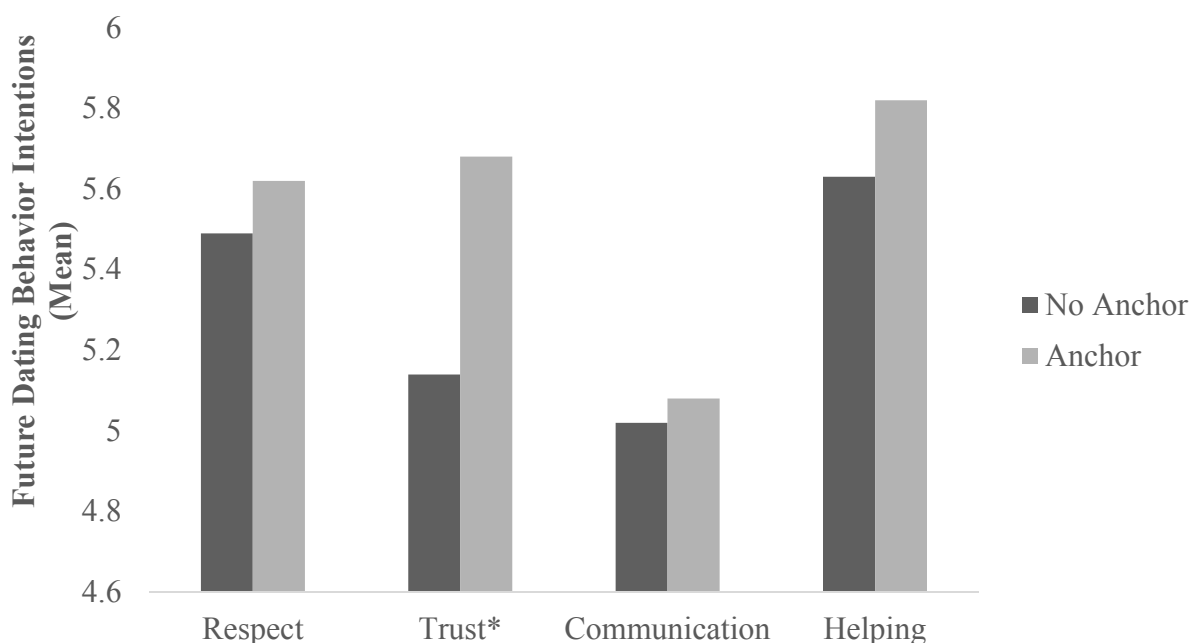


## Future Dating Behavior Intentions

To examine the fourth hypothesis (H4: *Future dating behavior intentions will vary dependent on condition*), a multivariate analysis of variance (MANOVA) was conducted. MANOVA was used to examine this hypothesis because there were multiple dependent variables that shared a common conceptual meaning (the different scales are all used to assess intentions). Moreover, MANOVA takes into account dependent variables that may be correlated (Field, 2015). MANOVA has more complicated assumptions than ANOVA; however, MANOVA is generally robust to violations such as multivariate normality (Field, 2015), particularly when the sample size is high (Tabachnick & Fidell, 2013). Moreover, if there is a violation of homogeneity as indicated by Box's M test, Pillai's trace can be used to interpret results as it is a more robust test statistic for this violation (Tabachnick & Fidell, 2013). Box's test was significant for the category of communication ( $p < .001$ ). Thus, Pillai's trace was used to examine this hypothesis due to its robustness.

Hypothesis 4A (*There will be a main effect of numerical anchors on future dating behavior intentions*) was partially supported. Using Pillai's trace, there was not a significant main effect of anchoring on future dating behavior intentions concerning respect (exhibiting appreciation),  $V = .007$ ,  $F(3, 268) = 0.67$ ,  $p = .571$ . There was, however, a significant main effect of anchoring on future dating behavior intentions concerning trust (following through on commitments),  $V = .058$ ,  $F(3, 268) = 5.46$ ,  $p = .001$ . Univariate tests showed a main effect of anchoring on trust future dating behavior intentions specifically for "how probable is it that you will follow through on commitments...",  $F(1,270) = 12.68$ ,  $p < .001$ , partial  $\eta^2 = 0.045$ , with "how likely are you to follow through on commitments...",  $F(1,270) = 3.64$ ,  $p = .058$ , partial  $\eta^2 = 0.013$  approaching significance. The main effect of the anchor for "how certain are you that you

will follow through on commitments...” was not significant, with  $F(1, 270) = 2.65, p = .105$ , partial  $\eta^2 = 0.010$ . There were no significant main effects of the anchor on future dating behavior intentions for the categories of communication (not paying attention when one should be,  $V = .006, F(3,268) = .52, p = .671$ ) and helping (not helping your dating partner when it would be supportive to do so,  $V = .010, F(3,268) = .86, p = .46$ ). The effects of the numerical anchor on future dating behavior intentions are shown in *Figure 4*.



*Figure 4.* Mean values in future dating behavior intentions for the no anchor and anchor conditions. Intentions were scored on a seven-point scale with seven reflecting the highest intention to engage in healthy dating behaviors (respect – seven is *extremely likely* to exhibit appreciation at least 10 times per week, trust – seven is *extremely likely* to follow through on commitments at least 16 times per month, communication – seven is *extremely unlikely* to not pay attention when they should be more than 5 times per month, helping – seven is *extremely unlikely* to not help when it would be supportive to do so more than 4 times per month).

Hypothesis 4B (*There will be a main effect of dissonance on future dating behavior intentions*) was not supported. The effects of dissonance on future dating behavior intentions are depicted in *Figure 5*. Using Pillai’s trace, there was not a significant main effect of dissonance on future dating behavior intentions concerning respect (exhibiting appreciation,  $V = .014, F(3,$

268) = 1.26,  $p = .287$ ) and trust (following through on commitments,  $V = .004$ ,  $F(3, 268) = 0.38$ ,  $p = .769$ ). There was, however, a significant main effect of dissonance on future dating behavior intentions concerning communication (not paying attention when you should be),  $V = .042$ ,  $F(3, 268) = 3.88$ ,  $p = .01$ . Univariate tests showed a main effect of dissonance specifically for “how probable is it that you will not pay attention when you should be ...”, with  $F(1, 270) = 23.83$ ,  $p = .003$ , partial  $\eta^2 = 0.031$ . There were no significant main effects for the questions “how likely is it that you will not pay attention when you should be ...”,  $F(1, 270) = 6.37$ ,  $p = .155$ , partial  $\eta^2 = 0.007$  and “how certain are you that you will not pay attention when you should be ...”,  $F(1, 270) = .003$ ,  $p = .975$ , partial  $\eta^2 < 0.001$ . Even though there was a significant main effect of dissonance on intentions concerning communication, it was not in the predicted direction, as those in the dissonance condition had *lower* intentions toward engaging in future healthy dating behaviors than those in the non-dissonance conditions. There was not a significant main effect of dissonance on future dating behavior intentions concerning helping (helping your partner when it would be supportive to do so...),  $V = .012$ ,  $F(3, 268) = 1.08$ ,  $p = .358$ .

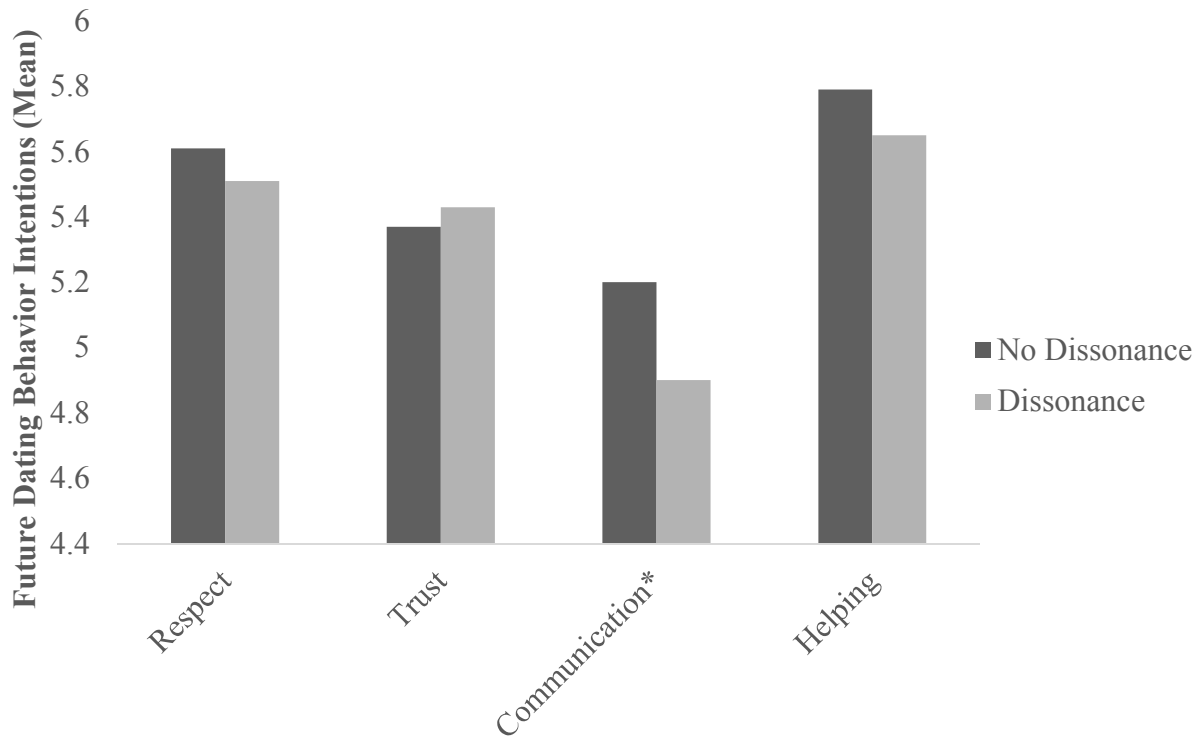
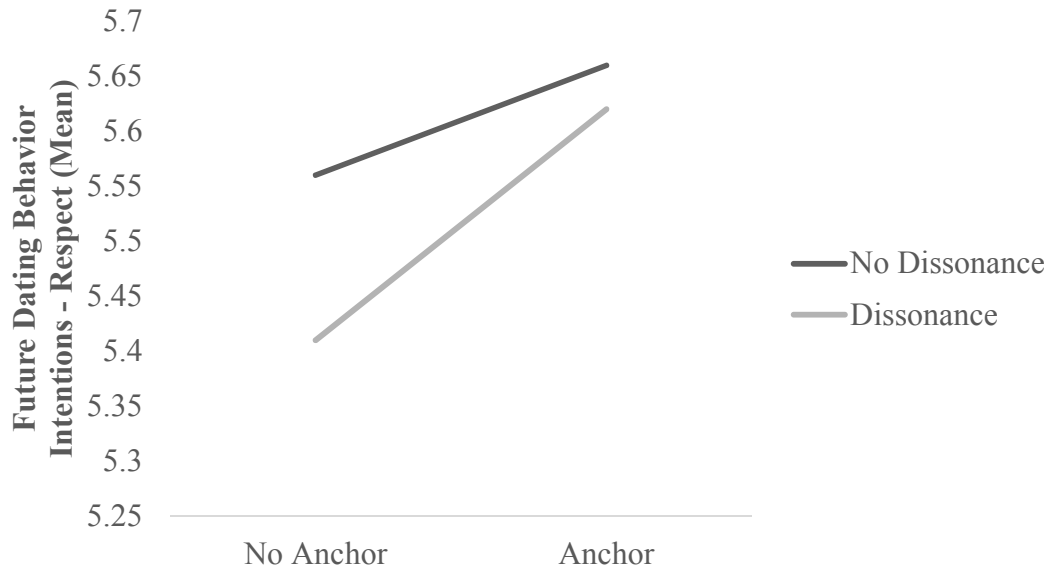


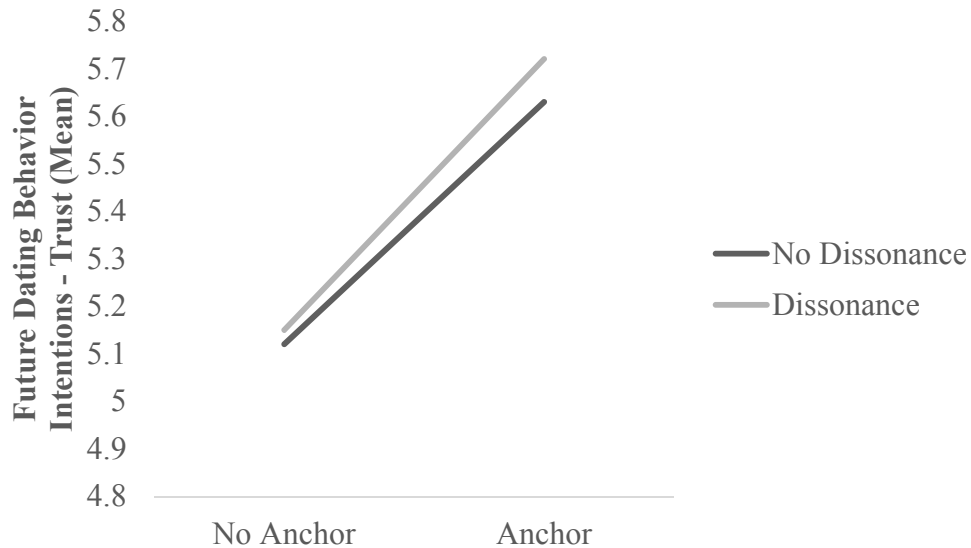
Figure 5. Mean values of future dating behavior intentions for the no dissonance and dissonance conditions. Intentions were scored on a seven-point scale with seven reflecting the highest intention to engage in healthy dating behaviors (respect – seven is *extremely likely* to exhibit appreciation at least 10 times per week, trust – seven is *extremely likely* to follow through on commitments at least 16 times per month, communication – seven is *extremely unlikely* to not pay attention when they should be more than 5 times per month, helping – seven is *extremely unlikely* to not help when it would be supportive to do so more than 4 times per month).

Hypothesis 4C (*There will be an interaction effect of anchoring and dissonance on future dating behavior intentions*) was not supported. Using Pillai’s trace, there was not a significant interaction effect of anchoring and dissonance on future dating behavior intentions concerning respect (exhibiting appreciation,  $V = .013$ ,  $F(3, 268) = 1.15$ ,  $p = .332$ ) and trust (following through on commitments,  $V = .007$ ,  $F(3, 268) = 0.63$ ,  $p = .598$ ). Moreover, there were no significant interaction effects of anchor and dissonance on future dating behavior intentions for communication (not paying attention when you should be,  $V = .003$ ,  $F(3, 268) = 0.31$ ,  $p = .816$ ) or helping (not helping when it would be supportive to do so,  $V = .004$ ,  $F(3, 268) = 0.32$ ,  $p =$

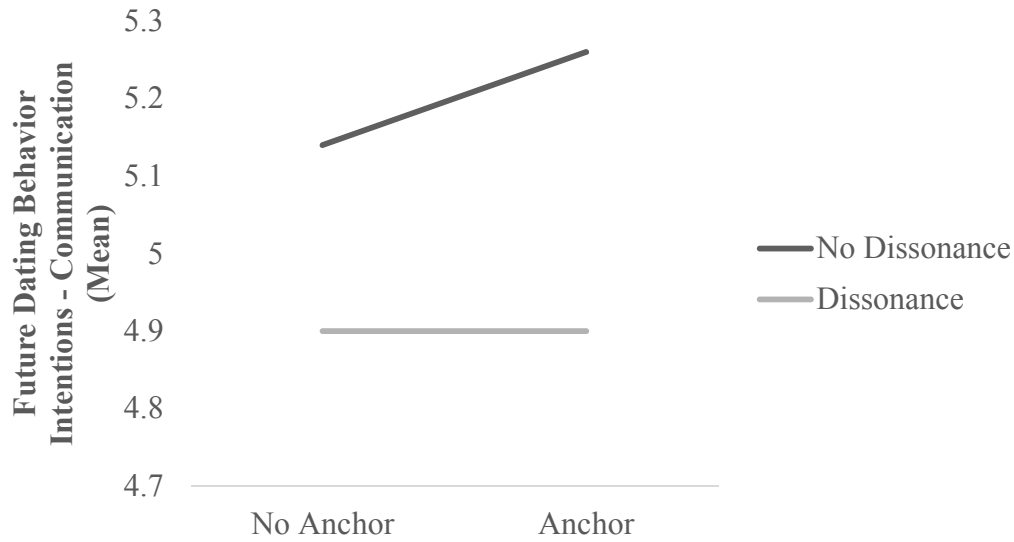
.809). The effects of anchor and dissonance on future dating behavior intentions for each dating behavior category are shown below, in *Figures 6, 7, 8 and 9*.



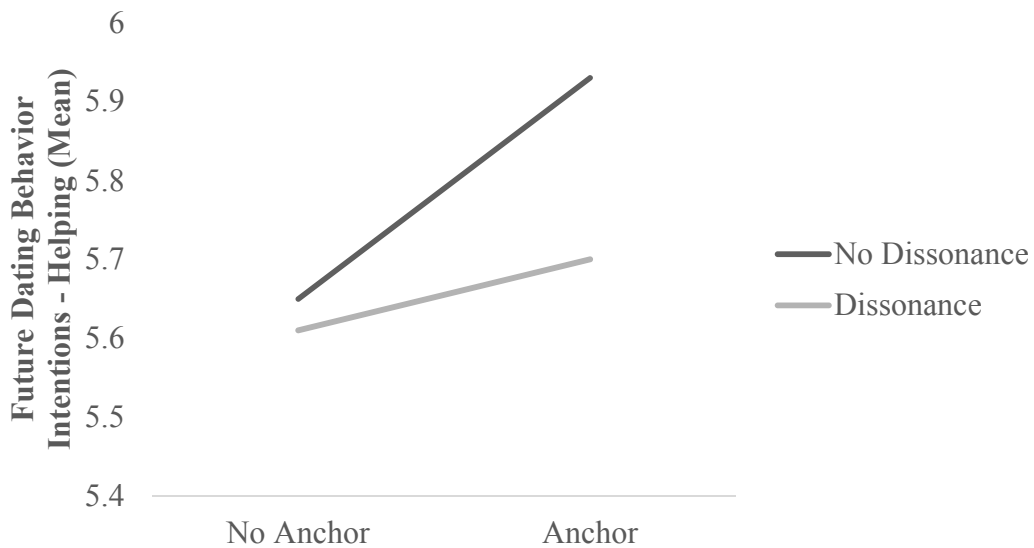
*Figure 6.* The interaction of anchor and dissonance on future dating behavior intentions for the category of respect (intentions to exhibit appreciation towards dating partner(s) at least 10 times per week). Intentions were assessed on a seven-point scale, with seven reflecting the highest intention to engage in exhibiting appreciation at least 10 times per week.



*Figure 7.* The interaction of anchor and dissonance on future dating behavior intentions for the category of trust (intentions to follow through on commitments to dating partner(s) at least 16 times per month). Intentions were assessed on a seven-point scale, with seven reflecting the highest intention to follow through on commitments at least 16 times per month.



*Figure 8.* The interaction of anchor and dissonance on future dating behavior intentions for the category of communication (intention to NOT pay attention when they should be during a conversation with their dating partner(s) more than 5 times per month). Intentions were assessed on a seven-point scale, with seven reflecting the lowest intention to NOT pay attention when they should be more than 5 times per month.



*Figure 9.* The interaction of anchor and dissonance on future dating behavior intentions for the category of helping (NOT helping their dating partner(s) when it would be supportive to do so more than 4 times per month). Intentions were assessed on a seven-point scale, with seven reflecting the lowest intention to NOT help their dating partner when it would be supportive to do so more than 4 times per month.

Hypothesis 5 (*Psychological discomfort will partially mediate the relationship between anchor and dissonance conditions and future dating behavior intentions*) was also not supported. In order to examine this hypothesis, all future dating behavior intentions toward engaging in healthy dating behaviors were combined into a scale. A reliability analysis demonstrated that the intention items for the four categories have decent internal consistency ( $\alpha = .75$ ). Several regression equations (Baron & Kenny, 1986) were proposed to test the mediation model stating that psychological discomfort will partially mediate the relationship between anchor and dissonance conditions and future dating behavior intentions. However, the regression analyses revealed that the anchor and dissonance conditions did not predict future dating behavior intentions ( $B = .069$ ,  $SE = .047$ ,  $p = .144$ ), so a mediation analysis was not plausible and a test of the hypothesis was not conducted.

### **Magnitude of Dissonance**

Additional analyses, beyond the examination of psychological discomfort, were conducted in attempt to further assess the magnitude of dissonance. The magnitude of dissonance experienced depends upon the importance of the cognitive elements involved, and the proportion of consonant and dissonant cognitions (Festinger, 1957). Thus, the importance measures and dissonance essays were used in attempt to further measure the amount of dissonance experienced by participants.

Importance items were combined into scales for each of the four dating behaviors. To elaborate, three different phrasings of importance ratings were used to assess importance of consonant and dissonant cognitions for each category of dating behavior (see Appendix B). Importance items for consonant cognitions had decent internal consistency for the four dating behavior categories of respect ( $\alpha = .73$ ), trust ( $\alpha = .80$ ), communication ( $\alpha = .79$ ), and helping ( $\alpha$

= .77). However, the importance items of dissonant cognitions did not reach decent levels of internal consistency for the dating behavior categories, with respect ( $\alpha = .59$ ), trust ( $\alpha = .58$ ), communication ( $\alpha = .59$ ), and helping ( $\alpha = .59$ ). Despite the low internal consistency for importance items concerning dissonant cognitions, the importance items were formed into a composite for each behavioral category as this was the best way to conceptualize importance of specific consonant and dissonant cognitions related to the dating behaviors for the assessment of magnitude of dissonance. Overall, as seen in *Table 1*, the importance composite scores (1 = *Not at all important*, 9 = *Extremely important*) for the consonant and dissonant cognitions concerning dating behavior expectations and actual dating behaviors were higher for the consonant cognitions than the dissonant cognitions.

Table 1

*Mean Levels of Importance for Consonant and Dissonant Cognitions Based Upon Dating Behavior Category (Individuals in Dissonance Conditions, N = 134).*

Dating Behavior Category	Consonant Cognitions		Dissonant Cognitions	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Respect	7.58	1.49	5.04	2.61
Trust	7.79	1.30	5.25	2.49
Communication	6.34	2.04	5.14	2.39
Helping	6.55	2.09	5.28	2.45

In addition to the importance items, the essays participants created in the dissonance condition were also instrumental in the attempt to measure the magnitude of dissonance. The dissonance essays were coded for the amount of dissonant and consonant cognitions. Dissonant cognitions were determined by the elaboration of an inconsistent cognitive element. To further explain, the dissonance essay prompts asked participants to describe instances in which they had not met their stated dating expectations (e.g., *Consistent with the earlier questions on dating behavior expectations, please describe in detail at least two instances in which you have **NOT** exhibited appreciation towards your dating partner(s) **at least** (participants' numerical*



*expectation inserted here) times per week*). If an instance in which they did not meet their dating expectation was described in detail, it was coded as a dissonant cognition, as their behavior was inconsistent with their expectation. An example of a participant response in the category of respect is: “*My boyfriend is a mechanic so when my car needs something fixed or tuned he is always willing to fix it. However, I can remember a time when he changed my oil for me in my car and I did not show the appreciation that I should have. Another time I remember not showing my boyfriend the appreciation he deserved was when he went out of his way to get me ice cream from Dairy Queen. I wanted some at work one night and he just dropped what he was doing to bring it to me.*” In this response, the participant discussed two instances in which they did not exhibit appreciation the amount of times they reported to, thus, this participant had two dissonant cognitions or cognitive elements.

Consonant cognitions were coded if consistent cognitive elements were discussed in detail. Participants were not asked to provide instances in which they *did* meet their expectations, however, many participants did state consonant cognitive elements. For example, some participants wrote responses comparable to “*I always exhibit appreciation towards my dating partner*”, which is consistent with their stated dating behavior expectation that they exhibit appreciation (their numerical value) times per week. Other participants provided justifications for their dissonant cognitive elements. Examples of justifications include “*When my significant other received an award for the hard work he put in at his job, I did not show him appreciation because I thought he should’ve received a raise rather than a piece of paper which discouraged him*” and “*She put a lot of effort into getting dressed up to go out but I was in a hurry to get going so I didn’t say anything about how she looked*”. In these examples, justifications describing how the participant didn’t feel the award was appropriate or best for their partner and

how the participant was simply too much in a hurry to exhibit appreciation regarding their partner's looks were provided as reasons for why the individual did not exhibit appreciation. Stated consonant cognitive elements (“*I always exhibit appreciation*”) and justifications were combined to create the total consonant cognitive element score.

The following formula was used to calculate magnitude of dissonance:

$$\frac{\text{importance} \times \text{amount of consonant cognitions}}{\text{importance} \times \text{amount of dissonant cognitions}}$$

The resulting magnitude of dissonance for each

dating behavior category is shown in *Table 2*. As shown in *Table 3*, the magnitude of dissonance for the four categories of dating behaviors were not significantly correlated with psychological discomfort. Unsurprisingly, the magnitude of dissonance did not predict levels of psychological discomfort in a regression (see *Table 4*). Similar to the ratings of psychological discomfort, it appears that the overall magnitude of dissonance was low for the four dating behavior categories of respect, trust, communication and helping (*Table 2*).

Table 2

*Mean Levels of Consonant Cognitions, Dissonant Cognitions, and Magnitude of Dissonance (N = 134)*

Dating Behavior Category	Consonant Cognitions		Dissonant Cognitions		Magnitude of Dissonance	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Respect	1.40	.85	1.83	.56	1.54	1.98
Trust	1.61	.82	1.84	.62	1.85	2.24
Communication	1.64	.82	1.89	.70	1.37	1.71
Helping	1.59	.80	1.44	.94	1.25	1.88

Table 3

*Magnitude of Dissonance Correlations with Psychological Discomfort (N = 134)*

Factor	2	3	4	5
1 Psychological Discomfort	-.10	-.12	-.12	-.08
2 Magnitude of Dissonance for Respect	—	.48**	.37**	.10
3 Magnitude of Dissonance for Trust		—	.75**	.49**
4 Magnitude of Dissonance for Communication			—	.73**
5 Magnitude of Dissonance for Helping				—

$p < .05^*$ ,  $p < .01^{**}$

Table 4

*Magnitude of Dissonance as a Predictor of Psychological Discomfort (N = 134)*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Magnitude of Dissonance for Respect	-.02	.03	-.06	-.59	.558
Magnitude of Dissonance for Trust	-.01	.03	-.05	-.34	.735
Magnitude of Dissonance for Communication	-.01	.05	-.05	-.29	.773
Magnitude of Dissonance for Helping	-.006	.04	-.02	-.17	.866

$p < .05^*$ ,  $p < .001^{**}$

**Attitudes, Perceived Behavioral Control, and Perceived Social Norms**

Attitude toward behavior, perceived behavioral control, and perceived social norms are considered the theoretical antecedents of intentions (Fishbein & Ajzen, 2011). Thus, the attitudes, perceived control and perceived social norms regarding the dating behaviors were assessed. Examination of these factors allows us to determine if the theoretical antecedents had

differential impacts on participants' specific future dating behavior intentions, and if the condition participants were in (i.e., the manipulations they were exposed to) altered the way participants perceive the dating behaviors.

Before regression analyses were conducted to determine if the theoretical antecedents had differential impacts on future dating behavior intentions, internal consistency of the attitudes toward the behaviors, perceived behavioral control, and perceived social norm measures were assessed. Internal consistency of measures was assessed based upon dating behavior category, and again based upon a high anchor (dating behavior categories of respect and trust) or low anchor category (dating behavior categories of communication and helping). Distinguishing the categories by high anchor and low anchor behaviors provides the strongest grouping of measures based upon phrasing and meaning.

The attitude measures were coded so that the higher number reflects a more favorable attitude toward the specific dating behavior. Similarly, the higher number for perceived behavioral control and perceived social norms reflect the more control a participant felt they had over the dating behaviors, and the more perceived acceptability of those dating behaviors. It is important to note that for the high anchor dating behavior categories, a higher mean value of attitudes and perceived social norms is in the 'healthy direction', whereas a lower mean value of attitudes and perceived social norms is in the 'healthy' direction for low anchor categories.<sup>2</sup> The levels of internal consistency and mean values for the attitudes, perceived behavioral control, and perceived social norms toward the dating behaviors are found in *Tables 5, 6, and 7*. See the

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<sup>2</sup> These measures were not attempted to be uniformly coded toward a 'healthy' dating behavior fashion (i.e., so higher mean values always reflect healthier intentions), as the meaning of the responses was too important to risk altering. Reverse coding of low anchor category measures such as "*My NOT paying attention when I should be during a conversation with my dating partner(s) more than 5 times per month is completely up to me*" may reflect responses different than the original interpretation of the items, thus, reverse coding was not used.

‘Notes’ directly below each table for more detailed descriptions of what the means represent for each dating behavior category.

Table 5

*Internal Consistency and Mean Values of Attitude Measures*

Dating Behavior Category	$\alpha$	$M$	$SD$
Respect	.610	5.74	1.60
Trust	.605	5.73	1.60
Communication	.699	2.70	1.57
Helping	.649	2.47	1.59
High Anchor Categories	.766	5.74	1.59
Low Anchor Categories	.784	2.59	1.58

*Note.* The attitude measures were assessed on a seven-point scale. The higher the number, the more ‘favorable’ the behavior is (respect – a seven on the response scale represents that exhibiting appreciation toward your dating partner(s) at least 10 times per week is extremely favorable, trust – seven represents that following through on your commitments to your dating partner(s) at least 16 times per month is extremely favorable, communication – seven represents NOT paying attention to your dating partner(s) more than 5 times per month is extremely favorable, helping – seven represents NOT helping your dating partner(s) when it would be supportive to do so more than 4 times per month is extremely favorable). Note that a higher mean for high anchor behaviors (respect and trust) is in the ‘healthy’ direction, whereas a lower mean for the low anchor behaviors (communication and helping) is in the ‘healthy’ direction.

Table 6

*Internal Consistency and Mean Values of Perceived Behavioral Control Measures*

Dating Behavior Category	$\alpha$	$M$	$SD$
Respect	.474	5.96	1.55
Trust	.531	5.88	1.52
Communication	.394	4.03	1.83
Helping	.306	3.66	1.81
High Anchor Categories	.692	5.92	1.54
Low Anchor Categories	.626	3.84	1.82

*Note.* The perceived behavioral control measures were assessed on a seven-point scale. The higher the number, the more control the participants felt they had over engaging in that behavior (respect – a seven on the response scale represents that exhibiting appreciation toward your dating partner(s) at least 10 times per week is perceived as up to them, trust – seven represents that following through on your commitments to your dating partner(s) at least 16 times per month is perceived as up to them, communication – seven represents NOT paying attention to your dating partner(s) more than 5 times per month is perceived as up to them, helping – seven represents NOT helping your dating partner(s) when it would be supportive to do so more than 4 times per month is perceived as up to them).

Table 7

*Internal Consistency and Mean Values of Perceived Social Norm Measures*

Dating Behavior Category	$\alpha$	$M$	$SD$
Respect	.624	5.55	1.61
Trust	.558	5.62	1.64
Communication	.695	2.65	1.63
Helping	.714	2.40	1.56
High Anchor Categories	.749	5.59	1.62
Low Anchor Categories	.822	2.53	1.59

*Note.* The perceived social norm measures were assessed on a seven-point scale. The higher the number, the more perceived approval people important to participants give for engaging in that behavior, or the more that behavior is exhibited by individuals like them (respect – a seven on the response scale represents more approval for exhibiting appreciation toward your dating partner(s) at least 10 times per week, trust – seven represents more approval for following through on your commitments to your dating partner(s) at least 16 times per month, communication – seven represents more approval over NOT paying attention to your dating partner(s) more than 5 times per month, helping – seven represents more approval over NOT helping your dating partner(s) when it would be supportive to do so more than 4 times per month). Note that a higher mean for perceived social norms regarding the high anchor behaviors (respect and trust) is in the ‘healthy’ direction, whereas a lower mean for the low anchor behaviors (communication and helping) is in the ‘healthy’ direction.

As can be seen in *Tables 5, 6, and 7*, reliability analyses indicated there is low internal consistency amongst measures grouped by dating behavior category. However, internal consistency is relatively higher when measures are clustered based upon if they were in a ‘high anchor’ (respect and trust) or ‘low anchor’ (communication and helping) dating behavior category. Consequently, attitude toward the behaviors, perceived behavioral control, and perceived social norms were grouped in their ‘high anchor’ or ‘low anchor’ categories before determining their impact on their respective ‘high anchor’ or ‘low anchor’ future dating behavior intentions. See *Table 8* for the predictors of high anchor dating behavior intentions, and *Table 9* for the predictors of low anchor dating behavior intentions.

Table 8

*Predictors of Intentions to Engage in Healthy Dating Behaviors (High Anchor Categories – Respect and Trust).*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
High Anchor Attitude Toward the Behavior	.20	.06	.22	3.08	.002**
High Anchor Perceived Behavioral Control	.13	.07	.13	1.80	.072
High Anchor Perceived Social Norms	.29	.07	.29	4.15	<.001**

$p < .05^*$ ,  $p < .01^{**}$

Table 9

*Predictors of Intentions to Engage in Healthy Dating Behaviors (Low Anchor Categories – Communication and Helping).*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Low Anchor Attitude Toward the Behavior	-.17	.06	-.18	-2.92	.004**
Low Anchor Perceived Behavioral Control	-.17	.06	-.17	-3.07	.002**
Low Anchor Perceived Social Norms	-.32	.06	-.31	-4.93	<.001**

$p < .05^*$ ,  $p < .01^{**}$

As shown in *Table 8*, attitudes and perceived social norms toward engaging in the high anchor dating behaviors (respect and trust) significantly predicted future dating behavior intentions to exhibit appreciation at least 10 times per week (respect) and follow through on commitments to dating partner(s) at least 16 times per month (trust). Participant perceived behavioral control over engaging in the behaviors of exhibiting appreciation and following



through on commitments did not significantly predict the respective future dating behavior intentions, suggesting that whether participants believe these behaviors are favorable or perceive them as socially acceptable holds more weight toward influencing their intentions for the dating behaviors of respect and trust.

For the low anchor dating behaviors (communication and helping), attitudes, perceived behavioral control and perceived social norms all significantly predicted future dating behavior intentions to not pay attention to their dating partner during a conversation when they should be more than 5 times per month (communication) and not help when it would be supportive to do so more than 4 times per month (helping). The relationships were all in a negative direction, such that the less the behaviors of not paying attention and not helping are perceived favorable or acceptable, the less likely participants are to engage in the behaviors of not paying attention and not helping. Participant beliefs regarding whether these low anchor behaviors are good, if they feel they have control over exhibiting the behaviors, and whether others important to them perform the behaviors or would approve of the behaviors, all contribute to their intentions toward engaging in healthy communication and helping.

The attitude toward the behavior, perceived behavioral control and perceived social norm measures from all participants were examined based upon condition in the 2 x 2 between-subjects design. There were no significant differences based upon condition in responses to measures concerning attitudes, perceived behavioral control, or perceived social norms for all dating behavior categories. This lack of a difference suggests that the manipulations participants were exposed to did not alter their interpretation or perception of the dating behaviors, as demonstrated by the measures of attitude, perceived social norms, and perceived behavioral control.

## Follow-Up Survey of Intentions

Near the end of the study, participants were asked if they would like to participate in a follow-up survey in four to six weeks for an additional class participation point. The follow-up survey consisted of the same intention questions asked in the original study. The follow-up survey was sent to the 104 students whom indicated they would like to participate, but only 64 participants responded to the follow-up survey within the given time period of four to six weeks after their individual completion of the study.

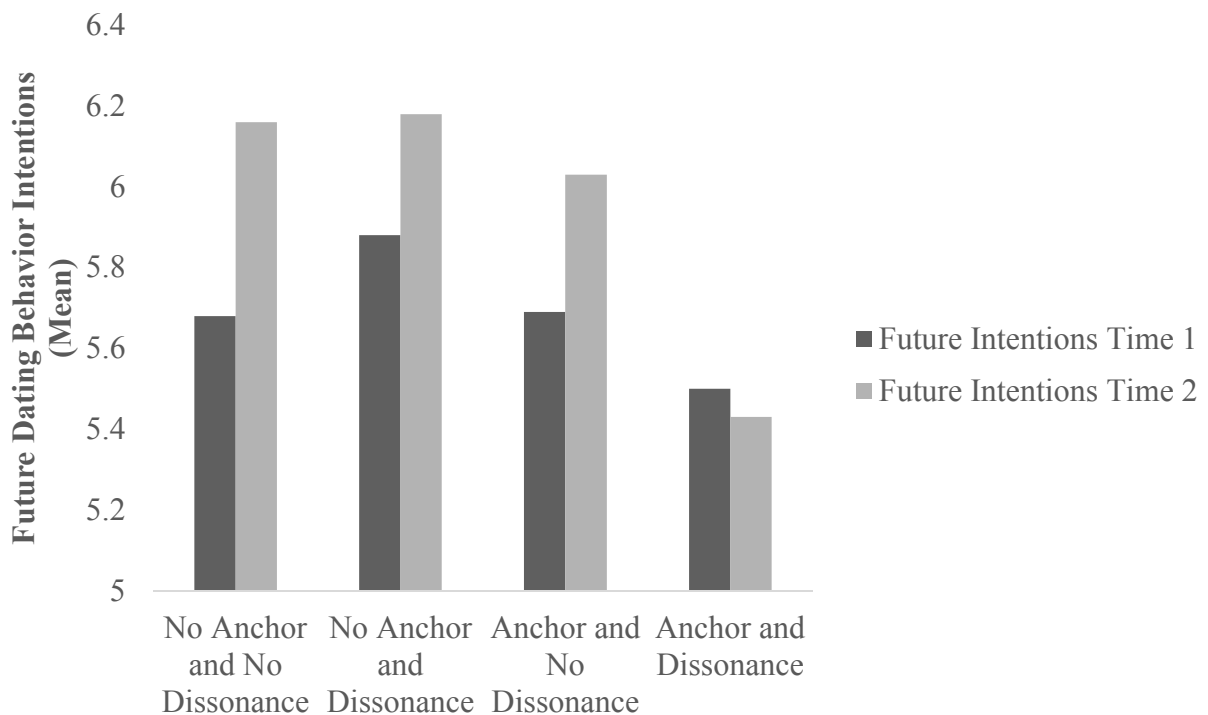
A repeated measures ANOVA was conducted to examine the effects of the anchor and dissonance manipulations on intentions over time, across dating behavior category and intention response item. Mauchly's test indicated that the assumption of sphericity had been violated for dating behavior category ( $\chi^2(2) = 24.62, p < .001$ ) and intention response item ( $\chi^2(2) = 24.62, p < .001$ ). Thus, a Greenhouse-Geisser correction was used. The mean level of intentions for Time 1 and Time 2 based upon participant condition in the 2 x 2 between-subjects design can be seen in *Figure 10*. There was a main effect of time, such that the dating behavior intentions assessed four to six weeks after completion of the study ( $M = 5.91$ ) were significantly higher than the dating behavior intentions assessed during the study for those same participants ( $M = 5.67$ ),  $F(1,63) = 6.38, p = .014$ , partial  $\eta^2 = .096$ . The intentions differed depending on the intention response item, such that the response items assessing how *likely* it would be for a specific dating behavior to occur ( $M = 5.62$ ) were lower than the intention response items assessing how *certain* ( $M = 5.87$ ) or *probable* ( $M = 5.94$ ) it would be for a dating behavior to occur,  $F(1.67, 100.05) = 7.76, p = .001$ , partial  $\eta^2 = .114$ .

The intentions also varied by dating behavior category,  $F(2.48, 149.02) = 9.20, p < .001$ , partial  $\eta^2 = .133$ . These main effects of time and dating behavior category were conditioned by a

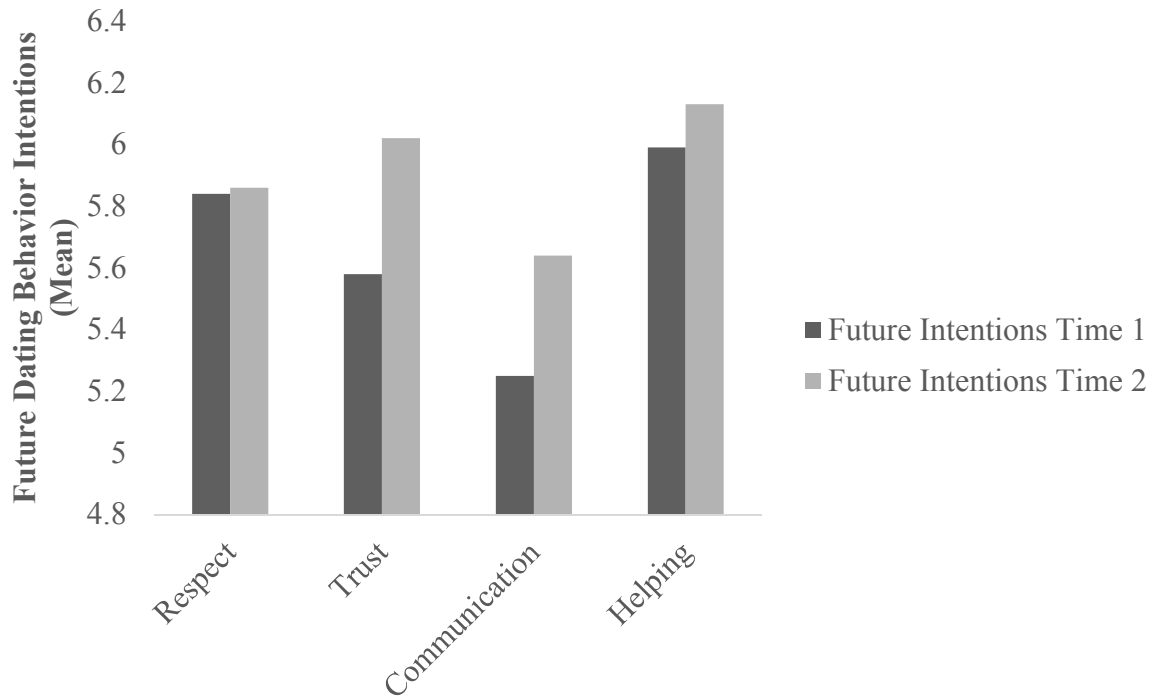
significant time by dating behavior category interaction,  $F(2.64, 158.62) = 2.92, p = .042$ , partial  $\eta^2 = .046$ . As depicted in *Figure 11*, intentions were significantly higher at Time 2 compared to Time 1 for the dating behavior categories of trust,  $t(63) = -2.54, p = .014$ , and communication,  $t(63) = -2.43, p = .018$ , but not for the dating behavior categories of respect,  $t(63) = -.19, p = .85$ , and helping,  $t(63) = -1.05, p = .296$ .

It is also important to recognize the presence of a significant time by dating behavior category by dissonance condition interaction,  $F(2.64, 158.62) = 3.09, p = .035$ , partial  $\eta^2 = .028$  (see *Figure 12*). This interaction indicates that the time by behavior category interaction for respect and helping differed for those in the dissonance conditions than the non-dissonance conditions, whereas they did not significantly differ for the dating behavior categories of trust and communication. Participant intentions for the dating behavior category of respect did not differ significantly between the dissonance ( $M = 5.93$ ) and no dissonance conditions ( $M = 5.76$ ) at Time 1,  $t(62) = -.60, p = .553$ . However, the respect intentions were significantly lower in the dissonance conditions ( $M = 5.61$ ) than the no dissonance conditions ( $M = 6.08$ ) at Time 2,  $t(62) = 1.76, p = .083$ . Similarly, there was no significant difference observed between the dissonance ( $M = 5.95$ ) and no dissonance conditions ( $M = 6.03$ ) for helping intentions at Time 1,  $t(62) = .26, p = .794$ , but the helping intentions were significantly lower in the dissonance conditions ( $M = 5.76$ ) than the non-dissonance conditions ( $M = 6.44$ ) at Time 2,  $t(62) = 2.74, p = .008$ . There was no significant difference in intentions for the dating behavior category of trust between the dissonance conditions ( $M = 5.67$ ) and no dissonance conditions ( $M = 5.51$ ) at Time 1,  $t(62) = -.53, p = .600$ . Further, there were no significant differences between the dissonance conditions ( $M = 5.80$ ) and no dissonance conditions ( $M = 6.20$ ) for trust intentions at Time 2,  $t(62) = 1.63, p = .109$ . Comparably, intentions for the dating behavior category of communication did not differ

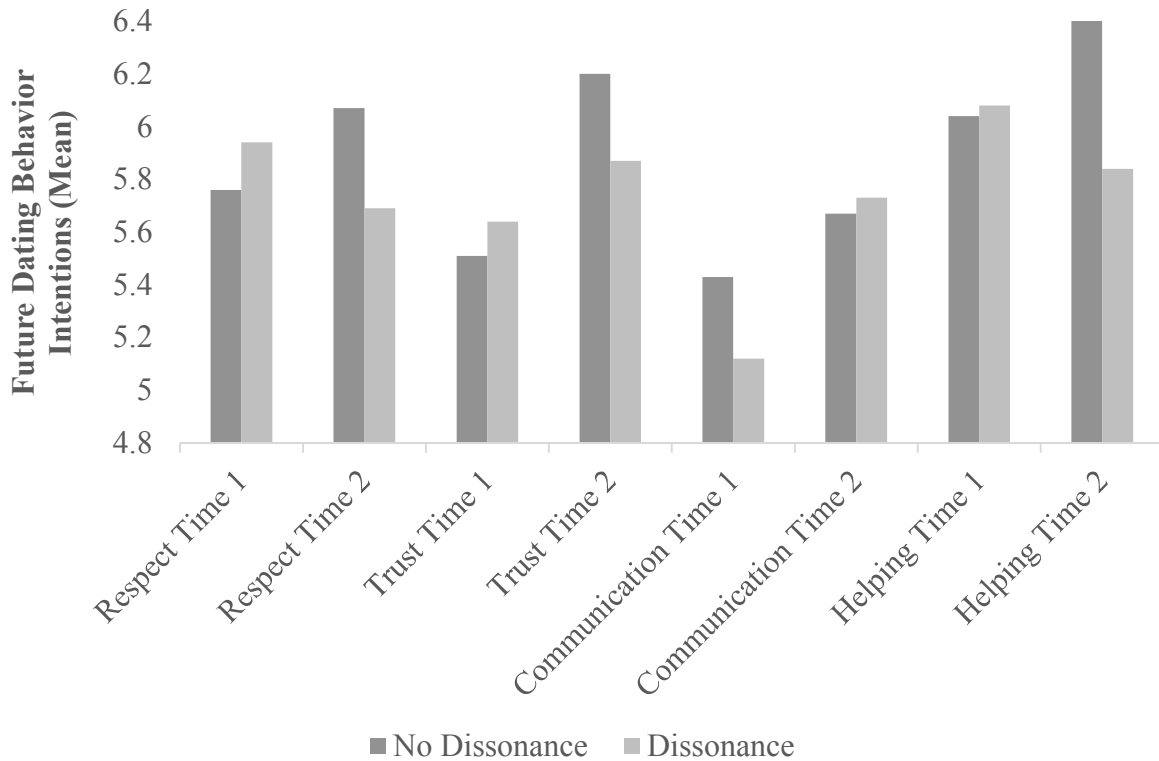
significantly between the dissonance conditions ( $M = 5.03$ ) and no dissonance conditions ( $M = 5.43$ ) for Time 1,  $t(62) = 1.19, p = .239$ , nor did they differ significantly between the dissonance ( $M = 5.59$ ) or no dissonance conditions ( $M = 5.69$ ) for Time 2,  $t(62) = .31, p = .759$ . None of the other effects or interactions related to time, dating behavior category, or intention response item were significant.



*Figure 10.* Mean values of future dating behavior intentions based upon condition in the 2 x 2 between-subjects factorial design and time of future dating behavior intention assessment. Time 1 represents intentions assessed during the study and Time 2 represents intentions assessed four to six weeks after completion of the study. The intentions were scored on a seven-point scale with seven reflecting the highest intention to engage in healthy dating behaviors (seven means participants are *extremely likely* to exhibit appreciation at least 10 times per week, *extremely likely* to follow through on commitments at least 16 times per month, *extremely unlikely* to not pay attention when they should be more than 5 times per month, and *extremely unlikely* to not help when it would be supportive to do so more than 4 times per month).



*Figure 11.* Mean values of future dating behavior intentions based upon dating behavior category and time of future dating behavior intention assessment. Time 1 represents intentions assessed during the study, and Time 2 represents intentions assessed four to six weeks after completion of the study. The intentions were scored on a seven-point scale with seven reflecting the highest intention to engage in healthy dating behaviors (seven means participants are *extremely likely* to exhibit appreciation at least 10 times per week, *extremely likely* to follow through on commitments at least 16 times per month, *extremely unlikely* to not pay attention when they should be more than 5 times per month, and *extremely unlikely* to not help when it would be supportive to do so more than 4 times per month).



*Figure 12.* Mean values of future dating behavior intentions for the no dissonance and dissonance conditions based upon dating behavior category and time of future dating behavior intention assessment. Time 1 represents intentions assessed during the study, and Time 2 represents intentions assessed four to six weeks after completion of the study. The intentions were scored on a seven-point scale with seven reflecting the highest intention to engage in healthy dating behaviors (seven means participants are *extremely likely* to exhibit appreciation at least 10 times per week, *extremely likely* to follow through on commitments at least 16 times per month, *extremely unlikely* to not pay attention when they should be more than 5 times per month, and *extremely unlikely* to not help when it would be supportive to do so more than 4 times per month).

**Additional analyses.** Additional analyses were conducted with the follow-up survey data to assess if the attitudes, perceived behavioral control, and perceived social norms measured during the study also predicted the intentions at Time 2 (four to six weeks after completion of the study). As depicted in *Tables 10* and *11*, perceived social norms regarding engaging in the dating behaviors was the only theoretical antecedent that remained a significant predictor of future dating behavior intentions, for both the high anchor and low anchor dating behavior categories.

The injunctive norms ( $B = .39, SE = .12, p = .002$ ) contributed more to the Time 2 intentions for the high anchor behaviors of respect and trust than the descriptive norms ( $B = .21, SE = .12, p = .079$ ). For the low anchor behaviors, both injunctive ( $B = -.33, SE = .14, p = .022$ ) and descriptive norms ( $B = -.26, SE = .12, p = .036$ ) significantly contributed to Time 2 intentions for the low anchor behaviors of communication and helping. This result suggests that for this undergraduate sample, whether these dating behaviors are exhibited by others like them or approved by others important to them, has a consistent and powerful impact on their intentions toward engaging in respect, trust, communication and helping.

Table 10

*Predictors of Time 2 Intentions to Engage in Healthy Dating Behaviors (High Anchor Categories – Respect and Trust).*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
High Anchor Attitude Toward the Behavior	.24	.13	.26	1.08	.077
High Anchor Perceived Behavioral Control	-.22	.18	-.18	-1.17	.247
High Anchor Perceived Social Norms	.57	.13	.57	4.25	<.001**

$p < .05^*, p < .01^{**}$

Table 11

*Predictors of Time 2 Intentions to Engage in Healthy Dating Behaviors (Low Anchor Categories – Communication and Helping).*

Variable	<i>B</i>	<i>SE B</i>	$\beta$	<i>t</i>	<i>p</i>
Low Anchor Attitude Toward the Behavior	-.07	.11	-.07	-0.62	.538
Low Anchor Perceived Behavioral Control	-.17	.11	-.18	-1.50	.139
Low Anchor Perceived Social Norms	-.46	.13	-.47	-3.60	.001**

$p < .05^*$ ,  $p < .01^{**}$



## DISCUSSION

This thesis explored the possibility of using judgmental anchors to induce cognitive dissonance and change dating behavior expectations. Additionally, this study attempted to assess magnitude of dissonance and examine the theoretical antecedents of dating behavior intentions in an undergraduate student population. This thesis added to prior literature concerning anchoring effects, as an effect of high numerical anchors was present in the unique context of dating behavior expectations. Moreover, there was an effect of dissonance on psychological discomfort and negative affect, suggesting that the dissonance manipulation was successful in creating cognitive dissonance and reminding participants of their inconsistencies between their past dating behavior and current dating behavior expectations. Further, participant attitudes, perceived behavioral control and perceived social norms did predict their dating behavior intentions. Overall, intentions to engage in healthy dating behaviors were high at Time 1 (intentions assessed during the study) and Time 2 (intentions assessed four to six weeks after individual completion of the study). This finding of positive intentions is encouraging, as intentions are known to predict behavior (Fishbein & Ajzen, 2011).

The first task participants completed involved stating their initial dating behavior expectations concerning respect and trust (high anchor categories), communication and helping (low anchor categories). There was a main effect of high numerical anchors on initial dating behavior expectations, such that the dating behavior expectations assimilated toward the anchor values. This finding is consistent with prior research (e.g., Hinsz et al., 1997; Funham & Boo, 2011; Kahneman, 2011; Northcraft & Neale, 1987; Tversky & Kahneman, 1974) noting the influence of numerical anchors. This thesis adds to the anchoring literature, by demonstrating the influence of an anchor in the novel context of dating behavior expectations. Even though the

anchored dating behaviors may seem implausible (i.e., exhibiting appreciation 700 times per week), most participants did not comment on their manipulated ‘high’ dating behavior expectations, although it is unlikely they exhibit or expect others to exhibit behaviors such as showing appreciation 50 times per week. This lack of consideration concerning the participants’ high dating behavior expectations is interesting, but consistent with other research noting the unconscious processing of the anchor (Epley & Gilovich, 2001; Plous, 1993; Tversky & Kahneman, 1974).

Despite the influence of the high numerical anchors on dating behavior expectations in this study, there were no effects of the low anchors on dating behavior expectations. In fact, the median was equivalent or higher in the anchor conditions than in the no anchor conditions for both low anchor dating behavior categories. This pattern suggests a possible spillover effect from the high anchors, such that the high anchors also affected subsequent judgments. A spillover effect from the high anchors would not be surprising, considering the abundance of literature supporting the power of the anchoring and adjustment process (cf. Funham & Boo, 2011; Kahneman, 2011). However, in this study, the general expectation responses from both the no anchor and anchor conditions were low for the low anchor dating behavior categories of communication and helping. Thus, it is possible that the pattern of numerical responses to communication and helping dating behavior expectations were not substantially different enough to detect an effect, as the distributions indicate the majority of low anchor dating behavior expectations were low numbers. That is, 70% of all participants responded they do not pay attention when they should five times or less per month (communication), and 78% of participants responded they do not help when it would be supportive to do so two times or less per month (helping).

After participants' initial dating behavior expectations were assessed, participants responded to essay prompts. The essay prompts either encouraged participants to describe their inconsistencies between past dating behavior and current dating behavior expectations (dissonance manipulation) or state aspects of dating generally related to respect, trust, communication and helping (no dissonance manipulation). Those who were asked to state cognitive inconsistencies between their past dating behaviors and stated dating behavior expectations did have higher levels of psychological discomfort, as predicted (H2). Participants who responded to the dissonance essay prompts also had significantly higher levels of negative affect. The increased levels of psychological discomfort and negative affect are consistent with research indicating that even small cognitive inconsistencies can result in a state of negative affect (Levy et al., 2018). Further, these effects of the dissonance manipulation are consistent with other findings in the literature, particularly within related research using salient 'past transgressions' or feelings of hypocrisy dissonance manipulations (Aronson et al., 1991; Fontina, 2008; Stone et al., 1994; Stone & Fernandez, 2011; Wood, 2000).

The level of participant psychological discomfort was measured with a 'new' discomfort scale created by combining items from other discomfort scales previously used in the literature (Elliot & Devine, 1994; Jordens & Van Overwalle, 2005; Stangor, 2000). This created discomfort scale provides a measure of the most important underlying mechanism of cognitive dissonance – psychological discomfort. Although the discomfort scale was able to detect significant differences in psychological discomfort between the dissonance and no dissonance conditions, it is important to note that the median ratings of discomfort are rather low – with the median between 'not at all' and 'slightly' on the discomfort scale (*see Figure 2*).

The low level of psychological discomfort experienced may be due to the amount of consonant cognitions, or justifications, that participants generated in their responses describing their inconsistent past dating behavior (Festinger, 1957; Gawronski, 2012). On average, participants in dissonance conditions provided about 1.56 consonant cognitions and 1.75 dissonant cognitions (see *Table 2*). The amount of generated consonant cognitions suggests that participants may have been attempting to reduce their dissonance or psychological discomfort (Festinger, 1957; Gawronski, 2012) during their responses to the essay prompts. It is possible that a more sensitive response scale to the discomfort measure would have been able to detect larger differences in psychological discomfort. Similarly, a more sensitive response scale may have assisted in detecting further differences in the presence of negative affect, as the ratings of negative affect were also rather low. It is interesting to note that even though negative affect was higher for dissonance conditions, positive affect was higher as well, although not significantly so. Regardless, we see that the dissonance conditions experienced *slightly* higher discomfort and negative affect than the no dissonance conditions. This finding is important for inferring that cognitive dissonance was induced, as psychological discomfort is a central mechanism in dissonance theory (Festinger, 1957).

Even though the amount of psychological discomfort was significantly higher in the dissonance conditions, the condition with both an anchor and dissonance manipulation did not have the highest overall ratings of discomfort (failing to support H3). The anchor and dissonance condition was predicted to have the highest ratings of discomfort because it was thought that the numerical anchor may motivate participants to think of more instances in which their past dating behavior was inconsistent with their (manipulated) dating behavior expectations, thus increasing the magnitude of dissonance (Festinger, 1957; Harmon-Jones & Harmon-Jones, 2007). However,

it appears the magnitude of dissonance and amount of psychological discomfort were not altered by the anchor manipulation, as there was no substantial difference in the amount of generated dissonant cognitions between the no anchor and anchor conditions.

The lack of a significant difference in the amount of generated dissonant cognitions (magnitude of dissonance) between the no anchor and anchor conditions may be due to the directions in the dissonance essay prompt, which stated '*please describe at least two instances in which your past dating behavior did not meet your stated dating behavior expectation*'. It is possible that those in the anchor condition would have generated more dissonant cognitions if I had not specified a number in the dissonance essay prompt, although past research would suggest that simply generating more dissonant cognitions in this highly elaborative dissonance manipulation would not increase the magnitude of dissonance that motivates behavior change (Stone & Fernandez, 2011).

Participants provided their future dating behavior intentions for the four dating behavior categories of respect, trust, communication and helping upon completion of the dissonance or no dissonance essays. There was an effect of anchoring on future intentions for only one dating behavior category, the category with the highest numerical anchor - trust (following through on commitments). This finding demonstrates that for the dating behavior category of trust, the numerical anchor not only influenced participants' initial dating behavior expectations, but the anchor also influenced their future dating behavior intentions concerning the amount of times they follow through on commitments. This finding extends prior research stating the influence of the anchor (cf. Furnham & Boo, 2011; Kahneman, 2011), particularly supporting the idea that numerical anchors can influence intentions, goals and behaviors (Hinsz et al., 1997). Additionally, although not at a significant level, there was a general pattern across dating

behavior categories that participants exposed to an anchor had slightly higher future dating behavior intentions.

The numerical anchor did not have a significant effect on future dating behavior intentions for the dating behavior categories of respect, communication and helping. It is possible that participants used their past dating behavior as a self-generated anchor (Epley & Gilovich, 2001), impacting their intentions more than the numerical anchor. Alternatively, it is possible that the pattern of responses for future dating behavior intentions did not have enough variability to detect an effect, as participant future dating behavior intentions toward engaging in healthy dating behaviors were relatively high for each dating behavior category (i.e.,  $M = 5.56$  for respect, 5.40 for trust, 5.38 for communication and 5.72 for helping on the seven-point scale).

Similarly, there was an effect of dissonance on future dating behavior intentions for only one dating behavior category as well, the category with the overall lowest intentions toward engaging in the healthy dating behavior – communication (not paying attention when one should be). This effect was not in the predicted direction though, as those in the dissonance conditions had *lower* future dating behavior intentions toward engaging in the healthy dating behavior of communication. As seen in *Figure 5*, participants in the dissonance conditions also had lower future dating behavior intentions toward the healthier dating behavior for helping and trust, although not at significant levels. It is possible that the dissonance manipulations asking participants to think of times their past dating behavior was inconsistent with their stated dating behavior expectations made their past dating behavior ‘failures’ more salient, and thus they were less confident in their future dating behavior intentions. Furthermore, the magnitude of dissonance participants experienced was relatively low (as seen in *Table 2*). This low amount of dissonance could have minimized the amount of psychological discomfort that would have

motivated participants to avoid increasing their dissonance (Festinger, 1957; Gawronski, 2012) by having higher future intentions toward healthy dating behavior.

There was no interaction effect of anchoring and dissonance on future dating behavior intentions for any dating behavior category. This lack of interaction effects could be due to the generally high intentions (average rating between somewhat and moderately likely) toward engaging in healthy future dating behaviors between the conditions. Over 68% of participants responded with an average of five or above on the seven-point intention scales, potentially making it difficult to distinguish differences.

It was unfortunate that the anchor and dissonance manipulations did not significantly predict future dating behavior intentions in a linear regression. A mediation analysis with psychological discomfort would have contributed to predictions stating that discomfort (dissonance) can be impactful for altering beliefs, values, and behaviors (Festinger, 1957; Gawronski, 2012; Harmon-Jones & Harmon-Jones, 2007). Overall though, it is a positive finding that the undergraduate participants have relatively high intentions to engage in healthy dating behaviors, as intentions have been repeatedly noted to be predictive of behavior (Fishbein & Ajzen, 2011).

Another novel aspect of this thesis was the attempt to measure the magnitude of dissonance participants were experiencing by examining the participant essays. In general, participants seemed to be open in their responses to the dissonance essay prompts. As an example, here is a response from the communication category: *“My boyfriend is really into fixing up old cars and trucks. He gets really excited about it and explains everything he needs to do to the vehicle. Honestly I am not interested in that sort of thing so I just pretend to pay attention but I’m really thinking about something else. I asked him how his day at work was so he rambled on*

*and on about everything he did. I should have paid attention and listened since I am the one who asked about it in the first place. But, he works as a technician at RDO and I don't understand half the things he says when he talks about what he does at work".* An additional example from the helping category is: *"One time when my girlfriend was working on a project for her culinary class she wanted some help making the PowerPoint. I told her I didn't want to do it because I didn't support her viewpoint that raising animals for food was bad. She thought everyone should just be a vegan but I disagree with that wholeheartedly and because of that I refused to help her with her project even though it might have been supportive to do so. Another time was when this same girl was trying to get my family to cook a vegan menu for a holiday dinner. She wanted to me to help convince my family to only make vegan food for dinner but everyone in my family eats meat and animal products every day. My parents were happy to make her a specific vegan meal but she still wasn't satisfied with that. I tried to be supportive but at a certain point you have to be realistic".* Some individuals assigned to the anchor and dissonance condition even reconsidered their stated expectation that assimilated toward the anchor value, as seen in this excerpt from a response in the trust category: *'100 was way too much looking back on this.'*

Despite openness of participant responses, the calculated magnitude of dissonance values  $\left(\frac{\text{importance} \times \text{amount of consonant cognitions}}{\text{importance} \times \text{amount of dissonant cognitions}}\right)$  were relatively low (Table 2). Moreover, the magnitude of dissonance did not predict levels of psychological discomfort (see Tables 3 and 4) for the four dating behavior categories. The lack of a correlation between the calculated magnitude of dissonance and psychological discomfort may be due to the pattern of participant responses to the importance measures and dissonance essay prompts. Participant importance ratings were, on average, higher for the consonant cognitions than dissonant cognitions (Table 1). It is possible that participants rated the consonant cognitions more important because they



had a greater understanding of the questions assessing importance for consonant behaviors than dissonant behaviors. To elaborate, it may be easier to respond to the question “*How important is it that your actions match your opinions regarding the amount of times per month you exhibit appreciation towards your dating partner(s)?*” than “*How important is it that your actions do NOT match your opinions regarding the amount of times you exhibit appreciation towards your dating partner(s)?*”. The mean number of consonant cognitions was close to the amount of dissonance cognitions, as depicted in *Table 2*. This suggests that during their responses to the essays, participants attempted to reduce their dissonance by providing consonant cognitions or justifications for their actions, possibly lessening the amount of psychological discomfort experienced (Festinger, 1957; Gawronski, 2012; Harmon-Jones & Harmon-Jones, 2007). It is also interesting to note that the mean amount of consonant cognitions for helping was actually *higher* than the amount of dissonant cognitions provided – suggesting that individuals are, as other research has noted, generally prosocial (Van Lange, DeBruin, Otten, & Joireman, 1997).

Along with the examination of magnitude of dissonance for each dating behavior category, the theoretical antecedents of participants’ future dating behavior intentions (Fishbein & Ajzen, 2011) were also assessed. The attitude toward the behavior, perceived behavioral control and perceived social norm measures did not significantly differ based upon study condition, implying that the manipulations participants were exposed to did not change their perception of the dating behaviors inquired about. Within the high anchor dating behavior categories, both attitudes and perceived social norms significantly predicted the dating behavior intentions for respect and trust. This suggests that the attitudes, perceived behavioral control and perceived social norms toward engaging in the healthy dating behaviors may have impacted participant intentions differently, with the most weight on participant attitudes and perceived

social norms (Fishbein & Ajzen, 2011). Within the low anchor dating behavior categories, attitudes, perceived behavioral control and perceived social norms significantly predicted the dating behavior intentions for communication and helping, suggesting that all three theoretical antecedents have important influences on the future dating behavior intentions for these behaviors.

The participants' intentions toward engaging in healthy dating behaviors were also assessed four to six weeks after completion of the study. Intentions assessed after the study (Time 2) were significantly higher than the intentions assessed during the study (Time 1, *Figure 10*). Higher intentions toward healthy dating behaviors at Time 2 may be due to the patterns of participant dating behavior, as it is possible they have been acting in a healthy fashion consistent with their previous intentions. Alternatively, this pattern of high intentions may suggest participants did not spend as much time thinking about the intention measures during the follow-up survey as they may have during the original study in the lab, thus responding quickly with generally high intentions. Although there was no significant effect of the anchor or dissonance manipulations on Time 2 intentions, it is interesting to note that the condition with both the anchor and dissonance manipulations had lower intentions at Time 2 than any other condition. These intentions may be lower because participants have not been meeting their (manipulated) high dating behavior expectations, or because their past or current dating behavior is not reflective of the dating behavior in the intention measures.

Moreover, of the theoretical antecedents assessed during the study, only perceived social norms remained a significant predictor of Time 2 dating behavior intentions for both high anchor (respect and trust) and low anchor (communication and helping) categories. This implies that social norms can have a profound impact on behavior, now and in the future, as demonstrated in

past research (Berkowitz, 2010; Cialdini, 2012; Fishbein & Ajzen, 2011). For this thesis, participant responses to perceived social norm measures reflected that others important to them approve of, and others like them engage in, healthy dating behaviors regarding respect and trust. Furthermore, those important to them disapprove of, and others like them do not engage in, unhealthy dating behaviors regarding communication and helping (*Table 7*). These ‘healthy’ patterns of results concerning perceived social norms are important, as they may guide current and future participant dating behavior.

### **Limitations and Future Research**

There are several limitations of this research that are worthy of note. First, although the experiment involved a novel attempt to assess the magnitude of dissonance, the measures used to assess participant importance of consonant and dissonant cognitions may have been confusing. During the study, there were a few comments made to researchers about the meaning of those questions. Examining the importance of consonant and dissonant cognitions is an intricate task, and it is possible that a different measurement of importance would have increased participant understanding of the measures.

Also, despite past successful use of asking participants to write a specific, reasonable number of dissonant instances in the dissonance manipulation essays (e.g., Stone & Fernandez, 2011), it may have been more beneficial for this study to have participants recall more than two past dating behaviors inconsistent with their stated expectations. The directions stated “at least two instances”, but as seen in *Table 2*, the average amount of dissonant cognitions per dating behavior category was below two. Additionally, participants spontaneously generated their own consonant cognitions (or justifications) for their inconsistent dating behavior, which may have been avoided with different directions in the essay prompts.

Another limitation worthy of noting is that the discomfort scale created in attempt to measure psychological discomfort may not have had items that were sensitive enough to accurately assess the presence of discomfort. Even though the discomfort scale was able to show significant differences in discomfort between the no dissonance and dissonance conditions, the overall level of discomfort was relatively low (close to ‘not at all’ on the five-point scale). Future research should continue to explore ways of assessing magnitude of dissonance, to contribute to and advance the current methodology in cognitive dissonance research.

Additionally, future research should continue to examine dating behavior expectations and perceptions in undergraduate students. Undergraduate dating behavior expectations are rarely targeted, even though problematic perceptions of common dating behaviors are highly prevalent within the undergraduate population. To elaborate, college students largely overestimate the number of partners others have and sexual activity that other students engage in, while underestimating the frequency of safe-sex practices (Berkowitz, 2010; Lynch, Mowrey, Nesbitt & O’Neil, 2004; Martens et al., 2006; Scholly, Katz, Gascoigne & Holk, 2005; Stinson, 2010). Undergraduates report having more discomfort and less experience with sexual behavior than their peers, believing they have more conservative expectations when in reality the prevalence of these risky dating behaviors is substantially lower than they perceive (Stinson, 2010). Furthermore, students overestimate rape-supportive attitudes, rape myth acceptance and sexist attitudes or comments (Hillenbrand-Gunn, Heppner, Mauch & Park, 2010; Kilmartin et al., 2008). The alarming amount of misleading beliefs is a serious issue, as these misperceptions have been correlated positively with actual behavior (Martens et al., 2006; Lewis, Lee, Patrick & Fossos, 2007; Stinson, 2010). Future research or interventions should continue to think of ways

to address these misperceptions in undergraduate students, using methodology that is accessible and easy to implement.

## CONCLUSION

This thesis expanded upon previous literature examining the impact of numerical anchors (cf. Kahneman, 2011) and the influences of cognitive dissonance (cf. Festinger, 1957) by attempting to use judgmental anchors to induce cognitive dissonance and change dating behavior expectations. Using these theoretical frameworks in the context of dating behavior expectations is novel, as dating behavior expectations are not well-examined within the undergraduate student population. Support for the influence of high numerical anchors was found, as participant dating behavior expectations were raised in a healthier direction. Additionally, the dissonance manipulation used had its' desired effect on levels of psychological discomfort, as measured by the created discomfort scale. Moreover, this study provided an exploration of assessing magnitude of dissonance and the theoretical antecedents of dating behavior intentions. In general, the future dating behavior intentions across all conditions were in a healthy direction for all dating behavior categories. Furthermore, intentions toward the healthy dating behaviors assessed four to six weeks after completion of the study remained high, which is encouraging considering that intentions are predictive of behavior (Fishbein & Ajzen, 2011). Overall, this thesis contributes to our knowledge of undergraduate dating behavior expectations and intentions for four dating behaviors imperative to healthy relationships – respect, trust, communication and helping.

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## APPENDIX A. DATING BEHAVIOR EXPECTATIONS

### Respect

How frequently do you exhibit appreciation towards your dating partner(s)? Please provide a specific numerical value in times per week.

*Anchor Condition: Please provide a specific numerical value in times per week. For example, I exhibit appreciation towards my dating partner(s) 700 times per week.*

### Trust

How often do you follow through on your commitments to your dating partner(s)? Please provide a specific numerical value in times per month.

*Anchor Condition: Please provide a specific numerical value in times per month. For example, I follow through on commitments to my dating partner(s) 3000 times per month.*

### Communication

How frequently do you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)? Please provide a specific numerical value in times per month.

*Anchor Condition: Please provide a specific numerical value in times per month. For example, I find myself NOT paying attention when I should be during a conversation with my dating partner 2 times per month.*

### Helping

How often do you NOT help your dating partner(s) when it would be supportive to do so? Please provide a specific numerical value in times per month.

*Anchor Condition: Please provide a specific numerical value in times per month. For example, I do NOT help my dating partner(s) when it would be supportive to do so 1 time per month.*

Note: The values introduced as the anchors are expected to lead participants' expectations to assimilate to values that are indicative of healthy dating behaviors.

**APPENDIX B. IMPORTANCE MEASURES**

- (1) *Not at all important*
- (2) *\_\_\_*
- (3) *Slightly important*
- (4) *\_\_\_*
- (5) *Moderately important*
- (6) *\_\_\_*
- (7) *Quite important*
- (8) *\_\_\_*
- (9) *Extremely important*

How important is it to you that your actions match your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

*For example, it is (not at all important --- extremely important) that I exhibit appreciation towards my dating partner (the expectation you recorded earlier) times per week.*

How important is it to you that your actions match your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

How important is it to you that your actions match your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

How important is it to you that your actions match your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all important* \_\_\_\_\_ *Extremely important*



How important is it to you that your actions do NOT match your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

*For example, it is (not at all important --- extremely important) that I do NOT exhibit appreciation towards my dating partner (the expectation you recorded earlier) times per week.*

How important is it to you that your actions do NOT match your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

How important is it to you that your actions do NOT match your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all important* \_\_\_\_\_ *Extremely important*

How important is it to you that your actions do NOT match your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all important* \_\_\_\_\_ *Extremely important*

*(1) Not at all significant*

*(2) \_\_\_\_\_*

*(3) Slightly significant*

*(4) \_\_\_\_\_*

*(5) Moderately significant*

*(6) \_\_\_\_\_*

*(7) Quite significant*

*(8) \_\_\_\_\_*

*(9) Extremely significant*

How significant is it to you that your actions are compatible with your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are compatible with your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are compatible with your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are compatible with your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are incompatible with your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are incompatible with your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are incompatible with your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

How significant is it to you that your actions are incompatible with your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all significant* \_\_\_\_\_ *Extremely significant*

- (1) *Not at all meaningful*
- (2) *\_\_*
- (3) *Slightly meaningful*
- (4) *\_\_*
- (5) *Moderately meaningful*
- (6) *\_\_*
- (7) *Quite meaningful*
- (8) *\_\_*
- (9) *Extremely meaningful*

How meaningful is it to you that your actions are consistent with your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are consistent with your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are consistent with your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are consistent with your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are contrary to your opinions regarding the amount of times per week that you exhibit appreciation towards your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are contrary to your opinions regarding the amount of times per month that you follow through on your commitments to your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are contrary to your opinions regarding the amount of times per month that you find yourself NOT paying attention when you should be during a conversation with your dating partner(s)?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

How meaningful is it to you that your actions are contrary to your opinions regarding the amount of times per month that you do NOT help your dating partner(s) when it would be supportive to do so?

*Not at all meaningful* \_\_\_\_\_ *Extremely meaningful*

## APPENDIX C. DISSONANCE MANIPULATION AND NO DISSONANCE

### MANIPULATION WRITING PROMPTS

#### Dissonance Manipulation Prompts

##### *No Dissonance Manipulation Prompts*

#### Respect

Consistent with the earlier questions on dating behavior expectations, please describe in detail *at least two instances* in which you have **NOT** exhibited appreciation towards your dating partner(s) **at least** (participants' numerical expectation inserted on MediaLab) times per week. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail *at least two instances* in which you have **not** exhibited appreciation towards your dating partner(s) **at least** (numerical value) times per week, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.

*Consistent with the earlier questions on dating behavior expectations, please describe in detail appropriate gifts to give to a dating partner as a "surprise". Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail appropriate gifts to give to a dating partner as a surprise, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.*

#### Trust

Consistent with the earlier questions on dating behavior expectations, please describe in detail *at least two instances* in which you have **NOT** followed through on your commitments to your dating partner(s) **at least** (participants' numerical expectation inserted on MediaLab) times per month. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail *at least two instances* in which you have **not** followed through on your commitments to your dating partner(s) **at least** (numerical value) times per month, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.

*Consistent with the earlier questions on dating behavior expectations, please describe in detail commitments or promises that are typically made to dating partner(s). Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe the commitments typically made to dating partners, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.*

## Communication

Consistent with the earlier questions on dating behavior expectations, please describe in detail at least two instances in which you have found yourself **NOT** paying attention when you should have during a conversation with your dating partner(s) **more than** (participants' numerical expectation inserted on MediaLab) times per month when a dating partner is talking to you. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail *at least two instances* in which you have **not** paid attention when you should have during a conversation with your dating partner **more than** (numerical value) times per month, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.

*Consistent with the earlier questions on dating behavior expectations, please describe in detail what types of things people think about when they are on a date. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail the types of things people think about on a date, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.*

## Helping

Consistent with the earlier questions on dating behavior expectations, please describe in detail at least two instances in which you have **NOT** help your dating partner(s) **more than** (participants' numerical expectation inserted on MediaLab) times per month when it would have been supportive to do so. Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail *at least two instances* in which you have **not** helped your dating partner when it would have been supportive to do so, **more than** (numerical value) times per month, with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.

*Consistent with the earlier questions on dating behavior expectations, please describe in detail ways that people help their dating partner(s). Your answers are very important, so please consider the question carefully and provide thoughtful, detailed responses. We have provided you with sufficient time (~ 5 minutes) to describe in detail ways that people help their dating partner(s), with the computer program not advancing until this time period has passed. Please feel free to use as much time as you need.*

## APPENDIX D. DISCOMFORT SCALE

This scale consists of a number of words that describe different feelings and emotions. Read each item and then click the appropriate button next to that word. Indicate to what extent you feel this way right now, that is, at the present moment.

**Not at all**      **Slightly**      **Moderately**      **Quite**      **Extremely**  
**(UNEASY)**      **(UNEASY)**      **(UNEASY)**      **(UNEASY)**      **(UNEASY)**

1. Uneasy
2. Bothered
3. Worried
4. Uncomfortable
5. Unpleasant
6. Fearful
7. Tense
8. Threatened

## APPENDIX E. PANAS – X

This scale consists of a number of words that describe different feelings and emotions. Read each item and then click the appropriate button next to that word that best describes your feelings and emotions. Indicate to what extent you feel this way right now, that is, at the present moment.

**Not at all**      **Slightly**      **Moderately**      **Quite**      **Extremely**  
**(CHEERFUL)** **(CHEERFUL)** **(CHEERFUL)** **(CHEERFUL)** **(CHEERFUL)**

1. Cheerful
2. Disgusted
3. Attentive
4. Bashful
5. Sluggish
6. Daring
7. Surprised
8. Strong
9. Scornful
10. Relaxed
11. Irritable
12. Delighted
13. Inspired
14. Fearless
15. Disgusted with self
16. Sad
17. Calm



18. Afraid
19. Tired
20. Amazed
21. Shaky
22. Happy
23. Timid
24. Alone
25. Alert
26. Upset
27. Angry
28. Bold
29. Blue
30. Shy
31. Active
32. Guilty
33. Joyful
34. Nervous
35. Lonely
36. Sleepy
37. Excited
38. Hostile
39. Proud
40. Jittery

41. Lively
42. Ashamed
43. At ease
44. Scared
45. Drowsy
46. Angry at self
47. Enthusiastic
48. Downhearted
49. Sheepish
50. Distressed
51. Blameworthy
52. Determined
53. Frightened
54. Astonished
55. Interested
56. Loathing
57. Confident
58. Energetic
59. Concentrating
60. Dissatisfied with self

**APPENDIX F. FUTURE DATING BEHAVIOR INTENTIONS**

- (1) *Extremely unlikely*
- (2) *Moderately unlikely*
- (3) *Somewhat unlikely*
- (4) *Neither unlikely nor likely*
- (5) *Somewhat likely*
- (6) *Moderately likely*
- (7) *Extremely likely*

- (1) *Extremely certain*
- (2) *Moderately certain*
- (3) *Somewhat certain*
- (4) *Neither certain nor uncertain*
- (5) *Somewhat uncertain*
- (6) *Moderately uncertain*
- (7) *Extremely uncertain*

- (1) *Extremely probable*
- (2) *Moderately probable*
- (3) *Somewhat probable*
- (4) *Neither probable nor improbable*
- (5) *Somewhat improbable*
- (6) *Moderately improbable*
- (7) *Extremely improbable*

Please imagine you are beginning a new dating relationship. How likely are you to exhibit appreciation towards your dating partner **at least** 10 times per week?

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*  
*Extremely certain* \_\_\_\_\_ *Extremely uncertain*  
*Extremely probable* \_\_\_\_\_ *Extremely improbable*

Please imagine you are beginning a new dating relationship. How likely are you to follow through on your commitments to your dating partner **at least** 16 times per month?

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*  
*Extremely certain* \_\_\_\_\_ *Extremely uncertain*  
*Extremely probable* \_\_\_\_\_ *Extremely improbable*

Please imagine you are beginning a new dating relationship. How likely are you to NOT pay attention when you should be during a conversation with your dating partner **more than** 5 times per month?

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*  
*Extremely certain* \_\_\_\_\_ *Extremely uncertain*  
*Extremely probable* \_\_\_\_\_ *Extremely improbable*

Please imagine you are beginning a new dating relationship. How likely are you to NOT help your dating partner when it would be supportive to do so **more than** 4 times per month?

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*  
*Extremely certain* \_\_\_\_\_ *Extremely uncertain*  
*Extremely probable* \_\_\_\_\_ *Extremely improbable*

**APPENDIX G. ATTITUDES TOWARD DATING BEHAVIORS**

- (1) *Extremely unpleasant*
- (2) *Moderately unpleasant*
- (3) *Slightly unpleasant*
- (4) *Neither unpleasant nor pleasant*
- (5) *Slightly pleasant*
- (6) *Moderately pleasant*
- (7) *Extremely pleasant*

- (1) *Extremely bad*
- (2) *Moderately bad*
- (3) *Slightly bad*
- (4) *Neither bad nor good*
- (5) *Slightly good*
- (6) *Moderately good*
- (7) *Extremely good*

- 1) *Extremely favorable*
- 2) *Moderately favorable*
- 3) *Slightly favorable*
- 4) *Neither favorable nor unfavorable*
- 5) *Slightly unfavorable*
- 6) *Moderately unfavorable*
- 7) *Extremely unfavorable*

My exhibiting appreciation towards my dating partner(s) **at least** 10 times per week is:

*Extremely unpleasant* \_\_\_\_\_ *Extremely pleasant*  
*Extremely bad* \_\_\_\_\_ *Extremely good*  
*Extremely favorable* \_\_\_\_\_ *Extremely unfavorable*

My following through on my commitments to my dating partner(s) **at least** 16 times per month is:

*Extremely unpleasant* \_\_\_\_\_ *Extremely pleasant*  
*Extremely bad* \_\_\_\_\_ *Extremely good*  
*Extremely favorable* \_\_\_\_\_ *Extremely unfavorable*

My NOT paying attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month is:

*Extremely unpleasant* \_\_\_\_\_ *Extremely pleasant*  
*Extremely bad* \_\_\_\_\_ *Extremely good*  
*Extremely favorable* \_\_\_\_\_ *Extremely unfavorable*

My NOT helping my dating partner(s) when it would be supportive to do so **more than** 4 times per month is:

*Extremely unpleasant* \_\_\_\_\_ *Extremely pleasant*  
*Extremely bad* \_\_\_\_\_ *Extremely good*  
*Extremely favorable* \_\_\_\_\_ *Extremely unfavorable*

**APPENDIX H. PERCEIVED BEHAVIORAL CONTROL OF DATING BEHAVIORS**

- (1) *Strongly agree*
- (2) *Moderately agree*
- (3) *Slightly agree*
- (4) *Neither agree nor disagree*
- (5) *Slightly disagree*
- (6) *Moderately disagree*
- (7) *Strongly disagree*

My exhibiting appreciation towards my dating partner(s) **at least** 10 times per week is completely up to me.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

My following through on my commitments to my dating partner(s) **at least** 16 times per month is completely up to me.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

My NOT paying attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month is completely up to me.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

My NOT helping my dating partner(s) when it would be supportive to do so **more than** 4 times per month is completely up to me.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

- (1) *Extremely unlikely*
- (2) *Moderately unlikely*
- (3) *Somewhat unlikely*
- (4) *Neither unlikely nor likely*
- (5) *Somewhat likely*
- (6) *Moderately likely*
- (7) *Extremely likely*

If I really wanted to, I could exhibit appreciation towards my dating partner(s) **at least** 10 times per week.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

If I really wanted to, I could follow through on my commitments to my dating partner(s) **at least** 16 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

If I really wanted to, I could NOT pay attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

If I really wanted to, I could NOT help my dating partner(s) when it would be supportive to do so **more than** 4 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*



- (1) *Extremely true*
- (2) *Moderately true*
- (3) *Somewhat true*
- (4) *Neither true nor false*
- (5) *Somewhat false*
- (6) *Moderately false*
- (7) *Extremely false*

I am confident that I can exhibit appreciation towards my dating partner(s) **at least** 10 times per week.

*Extremely true* \_\_\_\_\_ *Extremely false*

I am confident that I can follow through on my commitments to my dating partner(s) **at least** 16 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

I am confident that I can NOT pay attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

I am confident that I can NOT help my dating partner(s) when it would be supportive to do so **more than** 4 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

**APPENDIX I. PERCEIVED SOCIAL NORMS REGARDING DATING BEHAVIORS**

- (1) *Extremely true*
- (2) *Moderately true*
- (3) *Somewhat true*
- (4) *Neither true nor false*
- (5) *Somewhat false*
- (6) *Moderately false*
- (7) *Extremely false*

Most people who are important to me think I should exhibit appreciation towards my dating partner(s) **at least** 10 times per week.

*Extremely true* \_\_\_\_\_ *Extremely false*

Most people who are important to me think I should follow through on my commitments to my dating partner(s) **at least** 16 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

Most people who are important to me think I should NOT pay attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

Most people who are important to me think I should NOT help my dating partner(s) when it would be supportive to do so **more than** 4 times per month.

*Extremely true* \_\_\_\_\_ *Extremely false*

- (1) *Strongly agree*
- (2) *Moderately agree*
- (3) *Slightly agree*
- (4) *Neither agree nor disagree*
- (5) *Slightly disagree*
- (6) *Moderately disagree*
- (7) *Strongly disagree*

Most people like me exhibit appreciation towards their dating partner(s) **at least** 10 times per week.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

Most people like me follow through on their commitments to their dating partner(s) **at least** 16 times per month.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

Most people like me do NOT pay attention when they should be during a conversation with their dating partner(s) **more than** 5 times per month.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

Most people like me do NOT help their dating partner(s) when it would be supportive to do so **more than** 4 times per month.

*Strongly agree* \_\_\_\_\_ *Strongly disagree*

- (1) *Extremely unlikely*
- (2) *Moderately unlikely*
- (3) *Somewhat unlikely*
- (4) *Neither likely nor unlikely*
- (5) *Somewhat likely*
- (6) *Moderately likely*
- (7) *Extremely likely*

Most people I respect and admire will exhibit appreciation towards their dating partner(s) **at least** 10 times per week.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

Most people I respect and admire will follow through on their commitments to their dating partner(s) **at least** 16 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

Most people I respect and admire will NOT pay attention when they should be during a conversation with their dating partner(s) **more than** 5 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

Most people I respect and admire will NOT help their dating partner(s) when it would be supportive to do so **more than** 4 times per month.

*Extremely unlikely* \_\_\_\_\_ *Extremely likely*

- (1) *Extremely improbable*
- (2) *Moderately improbable*
- (3) *Slightly improbable*
- (4) *Neither improbable nor probable*
- (5) *Slightly probable*
- (6) *Moderately probable*
- (7) *Extremely probable*

Most people whose opinions I value would approve of my exhibiting appreciation towards my dating partner(s) **at least** 10 times per week.

*Extremely improbable* \_\_\_\_\_ *Extremely probable*

Most people whose opinions I value would approve of my following through on my commitments to my dating partner(s) **at least** 16 times per month.

*Extremely improbable* \_\_\_\_\_ *Extremely probable*

Most people whose opinions I value would approve of my NOT paying attention when I should be during a conversation with my dating partner(s) **more than** 5 times per month.

*Extremely improbable* \_\_\_\_\_ *Extremely probable*

Most people whose opinions I value would approve of my NOT helping my dating partner when it would be supportive to do so **more than** 4 times per month.

*Extremely improbable* \_\_\_\_\_ *Extremely probable*