The Effects of Religious and Body-Related Affirmations on Disordered Eating Attitudes and Body Dissatisfaction

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The Effects of Religious and Body-Related Affirmations on
Disordered Eating Attitudes and Body Dissatisfaction

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BY
Cassandra A. Vogt

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SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
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The Effects of Religious and Body-Related Affirmations on Disordered Eating Attitudes and Body Dissatisfaction

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Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Clinical Psychology
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Abstract

The relationship between disordered eating, body dissatisfaction, and religion is complex. Previous research demonstrated that religious body affirmations are beneficial in reducing body dissatisfaction among undergraduate females. Because previous research used affirmations which were simultaneously religious in nature and related to the body, it is difficult to determine if the religiousness of the affirmation is the beneficial characteristic. The current study investigated which type of affirmation had the strongest effect on disordered eating attitudes and body dissatisfaction. More specifically, the five experimental conditions included: religious body affirmations, religious non-body affirmations, non-religious body affirmations, non-religious non-body affirmations, and neutral control statements. Participants were recruited using Amazon’s Mechanical Turk. Using a 2x2 factorial design, our findings failed to show significant differences between religious versus body-related affirmations. In fact, our findings show that none of the affirmation conditions showed improvement in disordered eating attitudes or body dissatisfaction compared to the control condition. Future research is needed to further explore the possible benefits of positive affirmations in the treatment of disordered eating and body dissatisfaction.
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The Effects of Religious and Body-Related Affirmations on Disordered Eating Attitudes and Body Dissatisfaction

There is extensive literature describing the benefits of religion for those with psychological disorders such as anxiety and depression; however, there is limited research investigating the potential effects of religion on disordered eating (Boyatzis & Quinlan, 2008). Furthermore, the majority of the current literature uses correlational designs, limiting causal conclusions about the role of religion in improving disordered eating attitudes and body dissatisfaction (Forthun, Pidcock, & Fischer, 2003; Homan & Boyatzis, 2010; Jacobs-Pilipski et al., 2005). The current study aims to expand upon previous research showing a beneficial role of religious-body affirmations on important precursors to eating disorders. I examine whether it is the body aspects or the religious aspects which improve disordered eating attitudes and body dissatisfaction.

**Disordered Eating Attitudes and Body Dissatisfaction**

Anorexia Nervosa (AN) and Bulimia Nervosa (BN) affect approximately 3% of women over their lifetime, and incidence rates are increasing (Walsh & Devlin, 1998). Those with eating disorders often demonstrate high rates of relapse, increased treatment seeking, and elevated inpatient hospitalizations (Stice & Shaw, 2002). Crow et al. (2009) estimated that individuals with eating disorders have the highest mortality rate (4.0% for AN and 3.9% for BN) among all psychiatric disorders. Although research shows that psychotherapy and antidepressants are successful in restoring body weight and alleviating symptoms for some, these interventions fail for 33% to 50% of individuals with an eating disorder (Walsh & Devlin, 1998). Further, long-term outcome measures show that 20.8% of individuals with disordered eating develop a chronic course of the disorder (Steinhausen, 2002). Thus, it is imperative to identify precursors to disordered eating as
DISORDERED EATING AND AFFIRMATIONS

well as possible intervention and prevention efforts to alleviate the development of
disordered eating.

In a three to four-year longitudinal study, Leon et al. (1999) found that disordered
eating attitudes and body dissatisfaction were strong predictors of eating disorder risk.
Disordered eating attitudes are idiosyncratic beliefs surrounding food, body image, and
social appearance ideals, which may be indicative of a pathological eating disorder.
Often these attitudes reflect food preoccupation, dieting, perceived thin ideals, and
maladaptive eating patterns (Garner & Garfinkel, 1979). Body dissatisfaction is the
“negative subjective evaluation of one’s physical body, such as figure, weight, stomach,
and hips” (Stice & Shaw, 2002, p. 985). Empirical findings for risk factors for body
dissatisfaction and disordered eating attitudes include an elevated perception of pressure
to be thin, increased thin-ideal internalization, and higher body mass index. High levels
of body dissatisfaction often result in elevated dieting, which increases the risk for the
onset and maintenance of disordered eating (Stice & Shaw, 2002). Disordered eating
attitudes and body dissatisfaction are highly correlated and may lead to maladaptive
eating patterns as well as the development of a pathological eating disorder (Strauman et
al., 1991).

Disordered Eating, Body Dissatisfaction, and Religion

Early literature on eating disorders and religion focuses on the possible
detrimental effects of religion on disordered eating. Lelwica (1999) argues that when
organized religion fails to offer meaning and purpose, women turn to dieting and
disordered eating in search of these values. Pargament (1997) states that in some cases,
women use religious beliefs to justify their disordered eating. However, much of this
literature uses correlational and qualitative data, preventing any conclusions about causation.

Historians contend that the association of disordered eating and religion dates to the 12th century. Rudolph M. Bell (1985) explains that women recognized as holy by the Catholic Church would starve themselves to prove their devotion to God as well as to earn spiritual perfection. Coining the term “Holy Anorexia,” modern day historians and psychologists theorize these holy women displayed similar characteristics to AN (Bell, 1985). Morgan, Marsden, & Lacey (2000) present a modern case study where a woman practiced self-starvation by feeding the homeless with her food. Her religiously motivated act later led to a diagnosis of AN. However, these views that religion may contribute to the onset of eating disorders seem inconsistent with the broad literature on the positive effects of religion on both psychological and physical well-being (Koenig, McCullough, & Larson, 2001).

Recognizing this inconsistency, Forthun, Pidcock, and Fischer (2003) examined the impact of intrinsic versus extrinsic religiousness on disordered eating. They found that intrinsic religious beliefs consistently reduced disordered eating, whereas extrinsic religious beliefs acted as a vulnerability factor. These results show intrinsic religiousness may serve as a healthy coping tool for disordered eating. Extrinsic religiousness, on the other hand, may serve as a risk factor for disordered eating.

Homan and Boyatzis (2010) examined the relationship between disordered eating, body dissatisfaction, and perceived attachment to God among undergraduate women. Results indicated that women with a secure attachment to God experienced less disordered eating and body dissatisfaction. Those with an anxious attachment to God experienced increased body dissatisfaction.
Jacobs-Pilipski, Winzelberg, Willey, Bryson, and Taylor (2005) examined religious coping mechanisms among undergraduate women at a high-risk for an eating disorder. They found that women with strong religious beliefs were better able to cope with body dissatisfaction and disordered eating. Of the endorsed coping strategies, those with strong religious beliefs were more likely to call upon praying, meditating, and religious/spiritual texts. This result shows that religious practices may serve as an effective coping mechanism for managing disordered eating attitudes and body dissatisfaction.

Smith, Hardman, Richards, and Fischer (2003) performed a correlational study investigating the relationship between religiosity and treatment outcomes using an eating disorder inpatient sample. Participants completed both pre- and post-treatment measures focusing on disordered eating attitudes, body dissatisfaction, and religious/spiritual well-being. The researchers found that there was a significant positive relationship between religious/spiritual well-being gains and healthier eating attitudes as well as improved body dissatisfaction. Individuals who increased in religious/spiritual well-being over the course of treatment were more likely to experience improved eating attitudes and body satisfaction. Although these results do not indicate causation, they do show that religion/spirituality may be related to positive eating attitudes and improved body dissatisfaction in a clinical population.

A qualitative study performed by Marsden, Karagianni, and Morgan (2007) further examined the relationship between disordered eating and religion and the impact of this relationship on treatment outcomes. The researchers collected qualitative data from 10 participants diagnosed with either AN or BN in an inpatient setting. The results show that the majority of participants viewed their disordered eating as against God’s
will rather than as a display of virtue. Further, many participants claimed that religious/spiritual practices were helpful during their recovery process. These results demonstrate that the participants did not use their religiosity to justify their disordered eating, contradicting the contentions of Pargament (1997; see also Morgan et al., 2000).

**Experimental Research**

Although most of the literature regarding religion, disordered eating, and body dissatisfaction is correlational, there are a few experimental studies. For example, Richards, Berrett, Hardman, and Eggett (2006) examined the effectiveness of religiously/spiritually-oriented treatment using an eating disorder inpatient sample. Participants were randomly assigned to one of three groups: a spirituality group, a cognitive group, and an emotional support group.

Those in the spirituality and cognitive groups attended weekly group sessions related to their type of treatment and completed readings from an assigned workbook. More specifically, those in the spirituality group completed non-denominational spiritual readings highlighting spiritual identity, grace, forgiveness, repentance, faith, prayer, and meditation. During the spirituality group session, each participant reflected and shared what they learned about their personal spirituality after reading the workbook. Those in the cognitive group completed workbook readings emphasizing cognitive and behavioral techniques. During the cognitive group session, the group focused on the application of cognitive and behavioral techniques to eating disorders. The emotional support group served as the control group, where weekly meetings were open-forums, and there were no assigned workbook readings.

Participants completed both pre- and post-test measures regarding eating attitudes, body dissatisfaction, self-esteem, and religious/spiritual well-being. The results indicate
that the spirituality group enhanced the overall effectiveness of the treatment program as
evidenced by a larger reduction in negative eating attitudes, but the effect size ranged
from moderately large \( d \) (Cognitive vs. Spirituality) = .68, to small, \( d \) (Spirituality vs.
Emotional Support) = .19). More specifically, results show those in the spirituality group
experienced greater improvements than those in the cognitive group, and showed a larger
reduction in negative eating attitudes. These results show that religiously/spiritually-
oriented treatment programs are helpful for reducing eating disorder symptoms.

**Positive Self-Statements and Self-Esteem**

The self-help literature endorses the use of positive self-statements as a brief
intervention for improving psychological well-being (Hames & Joiner, 2012). Numerous
self-help books and the media advise using positive self-statements such as, “Every day I
admit my errors, failures, and weaknesses, but feel no guilt, blame, or self-criticism”
(McQuaig, 1986, p. 56). Positive self-statements have so permeated popular culture that
from 1991 to 1995 (with a few appearances into the 21st century) the American late-night
television series Saturday Night Live (SNL) featured a mock self-help show, “Daily
Affirmations with Stuart Smalley,” where Stuart Smalley is known for his positive
catchphrases, such as “I’m good enough, I’m smart enough, and doggone it, people like
me” (Michaels, 1975). Further, cognitive-behavioral interventions often consider self-
statements as a key construct, and promote the use of positive self-statements as
homework assignments throughout therapy (Cristea, Szentagota Tatar, & Lucacel, 2014).

Several studies have suggested that the effect of positive self-statements may be
dependent on self-esteem. Wood, Perunovic, and Lee (2009) investigated the potential
detrimental effects of positive self-statements. Participants in the self-statement
condition were instructed to write down any thoughts or feelings they experienced during
the experimental period. In addition, they were told that every time they heard a bell ring they were to repeat the statement, “I am a loveable person.” The self-statement increased the mood and self-esteem of those with higher self-esteem, but led to a decrease in mood and self-esteem among the low self-esteem group. These results suggest that individuals with high self-esteem benefit more from the self-statements, and those with low self-esteem experience detrimental effects.

Hames and Joiner (2012) compared the effects of two types of positive self-statements, stable/global statements and unstable/specific statements on self-esteem. The stable/global condition statement consisted of the same statement used by Wood et al. (2009), and was considered enduring and likely to have an impact across multiple self-concepts (i.e., “I’m a loveable person”). The unstable/specific statement was considered not enduring and unlikely to have an effect across multiple self-concepts (“People seem to like me today”). Participants were instructed to write about how their assigned positive self-statement applied to them. Those in the control condition were instructed to write about their favorite activity. Confirming the findings of Wood et al., (2009), the results indicate that individuals with high self-esteem experienced an increase in positive affect and self-esteem after exposure to the stable/global statement. On the other hand, individuals with low self-esteem experienced an increase in positive affect after exposure to the control condition. There were no significant differences between the stable/global versus unstable/specific statements regardless of level of self-esteem. These results confirm that individuals with high self-esteem benefit more from thinking about positive, stable aspects of themselves, whereas individuals with low self-esteem did not benefit from these self-statements.
Nevertheless, numerous studies offer seemingly conflicting results. Cristea, Szentagota Tatar, and Lucacel (2014) also compared a variety of different types of self-statements, including the statement (“I am a lovable person”) used by Wood et al. (2009). Cristea et al.’s (2014) second condition used the statement: “I am very good, intelligent, and valuable,” representing a specific, exaggerated self-statement. The third condition used the statement, “I unconditionally accept myself as a person with qualities and flaws,” representing an unconditional self-acceptance statement. Finally, Cristea et al.’s (2014) used a negative self-statement (“I am an unlovable person”), which they used as a control condition.

Participants with high self-esteem in the positive statement condition as well as those in the exaggerated self-statement condition, both experienced an increase in self-esteem and a decrease in negative emotions. There was no significant difference between the unconditional self-acceptance statement and the exaggerated statement or the negative statement control conditions. Individuals with low self-esteem exposed to the positive self-statement used by Wood et al. (2009) experienced greater decreases in negative emotions compared to those in the exaggerated statement group. Further, the findings found that the positive self-statement had more beneficial effects compared to the unconditional self-acceptance statement as well as the negative statement control condition. The results of this study appear to contradict the findings of Wood et al., (2009); for individuals with low self-esteem, positive self-statements appeared to have the most beneficial effects.

Philpot and Bamburg (1996) aimed to develop a brief intervention using positive self-statements in order to increase self-esteem and decrease depression scores. Participants were screened using a self-esteem measure. Only individuals with low self-
esteem scores were included in this study. Statements were individualized for each participant based on their responses to the pre-test measures. Participants were instructed to read 15 statements to themselves, three times a day, over the course of two weeks. Results show that the participants experienced a significant increase in self-esteem as well as a decrease in depression scores. Further, the impact of the self-statements appeared to still be in effect at a two-week follow-up. The findings of Philpot and Bamburg (1996) demonstrate that positive self-statements improved self-esteem and depression scores among individuals with low self-esteem.

Lange, Richard, Gest, de Vries, and Lodder (1998) tested the effects of positive self-statements in a controlled trial, eliminating potential confounding variables, such as treatment effects. Participants were screened using a self-esteem measure. Only individuals with low self-esteem scores were included in this study. Positive self-statements were created by each of the participants, and each participant read their statements twice daily, over a three-week period. Results indicate that the participants benefited from the positive self-statements, demonstrating an increase in self-esteem and self-confidence. Because individuals with high self-esteem were excluded from the studies performed by Philpot and Bamburg (1996) as well as Lange et al. (1998), it is difficult to compare these studies to the findings of Wood et al. (2009). However, both these studies do demonstrate that positive self-statements may be beneficial for individuals with low self-esteem. Further, both studies performed by Philipot and Bamburg (1996) as well as Lange et al. (1998) used statements individualized to each participant whereas Wood et al. (2009) assigned the same statement to each participant. This difference in type of statements used by each of the studies may explain the inconsistencies in the results.
Positive Affirmations, Disordered Eating, and Body Dissatisfaction

Much of the literature regarding self-statements focuses on the impact on self-esteem and mood. Little is known about the effects of self-statements on disordered eating attitudes and body dissatisfaction. In addition, most of the literature focuses on using general statements of positivity. There is limited research investigating the impact of specific types of positive self-statements, such as religious or body related statements.

Boyatzis, Kline, and Backof (2007) investigated the effects of religious body affirmations on disordered eating attitudes and body dissatisfaction. The researchers recruited undergraduate women from a general psychology course at a private university. Each participant completed a pretest, which included a demographic survey, a measure of body esteem, and a self-report rating of the importance of religiosity. Participants with a past diagnosis of an eating disorder and those who identified as extremely non-religious were excluded from the study. The researchers then matched participants based on their importance of religiosity rating and on body esteem. After matching, the researchers randomly assigned each matched group into one of three conditions: a religious affirmation group, a spiritual affirmation group, and a control statement group.

During a second research session, each participant read a list of 15 affirmations. Those in the religious affirmation group read Christian-based statements inspired by New Testament biblical passages (e.g., “Because I am a child of God, I am perfect and whole, and my body is perfect and whole”). Participants in the spiritual affirmation group read statements emphasizing a positive, spiritual view of the body with no explicit reference to religion or God (e.g., “With love and joy, I am able to accept and embrace the body that I have”). The control statements consisted of current events at the university, and had no reference to religion, spirituality, or the body (e.g., “Student government meetings are..."
open to students and the campus community"). After reading the affirmations, the participants completed a distractor task by reading a neutral, brief story. Next, the participants examined photographs of fashion models to activate their concerns about body image. Participants then completed another distractor task by writing a short summary of the neutral story they read earlier. Finally, participants completed a posttest body esteem measure.

Results of this study reveal that those in the religious affirmation group showed a significant reduction in body dissatisfaction compared to the control group (Boyatzis et al., 2007). Further, those in the spiritual affirmation group showed a marginal reduction in body dissatisfaction. The researchers argue that the use of religious affirmations challenged the participants’ irrational beliefs toward their body image, resulting in decreased body dissatisfaction.

Inman, Iceberg, and McKeel (2014) further extended this research by exploring the effects of affirmations related to religion and the body on disordered eating attitudes and body dissatisfaction. Because the religious affirmations in the Boyatzis and colleagues (2007) study were also related to the body, it is difficult to tease apart whether the religious or body components of the affirmations lead to a decrease in body dissatisfaction. Inman and colleagues (2014) attempted to separate these factors.

During the first session, participants completed a pretest, which included demographics, body-image measures, and religious commitment scales (Inman et al., 2014). Similar to Boyatzis et al., (2007), Inman et al. (2014) excluded those with a past diagnosis of an eating disorder and/or those who identified as extremely non-religious. The researchers matched participants on self-reported importance of religion and overall body esteem determined by a pretest body esteem measure. Each matched group was
randomly assigned into one of four affirmation conditions: religious non-body affirmations, religious body affirmations, spiritual affirmations, and control statements.

During the second session, the participants read 15 assigned affirmations relevant to their condition group. The religious body affirmations and spiritual affirmations were taken directly from the previous study performed by Boyatzis and colleagues (2007). The religious non-body affirmations were religious and positive in nature, and did not reference the body (e.g., "Be joyful in hope, patient in affliction, and faithful in prayer"). Modeled after Boyatzis and colleagues' (2007) control condition, the control statements described information about the university without referencing religion or the body (e.g., "[Name of college] first opened in [year] as [original name]”).

After participants read the affirmations, they summarized the statements in their own words and completed an emotion measure. Then, participants viewed photographs of thin fashion models in order to activate their body image concerns. After exposure to the photos, the participants completed measures of body esteem, body dissatisfaction, drive for thinness, and eating behaviors.

The results of this study show that both the religious body and religious non-body affirmations increased feelings of love and acceptance in all participants, but did not improve body dissatisfaction for all participants (Inman et al., 2014). More specifically, individuals with strong religious commitment were more likely to experience a decrease in body dissatisfaction after exposure to the religious body affirmations. This result demonstrates that religious affirmations may positively influence body dissatisfaction, but this is dependent upon the degree of religious commitment.
Limitations

The research of Boyatzis et al. (2007) and of Inman et al. (2014) demonstrates that religious affirmations improve body dissatisfaction and body image in female undergraduates (at least for those who have a high religious commitment). Despite the strengths of using an experimental manipulation, both of these studies have several limitations, which need to be addressed. First, both studies collected data from a small private college/university, limiting generalizability to clinical populations or the general population. This line of research has implications for clinical interventions, thus it is imperative for further research to be conducted using a clinical sample. In addition, further research needs to be conducted to determine if the use of positive affirmations is an effective prevention/intervention tool for the general population. Second, the religious affirmations in the Boyatzis et al. (2007) study were also related to the body, making it difficult to tease apart whether the religious or body components of the affirmations lead to an improvement in body dissatisfaction. Inman et al. (2014) attempted to address this issue; however, the effects of the affirmations may be due to the general positivity of the statements rather than the religious or body components. Third, the study performed by Inman et al. (2014) did not demonstrate a significant reduction in disordered eating attitudes. This finding may be a result of using an undergraduate sample and the exclusion of participants with past diagnosis of an eating disorder. Boyatzis et al. (2007) did not measure disordered eating attitudes at the posttest, so the effects of their religious body affirmations on disordered eating attitudes is unknown.

The Current Study

The current study aimed to further investigate the effects of religious and body related affirmations on disordered eating attitudes and body dissatisfaction. It is unclear
in previous research (Boyatzis et al., 2007; Inman et al., 2014) whether the positive effects of affirmations on body dissatisfaction were affected by religious or body related components. It is also unclear whether the positive effects were a result of the general positivity of the experimental affirmations. To address this, the current study used a 2x2 factorial (body/non-body X religious/non-religious) design, with the addition of a neutral control statement condition. Including statements with and without a religious or body component will reveal which type of affirmation has the strongest influence on disordered eating attitudes and body dissatisfaction. Further, including a neutral control statement condition will reveal the effects of affirmations in general.

**Hypotheses**

In the current study, we expect that participants exposed to either of the religious affirmations will show reductions in body dissatisfaction, replicating the findings of Boyatzis et al. (2007). In addition, we expect the participants to show a reduction in disordered eating attitudes after exposure to either of the religious affirmation groups. Religious affirmations may promote healthy body esteem, emphasizing unconditional love and acceptance. Further, religious affirmations may activate a cognitive schema where self-worth is placed on religious values rather than the cultural body ideal (Inman, 2014). We further expect that participants exposed to religious body affirmations will experience the strongest benefits, with greater decreases in disordered eating attitudes and body dissatisfaction. The religious body affirmations may encourage the participants to think of their body as holy and sacred, which may provide them a cognitive framework to improve their body dissatisfaction (Mahoney et al., 2005) and disordered eating attitudes. We further expect those exposed to the non-religious body affirmations will experience some reduction in disordered eating attitudes and body dissatisfaction. Finally, we expect
that those exposed to any of the affirmation conditions will show improvement compared to the neutral control group.

Amazon Mechanical Turk and Participant Selection

To evaluate the effectiveness of the positive affirmations across a broader population, participants were recruited with Amazon Mechanical Turk (MTurk). MTurk is an online labor market, allowing individuals to complete “Human Intelligence Tasks” (HITs) in exchange for monetary compensation. HITs may include tasks, such as completing product surveys, transcribing written documents, or participating in behavioral science research. The participant-pool on MTurk is made up of workers who are over the age of 18 years and are located across the globe, creating a diverse participant-pool (Johnson & Borden, 2012). The use of MTurk for behavioral science research is growing due to the researchers’ ability to collect data from many participants in a relatively short period of time at minimal monetary cost (Goodman, Cryder, & Cheema, 2013).

Consequently, the increasing popularity of MTurk in behavioral science research resulted in a growing scientific literature evaluating the validity, reliability, and generalizability of the MTurk population. Johnson and Borden (2012) performed a study comparing data collected from a traditional undergraduate lab sample as well as data collected from MTurk using identical research protocols to identify possible differences in samples. The findings revealed that there was decent comparability between the two samples; however, the MTurk sample demonstrated greater variability and diversity. This finding is consistent with the findings of Buhrmester, Kwang, and Gosling (2011). Buhrmester and colleagues (2011) found that the MTurk sample demographics were more representative of non-college populations, thus improving generalizability to a
broaden population. Collecting data from a non-college population will extend the research of Boyatzis et al. (2007) and of Inman et al. (2014), by providing a better understanding of the effectiveness of positive affirmations across the general population.

To ensure the quality of collected data through MTurk, Peer, Vosgerau, and Acquisti (2014) suggest limiting access to a research study to only MTurk workers with a high reputation. Workers are rated on their quality of work via MTurk, creating an overall reputation rating. Generally, workers with high reputations have obtained an approval rating above 95% or higher. Peer and colleagues (2014) found that workers with higher reputations were more likely to produce higher quality work. However, these researchers note that the distribution of workers is highly skewed in favor of high-reputation workers. Peer and colleagues (2014) recommend researchers use a stricter cut off above 95% in order to produce the best quality data. Thus, the current study used a stricter approval rating cutoff of 97%.

Although MTurk data is shown to produce reliable data that is comparable to data collected in traditional university and community settings, the MTurk population may have unique characteristics. For example, Goodman and colleagues (2013) reported that fewer than half of the MTurk population resides in the United States, and about one-third reside in India. Thus, for the current study, the participant pool was limited to individuals currently living in the United States. This inclusion criterion will eliminate possible effects due to language or cultural differences.

In addition, Goodman and colleagues (2013) found that MTurk participants showed marginally lower self-esteem compared to a community sample. The findings of Hames and Joiner (2012) as well as Wood et al. (2009) demonstrate a potential of detrimental effects of positive affirmations among those with low self-esteem. The
MTurk population may be analogous to the low self-esteem populations used in previous studies. Therefore, there is a possibility the MTurk population may experience negative effects after exposure to the affirmation conditions. There are several factors, however, which support the commencement of the current study.

First, the affirmations used in the current study are not the same as the singular statement used by Wood et al. (2009). Hence, the differing types of affirmations may impact the participants differently, and not result in a negative outcome. Second, previous research (Cristea et al., 2014; Philpot & Bamburg, 1996; Lange et al., 1998) does not confirm the findings of Wood et al. (2009), demonstrating a need for research to further explore the impact of affirmations on mental health. Third, although the MTurk population demonstrated marginally lower self-esteem than a community sample, this does not indicate our MTurk participants are necessarily the same as the low self-esteem part of the undergraduate sample included in the study by Wood et al. (2009). Fourth, the benefits and clinical implications of the current study could outweigh any potential risks. Finally, research investigating the effects of affirmations on body dissatisfaction specifically shows a positive effect, as demonstrated by Boyatzis et al. (2007). These findings demonstrate that the use of affirmations has the potential to be beneficial for improving body dissatisfaction.

A final concern with using an MTurk sample stems from Bates and Lanza’s (2013) findings that North American MTurk participants expressed less belief in the efficacy of prayer compared to American undergraduate data collected by Bates and Eyssell (2011). Due to the religious nature of the affirmations, the current study excluded the extremely non-religious in the same manner as Boyatzis et al. (2007) and Inman et al. (2014). Despite the limitations and unique characteristics, the MTurk participant pool seems the
best choice for the current study. The MTurk participants are more representative of noncollege populations, increasing external validity of this study as well as extending the literature. In addition, the MTurk participant demographics show that two-thirds of the participant-pool identify as female (Johnson & Borden, 2012). Thus, collecting data via MTurk will improve the ability to more easily obtain data from female participants.

Method

Participants

Two-hundred and twenty-two female (self-identified) participants were recruited using MTurk. Recruitment was limited to participants residing in the United States as well as participants with an MTurk approval rating of 97% or higher. Participants were each paid 50 cents as compensation for their time.

Participants completed a brief pre-test to exclude those who identified as extremely non-religious and/or individuals with a past diagnosis of AN or BN. Following Boyatzis, Kline, & Backof (2007), participants who met at least four of the following five criteria, were identified as extremely non-religious and excluded from the study: “they never prayed, never attended worship services, did not belong to a religious denomination, classified themselves as ‘neither religious nor spiritual,’ and indicated that religion was ‘not at all important’ to them” (p. 555). After the pre-test, 91 participants were excluded from this study. Therefore, we used data from 131 participants.

Of the 131 female participants in this study, 81.7% identified as White, 6.1% identified as African American, 4.6% identified as Asian American, 1.5% identified as Hispanic/Latino, 0.8% identified as American Indian/Alaskan Native, and 5.3% identified as Multi-racial/Other. Participants ranged in age from 21 to 72 years old ($M = 38.15; Mdn = 36.00; SD = 12.00$). Based on self-report measurements, the average Body
Mass Index of the participants was 29.46 ($SD = 8.19$). According to the standardized cut-offs used by the CDC, the average BMI for this sample is in the Overweight category (Center for Disease Control (CDC), 2017). In comparison with females in the United States, the average BMI across all participants in the current study is higher than national average of 26.5 (CDC, 2017). In terms of religious affiliation, 26.0% of the participants identified as Non-Denominational Christian, 19.8% Protestant, 19.8% Spiritual, 16.0% Catholic, 4.6% Mormon, 2.3% Buddhist, 0.8% Muslim, 0.8% Jewish, and 9.9% Other.

Experimental Conditions

The present study included the following experimental conditions: Religious Body Affirmations, Religious Non-Body Affirmations, Non-Religious Body Affirmations, Non-Religious Non-Body Affirmations, and a neutral Control Statement group.

The religious body affirmations group read statements taken directly from Boyatzis and colleagues (2007). These statements were explicitly theistic, Christian-based, and also mention the body (e.g., “The Spirit of God is expressed in my body, and therefore, it is my duty to treat it with reverence and respect”). Those in the religious non-body affirmations group read statements that were explicitly theistic, Christian-based, but make no mention of the body (e.g., “God gives me strength when I am weary and increases my power when I am weak”). Those in the non-religious body affirmations group read statements that were not religious in nature, make no mention to God, and focus on the body (“I am perfect and whole, and my body is perfect and whole”). Those in the non-religious non-body affirmations group read statements that were generally positive, and made no mention of God or the body (e.g., “I feel safe in the rhythm and flow of ever-changing life”). Finally, those in the control statement group read
statements that were neutral in nature and made no mention of God or the body ("The capital of Ireland, Dublin, was founded not by the Irish, but by the settling Vikings"). Each experimental condition included a total of 15 affirmations. Appendix A includes a complete list of affirmations for each of the five conditions.

Affirmations were pretested to determine if they would be appropriately viewed as religious or related to the body. Each of 71 undergraduates (80% Female, 20% Male) from Eastern Illinois University rated a random sample of 30 of the statements on four-point scales as to how much they were religious, related to the body, and spiritual. Average ratings of religiousness differed significantly across statement type \(F(2, 42) = 46.95, p < .001, \eta^2 = .69\). A t-test with a Bonferroni correction further show that the Religious Body statements showed significantly higher religiousness rating \((M = 2.99, SD = .52)\) compared to the Non-Religious Body statements \((M = 1.93, SD = .29)\). There was also a significant difference in spirituality ratings across the statement groups \(F(2, 42) = 9.62, p < .001, \eta^2 = .31\). Multiple t-tests with a Bonferroni correction further revealed that the Non-Religious Body statements \((M = 2.51, SD = .34)\) were rated significantly less spiritual compared to the Religious Body statements \((M = 2.90, SD = .34)\), and the Religious Non-Body statements \((M = 2.94, SD = .20)\). Finally, there was a significant difference in average ratings of how body-related the statements were \(F(2, 42) = 55.28, p < .001, \eta^2 = .73\). Multiple t-tests with a Bonferroni correction show that the Religious Non-body statements \((M = 1.99, SD = .33)\) received a significantly lower rating compared to the Religious Body statements \((M = 2.53, SD = .32)\) and the Non-Religious Body statements \((M = 3.06, SD = .16)\). Statements from the Non-Religious Non-Body condition were not included in this initial pretest.
**Procedure**

The research protocol was modeled after the procedures of Boyatzis et al. (2007) and Inman et al. (2014). However, the procedure is not an exact replica due to this study taking place online via MTurk versus in a laboratory setting on a college campus.

Participants completed this study online at a place and time of their choosing. Although the participants were recruited through MTurk, the actual study took place on an online survey site, Qualtrics. After reading and agreeing to the informed consent (see Appendix B), participants completed a brief pre-test evaluating whether they met the inclusion criterion for this study (see Appendix C). If participants did not meet the inclusion criterion, they were debriefed and thanked for their participation. Participants who did meet the inclusion criterion completed the Religious Commitment Inventory-I 0 (Worthington et al., 2012), a self-report measure assessing their religious commitment as well as the Body Shape Questionnaire-34 (Cooper, Taylor, Cooper, & Fairburn, 1987), a self-report measure assessing their body shape concerns in the context of disordered eating.

After completion of these initial measures, participants were randomly assigned to one of the five experimental conditions. Participants were then asked to spend 10 minutes reading and thinking about the presented affirmations. The list of 15 affirmations were presented in a list form, with serif font and double-spaced between affirmations. To prevent participants from advancing through the study too quickly, the survey settings prevented participants from advancing to the next task until after the required 10 minutes had passed. Once the 10 minutes had elapsed, the participants were instructed to read a short passage, which was neutral in tone and unrelated to body image, religion, disordered eating, or spirituality. Appendix D includes the complete short
passage. This task served as a distractor task and was designed to make the body image manipulation less apparent.

Participants were then instructed to spend five minutes viewing black and white photographs of thin fashion models. Appendix E includes the photographs used in the current study. Like Inman et al. (2014), only six photographs were used, because research findings suggest exposure to fewer than 10 images are likely to produce larger effect sizes. These photos had no text on them and were obtained from online, noncopyrighted sources. The models had thin arms, legs, and torsos, and were not endorsing any obvious product. Similar to the affirmation exposure, the survey settings prevented participants from advancing onto the next task before the required five minutes. After the participants viewed the photographs for the five minutes, they were then asked to complete a second distractor task. This task asked participants to briefly summarize the reading passage they read prior to the exposure task.

After completion of the second distractor task, participants completed a series of self-report measures. First, the participants completed the Eating Attitudes Test-26 (Garner, Olmstead, Bohr, & Garfinkel, 1982), to evaluate the participant’s disordered eating attitudes and problematic eating behaviors. Second, the participant’s completed the Body Esteem Scale for Adolescents and Adults (Mendelson, Mendelson, & White, 2001), to evaluate the participant’s degree of body dissatisfaction. Third, the participant’s completed the Spiritual Well-being Scale (Ellison & Smith, 1991), assessing the participant’s degree of spiritual/religious well-being. Participants were then asked to complete demographic questions, including their age, height, weight, race/ethnicity, and religious affiliation. Appendix F includes the complete list of questions presented to participants throughout the current study. Upon completion of the demographic
questions, participants were presented with a debriefing statement (see Appendix G), thanked for their time, and then compensated for their participation through MTurk.

**Measures**

**Disordered Eating Attitudes.** Eating attitudes were measured with the Eating Attitudes Test-26 (EAT-26; Garner et al., 1982), a 26-item self-report measure of symptoms and attitudes characteristic of those with AN and BN. Items measure attitudes towards dieting, bulimic symptoms, food preoccupation, self-control with food, and disordered eating behaviors (e.g., “Have gone on eating binges where I feel I may not stop”). Responses are coded as *always* (3), *usually* (2), *often* (1), *sometimes* (0), *rarely* (0), and *never* (0). The EAT-26 has three subscales: Dieting, Bulimia/Food Preoccupation, and Oral Control, although these are mainly intended to help guide clinicians in addressing specific problems. This measure is an abbreviated form of the original 40-item Eating Attitudes Test (EAT; Garner & Garfinkel, 1979). The EAT-26 is shown to demonstrate good reliability and validity, and correlates highly with the original EAT.

**Body Esteem and Dissatisfaction.** Two measures of body esteem were used. The Body Shape Questionnaire-34 (BSQ-34; Cooper et al., 1987) is a self-report measure investigating the influence of body shape concerns in the development, maintenance, and treatment of disordered eating. This measure consists of 34-items regarding how an individual has felt about their appearance over the past four weeks (e.g., “Have you thought that your thighs, hips, or bottom are too large for the rest of you?”). Responses are scored on a six-point scale (1 = *Never*, 6 = *Always*). The BSQ-34 is shown to demonstrate good reliability and validity as well as concurrent and discriminant validity.
The Body Esteem Scale for Adolescents and Adults (BESAA; Mendelson et al., 2001) is a 23-item self-report measure examining the degree to which individuals are satisfied with their bodies. This measure has three subscales, evaluating general feelings about appearance (BE-Appearance), the degree to which an individual attributes positive outcomes from their appearance/weight (BE-Attributions), and their satisfaction with their weight (BE-Weight). Responses are scored on a five-point scale (1 = Never, 5 = Always), with some reversed score items. A higher score on the BESAA is indicative of higher body esteem. The BESAA is known to demonstrate good discriminant validity as well as test-retest reliability.

**Religious Commitment and Well-being.** Participants also completed the Spiritual Well-Being Scale (SWBS; Ellison & Smith, 1991) and the Religious Commitment Inventory-10 (RCI-10; Worthington et al., 2012). The SWBS is a 20-item self-report measure assessing an individual’s perceived spiritual well-being. There are two subscales focusing on religious and existential well-being. Individuals are instructed to indicate the extent to which they agree or disagree with each item (e.g., “I don’t find much satisfaction in private prayer with God”). Items are coded on a six-point scale (1 = Strong Disagree, 6 = Strongly Agree), with negatively worded items reverse coded. A higher score on the SWBS represents more spiritual well-being. The SWBS demonstrates good validity and reliability.

The RCI-10 is a 10-item self-report measure assessing an individual’s religious commitment. The RCI-10 has two subscales focusing on Intrapersonal Religious Commitment and Interpersonal Religious Commitment. Individuals are instructed to indicate the degree to which each item is true for them (e.g., “I often read books and magazines about my faith”). Items are coded on a five-point scale (1 = Not at all true of
me, 5 = Totally true of me). The RCI-10 is shown to have good internal consistency, test-retest reliability, construct validity, and discriminant validity (Worthington et al., 2012).

**Body Mass Index.** The Body Mass Index (BMI) is a ratio between an individual’s height and weight used as a community screening tool or guideline to assess nutritional status or monitoring of fat distribution. To calculate an individual’s BMI, their weight in pounds as well as their height in inches is plugged into Equation 1 (Carrero & Avesani, 2014).

\[
\frac{\text{weight in pounds} \times 0.45}{\text{height in inches} \times 0.025^2} = \text{BMI}
\]

The current study asked each participant to self-report their height and weight. A systematic review of direct report versus self-report measures for height and weight demonstrated that height tends to be overestimated and weight is underestimated when using self-report measures. However, this trend appears to be minimal and dependent on the characteristics of the sample (Gorber, Tremblay, Moher, & Gorber, 2007).

**Results**

**Scale and Group Characteristics**

There was a strong degree of internal consistency among the items on each scale, demonstrating good consistency in participant responses. Alpha reliability estimates were all .95 or higher, except for on the EAT-26, where the alpha reliability was .90 (see Table 1). On average, participants expressed a moderate to low degree of religious commitment, moderately low body shape concerns in the context of disordered eating, a high level of concern about dieting and body weight, an average degree of body esteem, and an average degree of spiritual well-being.
Table 1

Scale Characteristics

<table>
<thead>
<tr>
<th>Scale Name</th>
<th>Number of Items</th>
<th>$\alpha$</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCI-10</td>
<td>10</td>
<td>.96</td>
<td>23.48</td>
<td>11.57</td>
</tr>
<tr>
<td>BSQ-34</td>
<td>34</td>
<td>.96</td>
<td>90.98</td>
<td>33.47</td>
</tr>
<tr>
<td>EAT-26</td>
<td>26</td>
<td>.90</td>
<td>42.19</td>
<td>14.29</td>
</tr>
<tr>
<td>BESAA</td>
<td>23</td>
<td>.95</td>
<td>61.51</td>
<td>18.14</td>
</tr>
<tr>
<td>SWBS</td>
<td>20</td>
<td>.95</td>
<td>56.37</td>
<td>21.09</td>
</tr>
</tbody>
</table>

Participants were randomly assigned into each of the five experimental conditions.

A summary of the experimental group characteristics and means on each scale can be found in Table 2.

Table 2

Experimental Group Means

<table>
<thead>
<tr>
<th>Variable</th>
<th>Religious Body ($n = 27$)</th>
<th>Religious Non-body ($n = 24$)</th>
<th>Non-religious Body ($n = 24$)</th>
<th>Non-religious Non-body ($n = 26$)</th>
<th>Control ($n = 30$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
</tr>
<tr>
<td>Age</td>
<td>36.63</td>
<td>10.39</td>
<td>42.67</td>
<td>14.49</td>
<td>35.50</td>
</tr>
<tr>
<td>BMI</td>
<td>31.34</td>
<td>10.72</td>
<td>29.68</td>
<td>8.56</td>
<td>26.02</td>
</tr>
<tr>
<td>BSQ-34</td>
<td>95.21</td>
<td>33.82</td>
<td>81.17</td>
<td>28.40</td>
<td>90.76</td>
</tr>
<tr>
<td>EAT-26</td>
<td>42.22</td>
<td>13.39</td>
<td>43.36</td>
<td>15.61</td>
<td>42.63</td>
</tr>
<tr>
<td>BESAA</td>
<td>56.19</td>
<td>18.02</td>
<td>55.10</td>
<td>14.36</td>
<td>66.14</td>
</tr>
<tr>
<td>SWBS</td>
<td>55.08</td>
<td>19.14</td>
<td>55.10</td>
<td>19.74</td>
<td>57.08</td>
</tr>
</tbody>
</table>

Analysis of Affirmations

To examine whether religious affirmations were more effective than body-related affirmations at improving disordered eating attitudes, body dissatisfaction, and spiritual
well-being, 2 (Religious vs. Non-Religious Affirmations) x 2 (Body vs. Non-Body Affirmations) analyses of variance were conducted for each variable. At an alpha level of .05, the results show that none of the effects were significant. A summary of these results can be found in Table 3.

Table 3

*Analyses of Religious versus Body-related Affirmations*

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Partial Eta Squared</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eating Attitudes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Religious</td>
<td>1, 89</td>
<td>.21</td>
<td>.65</td>
<td>.002</td>
<td>.07</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Body</td>
<td>1, 89</td>
<td>.05</td>
<td>.82</td>
<td>.001</td>
<td>.06</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction Effect</td>
<td>1, 89</td>
<td>.34</td>
<td>.56</td>
<td>.004</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Body Esteem</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Religious</td>
<td>1, 89</td>
<td>1.29</td>
<td>.26</td>
<td>.01</td>
<td>.20</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Body</td>
<td>1, 89</td>
<td>.07</td>
<td>.79</td>
<td>.001</td>
<td>.06</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction Effect</td>
<td>1, 89</td>
<td>2.14</td>
<td>.15</td>
<td>.02</td>
<td>.30</td>
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<tr>
<td><strong>Spiritual Well-being</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Religious</td>
<td>1, 92</td>
<td>.31</td>
<td>.58</td>
<td>.003</td>
<td>.09</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Main Effect of Body</td>
<td>1, 92</td>
<td>.01</td>
<td>.92</td>
<td>.000</td>
<td>.05</td>
</tr>
<tr>
<td>Affirmations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction Effect</td>
<td>1, 92</td>
<td>.01</td>
<td>.93</td>
<td>.000</td>
<td>.05</td>
</tr>
</tbody>
</table>

To examine whether any of the affirmation conditions were more effective compared to the neutral control condition at improving disordered eating attitudes, body dissatisfaction, and spiritual well-being, pairwise t-tests were conducted (with a
Bonferroni correction) for each variable, comparing each of the four experimental conditions to the control group. Even at the uncorrected alpha level of .05 per comparison, none of these comparisons were statistically significant. A summary of these results can be found in Table 4.

Table 4

Analyzes of Affirmation Conditions versus Control Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>$t$</th>
<th>$df$</th>
<th>$p$ (one-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religious Body Affirmations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAT-26</td>
<td>-.13</td>
<td>116</td>
<td>.45</td>
</tr>
<tr>
<td>BESAA</td>
<td>-1.18</td>
<td>118</td>
<td>.12</td>
</tr>
<tr>
<td>SWBS</td>
<td>-.23</td>
<td>121</td>
<td>.41</td>
</tr>
<tr>
<td>Religious Non-Body Affirmations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EAT-26</td>
<td>.15</td>
<td>116</td>
<td>.44</td>
</tr>
<tr>
<td>BESAA</td>
<td>.17</td>
<td>118</td>
<td>.43</td>
</tr>
<tr>
<td>SWBS</td>
<td>-.21</td>
<td>121</td>
<td>.42</td>
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<tr>
<td>Non-Religious Body Affirmations</td>
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<td></td>
</tr>
<tr>
<td>EAT-26</td>
<td>-.03</td>
<td>116</td>
<td>.49</td>
</tr>
<tr>
<td>BESAA</td>
<td>.82</td>
<td>118</td>
<td>.21</td>
</tr>
<tr>
<td>SWBS</td>
<td>.12</td>
<td>121</td>
<td>.45</td>
</tr>
<tr>
<td>Non-Religious Non-Body Affirmations</td>
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<tr>
<td>EAT-26</td>
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<td>116</td>
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</tr>
<tr>
<td>SWBS</td>
<td>.27</td>
<td>121</td>
<td>.40</td>
</tr>
</tbody>
</table>

Similar to Inman et al. (2014), a two-way analysis of covariance was conducted on disordered eating attitudes, body dissatisfaction, and spiritual well-being scores using religious commitment and BMI as covariates. At an alpha level of .05, results show that there were no significant interactions or main effects between religious affirmations and the body-related affirmations on disordered eating attitudes, body esteem, or spiritual well-being. A summary of these results can be found in Table 5.

Table 5

Analyzes between Affirmations when Religious Commitment and BMI were Controlled
A two-way analysis of covariance was conducted on each of the subscales using religious commitment and BMI as covariates. Results indicated that there were no significant interactions or main effects between religious affirmations and body-related affirmations on each of the subscales when religious commitment and BMI were controlled, except for the BESAA Attribution subscale. At an alpha level of .05, results indicated there was a significant main effect of religious affirmations, $F(1, 91) = 44.19, p = .05, \eta^2 = .04$, on body esteem attribution when both religious commitment and BMI were controlled. Multiple t-tests with a Bonferroni correction demonstrated that the degree to which individuals attributed positive outcomes to their appearance/weight was
significantly higher among those in the Non-Religious Affirmation groups (Adjusted $M = 14.68$) compared to the Religious Affirmation groups (Adjusted $M = 13.31$).

**Discussion**

The current study aimed to investigate which type of positive affirmations would be most effective at improving disordered eating attitudes and body dissatisfaction. However, the positive effect of affirmations – previously demonstrated by Boyatzis, Kline, & Backof (2007) and Inman, Iceberg, & Mckeeel (2014) did not replicate. None of the affirmations were more effective than the neutral control statements in improving overall eating attitudes or reducing body dissatisfaction. When looking specifically at the subscales, there was some evidence that Non-Religious affirmations may be more effective in improving the degree to which individuals' attribute positive outcomes to their appearance/weight, but only when religious commitment as well as BMI were controlled. This finding is inconsistent with the previous findings of Boyatzis et al. (2007).

The current study modified the work of Boyatzis et al. (2007) and Inman et al. (2014) by adding additional affirmation conditions, utilizing MTurk as a data collection source rather than a traditional undergraduate research pool, and administering the study online versus in a laboratory setting. In addition, Boyatzis et al. (2007) and Inman et al. (2014) matched their participants on their importance of religiosity rating and on body esteem, whereas the current study did not use a matching design. The current study compensated for a lack of matching design by examining the role of Religious Commitment and BMI as possible covariates. Each of these modifications may have contributed to this study's inability to replicate the findings of these researchers. For example, the current study attempted to further explore which type of positive affirmation
was most effective in improving disordered eating attitudes and body dissatisfaction by including more experimental groups. Despite the empirical basis for labeling each of the affirmation conditions used in the current study as religious or body-related, the affirmations not used by previous research may not have demonstrated a strong enough religious or body-related message to the participants. The affirmations used in the current study were tested using a college undergraduate sample, whereas the actual study was administered using the MTurk population. The type of affirmations used in the additional experimental conditions may not have had the same effect within the general population compared to the pretest undergraduate sample.

In addition, the current study attempted to extend the findings of Boyatzis et al. (2007) and Inman et al. (2014) by recruiting participants through a broader, more generalized participant pool, MTurk, instead of a college undergraduate pool. This change in populations may also have contributed to the failure to replicate, due to the unique characteristics of the MTurk population. Evidence suggests that MTurk participants are less likely to express a belief in prayer (Bates & Eysell, 2011; Bates & Lanza, 2013) compared to nationally representative and student samples. Further, Lewis et al. (2015) found that even those participants that do identify as religious on MTurk are less likely to attend religious meetings and express lower levels of religiosity compared to nationally representative samples and student samples. So, even though the MTurk participants were screened to ensure they prayed and were not extremely low in religiosity, they may still have been lower in religiosity than participants in the studies by Boyatzis et al. (2007) and Inman et al. (2014). The lack of religiosity among the MTurk population may have also contributed to the finding that Non-Religious affirmations were more effective at improving body esteem attribution, which is inconsistent with previous
research (Boyatzis et al., 2007). In addition, self-esteem may have also played a role.

Goodman and colleagues (2013) found that MTurk participants showed marginally lower self-esteem compared to a community sample. As a result, the MTurk participants in this study may be more similar to the sample used by Wood et al. (2009; see also Hames & Joiner, 2012), who found that for those with low self-esteem, positive affirmations produced a detrimental effect.

Further, administering the current study online versus in a laboratory setting may have contributed to this study's failure to replicate. The current study relied heavily on the use of self-report measures. Despite the strong validity and reliability demonstrated by each measure used as well as the MTurk literature, collecting data online via self-reports may raise concerns about validity and reliability. Because the participants completed the study in their own home without supervision, they may not have been truthful in their responses, paid close enough attention to the questions throughout the study, or spent enough time thoroughly reading through the affirmations. Although the current study protocol included measures to encourage participants to be honest, attentive, and thorough throughout the study, participants may have completed the study while multi-tasking on social media sites, watching television, or talking on the phone. In a laboratory setting, the research environment is more easily controlled, preventing distractions and encouraging participants to stay focused on the task at hand.

Administering this study online did not allow for a controlled research environment, which may have contributed to this study's failure to replicate the findings of Boyatzis et al. (2007) and Inman et al. (2014).

Despite the strengths of using an experimental manipulation in the current study, there are limitations. For example, the current study did not include a measure of self-
esteem. Considering the findings of Wood et al. (2009) as well as Hames and Joiner (2012), a self-esteem measure may have improved our understanding of the ineffectiveness of the affirmations included in this study. Second, the current study limited the participant pool to the United States, in order to limit confounds due to language barriers or cultural differences. In addition, this study excluded participants with a past diagnosis of an eating disorder as well as those who were extremely non-religious. Although these exclusion criteria aided in control of possible confounding variables, the limitations created a less diverse participant pool.

Although our study was unable to determine whether religious or body-related affirmations were more effective in improving disordered eating attitudes and body dissatisfaction, there are opportunities for future research. For example, modifying the methods of the current study to match more closely to the study of Boyatzis et al. (2007) may provide a better understanding on whether religious affirmations or body-related affirmations are more effective. Considering that the current study collected data from a sample other than an undergraduate sample, replicating the current study using different samples, such as an undergraduate or community sample, may yield similar results as previous literature. In order to assess the role of self-esteem on the impact of different types of positive affirmations on disordered eating attitudes and body dissatisfaction, future research may include a measure of self-esteem. Finally, although this study expanded upon the work of Boyatzis et al. (2007) and Inman et al. (2014) by using a sample other than undergraduates, this study did not utilize a clinical sample. Considering the possible clinical implications of this line of research, more research is needed to fully evaluate whether the use of positive affirmations is a beneficial tool in the treatment of disordered eating.
Often the treatment of eating disorders puts too much focus on healthy weight management, ignoring critical factors such as disordered eating attitudes and body dissatisfaction. These critical factors may linger internally long after an individual discontinues treatment, resulting in increased relapse risk and poorer treatment outcomes (Touyz, Polivy, & Hay, 2008). Therefore, it is imperative for future research to investigate multi-component treatment programs, which address not only external weight management, but also internal cognitive distortions and irrational beliefs (Stice & Shaw, 2002). Current treatment techniques, such as Cognitive Restructuring, encourage the use of positive self-statements in reducing negative self-talk, body image concerns, and irrational beliefs (Touyz, Polivy, & Hay, 2008). Thus, positive self-statements are actively being used in the treatment of disordered eating, with inconsistent empirical evidence. Further research needs to be conducted in order to better understand the role of positive self-statements as a stand-alone treatment approach. In addition, there is currently no research exploring the long-term effects of positive self-statements in the prevention and treatment of disordered eating attitudes and body dissatisfaction.

In addition, further research is needed to better understand the relationship between religious commitment and body dissatisfaction. The current study as well as Inman et al. (2014) found evidence that religious commitment may be an important variable in the relationship between positive religious self-statements and decreased body dissatisfaction. Inman et al. (2014) suggests that religious commitment may serve as a protective buffer against adverse effects of media exposure and the thin-ideal. Further, Inman et al. (2014) suggest religious commitment and the use of religious self-statements promote self-acceptance, similar to the values of Acceptance and Commitment Therapy (ACT; Juarascio, Forman, & Herbert, 2010). Further research is needed to determine if
specific types of positive self-statements may be more effective for some individuals over others.

In the current study, we expected to find that religious affirmations would have the strongest effect on disordered eating attitudes and body dissatisfaction, however, we were unable to confirm this hypothesis. In fact, the results of the research discussed in the literature review seem inconsistent with the findings of the current study. The findings of the current study may be influenced by MTurk participant characteristics. Future research is needed to gain a better understanding of the effects of religious and body-related affirmations on disordered eating attitudes and body dissatisfaction.
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Appendix A

Unless otherwise stated, all statements were taken directly or altered from Boyatzis et al., (2007).

Religious Body Statements

1. Because I am a child of God, I am perfect and whole and my body is perfect and whole.
2. The Spirit of God is expressed in my body, and therefore, it is my duty to treat it with reverence and respect.
3. My body is the temple of the living Lord. I am filled with the infinite Intelligence of God who sees this body only as whole and perfect.
4. Is not life more than food, and the body more than clothing.
5. My body is blessed. It is God who cleanses soul and sets my mind and body free from all imperfections and disharmonies.
6. I love, bless, and thank God for all the foods that I have, and intend that whatever I consume provides me with positive, healing energy.
7. For the spirit of God has made me, the breath of the Almighty keeps me alive.
8. I love my mind, body, and soul, unconditionally. God has created by body, and I am able to see the divine perfection in my own body.
9. With God’s gifts of love and joy, I am able to accept and embrace the body I have been given.
10. God gives me food not for pleasure, but for me to nourish my mind, body, and spirit.
11. Let no one act as your judge in regard to food and drink.
12. Our journey begins in spiritual infancy and unfolds and grows through our everyday experiences. It is all right to be hungry. It is all right to want more. But it is God who feels the waiting heart. We must wait—ever gentle with ourselves, until God scoops us up, and comforts us.
13. As the body is clad in the cloth, and the flesh in the skin, so are we, soul and body, clad in the Goodness of God.
14. For those who live according to the flesh set their minds on the things of the flesh, but those who live according to the Spirit set their minds on the things of the Spirit. To set the mind on the flesh is death, but to set the mind of the Spirit is life and peace.
15. Do you not know that your body is a temple of the Holy Spirit within you, which you have from God? … So glorify God in your body.

Religious Non-Body Statements

1. God gives me strength when I am weary and increases my power when I am weak (Fletcher, 2010).
2. God is able to do immeasurably more in my life than I could ever imagine (Fletcher, 2010).
3. The key to my fruit-bearing life is hearing God's truth and understanding it (Fletcher, 2010).
4. I am the temple of the living Lord. I am filled with the intelligence of God, who sees me as perfect.
5. With God's gifts of love and joy, I am able to accept and embrace what I have been given.
6. I give my anxieties to God and know that he'll take them because he loves me. This gives me peace (Fletcher, 2010).
7. My negative feelings don't come from God so I don't have to put up with them (Fletcher, 2010).
8. Because God's Spirit lives in me, my spirit is alive and I have true life (Fletcher, 2010).
9. I am not afraid or discouraged because God goes before me and is always with me (Fletcher, 2010).
10. As I think about things that are true, noble, right, pure and praiseworthy, my joy and peace are greater (Fletcher, 2010).
11. I'm beginning to understand the incredible greatness of God's power for me, because I believe in him (Fletcher, 2010).
12. I am being made pure and holy by knowing God's truth (Fletcher, 2010).
13. This is the day which the Lord has made; I will rejoice and be glad in it (Fletcher, 2010).
14. I am blessed. It is God who cleanses my soul and sets me free from all imperfections and disharmonies.
15. I trust in the Lord with all my heart; and lean not unto my own understanding. In all ways I acknowledge Him, and He shall direct my paths (Fletcher, 2010).

Non-Religious Body Statements

1. I am perfect and whole and my body is perfect and whole.
2. It is my duty to treat my body with reverence and respect.
3. I am loved, blessed, and thankful for all the foods I have, and I intend that whatever I consume provides me with positive, healing energy.
4. I love my mind, body, and soul unconditionally.
5. I am able to accept and embrace the body I have been given.
6. Food is not for pleasure, but to nourish my mind, body, and spirit.
7. Life is too short and too precious to waste time obsessing about my body. I am going to take care of it to the best of my ability and get out of my head and into the world (Fulvio, 2012).
8. Body, if you can love me for who I am, I promise to love you for who you are—no one is responsible for changing anyone else (Fulvio, 2012).
9. I will make peace with my body. It doesn't do anything but keep me alive. I'm sorry body, you've tried to be good to me and care for me. Now it's time for me to be good back (Fulvio, 2012).
10. If I let go of my obsession with food and my body weight, there is a whole world waiting for me to explore (Fulvio, 2012).
11. If you talked to your friends the way you talk to your body, you'd have no friends at all (Fulvio, 2012).
12. I will my body to be cleansed and set free from all imperfections and disharmonies.
13. Your body is your vehicle in life. As long as you are here, live in it. Love, honor, respect and cherish it, treat it well, and it will serve you in kind.
14. I accept my body the way it is. I am unique and beautiful. I do not need to be a certain way, I just need to be myself (Fulvio, 2012).
15. I am allowed to look beautiful, feel beautiful, and be confident with my body. I am worthy of all of those things (Fulvio, 2012).

Non-Religious Non-Body Statements

1. I feel safe in the rhythm and flow of ever-changing life (Hay, n.d.).
2. I experience love wherever I go. Loving people fill my life and I find myself easily expressing love to others (Hay, n.d.).
3. Today I listen to my feelings and I am gentle with myself. I know that all of my feelings are my friends (Hay, n.d.).
4. I am unlimited in my wealth. All areas of my life are abundant and fulfilling (Hay, n.d.).
5. Peace begins with me. The more peaceful I am inside, the more peace I have to share with others. World peace really does begin with me (Hay, n.d.).
6. Today I create a wonderful new day and a wonderful new future (Hay, n.d.).
7. I choose to feel good about myself each day. Every morning I remind myself that I can make the choice to feel good. This is a new habit for me to cultivate (Hay, n.d.).
8. I flow easily with new experiences, new challenges, and new people who enter my life (Hay, n.d.).
9. I act as if I already have what I want—it’s an excellent way to attract happiness in my life (Hay, n.d.).
10. All that I need to know at any given moment is revealed to me. My intuition is always on my side (Hay, n.d.).
11. I deserve the best, and I accept it now. All my needs and desires are met before I even ask (Hay, n.d.).
12. Life brings me only good experiences. I am open to new and wonderful changes (Hay, n.d.).
13. My heart is open. I speak with loving words (Hay, n.d.).
14. I open my heart and sing the joys of love (Hay, n.d.).
15. This is a new day. I begin anew and claim and create all that is good. And so it is (Hay, n.d.).

Control Statements

1. There is enough water in Lake Superior to cover the entire landmass of North and South American in one foot of liquid.
2. The capital of Ireland, Dublin, was founded not by the Irish, but by the settling Vikings.
3. The world’s most expensive musical instrument, a Stradivarius violin, was sold in 2011 for US$15.9 million.
4. Astronauts have a patch of Velcro inside their helmet so they can scratch their nose.
5. The period of rapid technological advancement during the late 20th century has been named the Information Age by historians.
6. Cows have one large stomach that is divided into four compartments to go through the different stages of digestion.
7. The original Harry Potter manuscript was rejected by 12 publishing houses before Bloomsbury picked it up.
8. The Colosseum was built out of concrete and sand in the center of the city of Rome, and is the largest amphitheater ever built.
9. Sir Barton, who in 1919 became the first Triple Crown winner, never won a race before winning the Kentucky Derby.
10. Mount Everest is called the world’s highest mountain because it has the highest elevation about sea level, with a peak at 8,850 meters above.
11. Italy was comprised of several smaller nations until unified in 1861 by Giuseppe Garibaldi.
12. Turtles, water snakes, crocodiles, alligators, dolphins, whales, and other water going creatures will drown if kept underwater too long.
13. The four traditional provinces of Ireland are Leinster, Munster, Ulster, and Connacht.
14. Some believe the Seventh Inning Stretch in baseball dates back to the days of President William Howard Taft, who was attending a game in 1920 and stood up during the middle of the seventh inning to stretch his legs.
15. As part of their green initiative, Google regularly rents goats to mow the lawns on their mountain view headquarters.
Appendix B

CONSENT TO PARTICIPATE IN RESEARCH
The Effects of Affirmations on Eating and Body Attitudes

You are invited to participate in a study that involves the completion of a survey assessing attitudes toward eating and toward your body. **You were selected as a possible participant because you are registered as a Provider/Worker on Amazon’s Mechanical Turk (MTurk) and you are at least 18 years old.** The purpose of this study is to determine whether different types of affirmations will improve disordered eating attitudes and body dissatisfaction. This study is being conducted by a Clinical Psychology graduate student, Cassandra A. Vogt, under the supervision of Dr. Steven Scher, at Eastern Illinois University.

Participation in this study is completely voluntary. If you decide to participate, your consent will be implied by completion and submission of your responses on this website. In this study, you will be asked a series of questions concerning your attitudes toward eating and toward your body. We also think that religion may affect this, so we will also ask you questions about your religious behavior and commitment. This session should take approximately one (1) hour to complete. When you are finished answering the questions, click submit.

All responses and records will be **confidential,** and will only be accessed by the Principal Investigator and Sponsor. Data used for data analysis will not include any identifying information. There is no way that your responses can be connected to you.

You will receive $0.50 for your participation in this study, which will be paid through Amazon’s Mechanical Turk.

The risks of participating in this study are minimal. All data will be kept electronically in a secure location accessible to only the researcher and the research advisor. Inclusion of your data in this study is completely voluntary and you have the option to withdraw your consent to participate at any time—you may withdraw consent by simply not submitting your responses should you choose to begin the study and then decide not to complete it. If you decide to withdraw from the study, you will not be penalized.

Your participation will benefit the public by helping psychologists learn more about the effects of affirmations on disordered eating and body dissatisfaction.

Information collected through your participation may be published in a professional journal, and/or presented at a professional meeting. However, your name and any other identifying information will not be associated with the data collected—all data will be presented in aggregate form (averages). Thus, you will remain anonymous.

Your decision whether or not to participate will not jeopardize your relationship with Amazon’s Mechanical Turk, or any potential future relations with Eastern Illinois University or the Department of Psychology. If you have any questions about this study,
please contact Cassandra A. Vogt (cavogt@eiu.edu, Clinical Psychology Graduate Program, Eastern Illinois University) or Steven J. Scher, Ph.D. (sjscher@eiu.edu, Professor, Psychology Department, Eastern Illinois University).

For additional information regarding human participation in research, you may call or write the Campus Institutional Review Board (IRB) at Eastern Illinois University.

Institutional Review Board
Eastern Illinois University
600 Lincoln Ave.
Charleston, IL 61920
Telephone: (217) 581-8576
E-mail: eiuirb@eiu.edu

You will be given the opportunity to discuss any questions about your rights as a research subject with a member of the IRB. The IRB is an independent committee composed of members of the University community, as well as lay members of the community not connected with EIU. The IRB has reviewed and approved this study.

I have read this consent form and I understand what is being requested of me as a participant in this study. I freely consent to participate. I understand that I am free to withdraw my consent and discontinue my participation at any time. I have been given satisfactory answers to my questions. The investigator may provide me with a copy of this form upon request. I certify that I am at least 18 years of age, and registered as a Provider/Worker through Amazon’s Mechanical Turk.

Signed,
Cassandra A. Vogt

CONSENT IS IMPLIED BY CLICKING ACCEPT, COMPLETING PRETEST, AND SUBMITTING PRETEST
Appendix C

Pre-test questions to determine if participants met the inclusion criterion for this study

1) Age (in years):

2) Gender:
   a. Male
   b. Female
   c. Prefer not to respond

3) Have you ever been formally diagnosed or treated for an eating disorder?
   a. Yes
   b. No

4) How often do you pray?
   a. Never
   b. Seldom
   c. Sometimes
   d. Frequently

5) How often do you attend religious worship services?
   a. Never
   b. Seldom
   c. Sometimes
   d. Frequently

6) How would you classify yourself?
   a. Religious and Spiritual
   b. Religious, but not Spiritual
   c. Spiritual, but not Religious
   d. Neither Religious nor Spiritual

7) How important is religion in your life?
   a. Not at all important
   b. Somewhat important
   c. Very important
Appendix D

The following reading passage was used as a distractor task following exposure to the affirmation condition. The following passage was adapted from *Grateful Heart* (Valli, 2012).

**Please read the following passage:**

Thousands of years ago, the Jade Emperor of China organized a race for animals. The first 12 animals to finish were to be given a place in the Chinese Zodiac, and have a year named after them.

The cat and the rat, both late-risers asked the ox to wake them at dawn on the day of the race.

Came the day. The ox tried to wake the cat and the rat, but without success. They would open their eyes, turn to the other side and go back to sleep. The race was about to start. Unwilling to leave them, the ox coaxed them onto his back and started running. The rat woke up just as the ox was crossing the last hurdle, a river. The sly rat knew that he could never beat the cat in the race. He took the chance fate offered him and pushed the cat off the ox’s back. When the ox reached the other side, the rat jumped off and scampered to victory, just ahead of the ox. The tiger came third, but he cheated. He crossed the river by using the backs of the animals swimming across as stepping stones, leaping from one to another.

So the 12-year cycle of the Chinese Zodiac begins with the rat. After him comes the ox who is followed by the tiger. After them come the rabbit, dragon, snake, horse, goat, monkey, rooster, dog and pig, in that order. The cat, it must be noted, has no place in the zodiac. She wasn’t among the first twelve. In fact, she was lucky to finish, having almost drowned in the river.

So is it any wonder that cats chase rats? They can never forget the humiliation heaped on their ancestor by a tricky rodent!
Appendix E

Photographs used during exposure task.
Appendix F

Religious Commitment Inventory-10
(Worthington et al., 2012)

Instructions: Read each of the following statements and select the response that best describes how true each statement is of you.

(1 = not at all true of me, 2 = somewhat true of me, 3 = moderately true of me, 4 = mostly true of me, 5 = totally true of me)

1. I often read books and magazines about my faith.
2. I make financial contributions to my religious organization.
3. I spend time trying to grow in understanding of my faith.
4. Religion is especially important to me because it answers many questions about the meaning of life.
5. My religious beliefs lie behind my whole approach to life.
6. I enjoy spending time with others of my religious affiliation.
7. Religious beliefs influence all my dealings in life.
8. It is important to me to spend periods of time in private religious thought and reflection.
9. I enjoy working in the activities of my religious affiliation.
10. I keep well informed about my local religious group and have some influence in its decisions.

Body Shape Questionnaire-34
(Cooper, Taylor, Cooper, & Fairburn, 1987)

Instructions: We would like to know how you have been feeling about your appearance OVER THE PAST FOUR WEEKS. Please read each question and select the response that best describes you. Please answer all of the questions.

(1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = very often, 6 = always)

OVER THE PAST FOUR WEEKS:

1. Has feeling bored made you brood about your shape?
2. Have you been so worried about your shape that you have been feeling that you ought to diet?
3. Have you thought that your thighs, hips, or bottom are too large for the rest of you?
4. Have you been afraid that you might become fat (or fatter)?
5. Have you worried about your flesh not being firm enough?
6. Has feeling full (e.g., after eating a large meal) made you feel fat?
7. Have you felt so bad about your shape that you have cried?
8. Have you avoided running because your flesh might wobble?
9. Has being with thin women made you feel self-conscious about your shape?
10. Have you worried about your things spreading out when sitting down?
11. Has eating even a small amount of food made you feel fat?
12. Have you noticed the shape of other women and felt that your own shaped compared unfavorably?
13. Has thinking about your shape interfered with your ability to concentrate (e.g., while watching television, reading, listening to conversations)?
14. Has being naked, such as when taking a bath, made you feel fat?
15. Have you avoided wearing clothes which make you particularly aware of the shape of your body?
16. Have you imagined cutting off fleshy areas of your body?
17. Has eating sweets, cakes, or other high calories food made you feel fat?
18. Have you not gone out to social occasions (e.g., parties) because you have felt bad about your shape?
19. Have you felt excessively large and rounded?
20. Have you felt ashamed of your body?
21. Has worry about your shape made you diet?
22. Have you felt happiest about your shape when your stomach has been empty (e.g., in the morning)?
23. Have you thought that you are the shape you are because you lack self-control?
24. Have you worried about other people seeing rolls of flesh around your waist or stomach?
25. Have you felt that it is not fair that other women are thinner than you?
26. Have you vomited in order to feel thinner?
27. When in company have you worried about taking up too much room (e.g., sitting on a soft or a bus seat)?
28. Have you worried about your flesh being dimply?
29. Has seeing your reflection (e.g., in a mirror or shop window) made you feel bad about your shape?
30. Have you pinched areas of your body to see how much fat there is?
31. Have you avoided situations where people could see your body (e.g., communal changing rooms or swimming baths)?
32. Have you taken laxatives in order to feel thinner?
33. Have you been particularly self-conscious about your shape when in the company of other people?
34. Has worry about your shape made you feel you ought to exercise?

Eating Attitudes Test-26
(Garner, Olmstead, Bohr, & Garfinkel, 1982)
Instructions: Read each statement and select a response that best describes you.

(0 = never, 0 = rarely, 0 = sometimes, 1 = often, 2 = usually, 3 = always)

1. Am terrified about being overweight
2. Avoid eating when I am hungry
3. Find myself preoccupied with food
4. Have gone on eating binges where I feel that I may not be able to stop
5. Cut my food into small pieces
6. Aware of the calories content of the foods that I eat
7. Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)
8. Feel that others would prefer if I ate more
9. Vomit after I have eaten
10. Feel extremely guilty after eating
11. Am preoccupied with a desire to be thinner
12. Think about burning up calories when I exercise
13. Other people think that I am too thin
14. Am preoccupied with the thought of having fat on my body
15. Take longer than others to eat my meals
16. Avoid foods with sugar in them
17. Eat diet foods
18. Feel that food controls my life
19. Display self-control around food
20. Feel that others pressure me to eat
21. Give too much time and thought to food
22. Feel uncomfortable after eating sweets
23. Engage in dieting behavior
24. Like my stomach to be empty
25. Have the impulse to vomit after meals
26. Enjoy trying new rich foods

Body Esteem Scale for Adolescents and Adults
(Mendelson, Mendelson, & White, 2001)

Instructions: Please read the following questions and indicate how often you agree with the following statements.

(1 = Never, 2 = Seldom, 3 = Sometimes, 4 = Often, 5 = Always)

1. I like what I look like in pictures.
2. Other people consider me good looking.
3. I’m proud of my body.
4. I am preoccupied with trying to change my body weight.
5. I think my appearance would help me get a job.
6. I like what I see when I look in the mirror
7. There are lots of things I’d change about my looks if I could
8. I am satisfied with my weight
9. I wish I looked better
10. I really like what I weigh
11. I wish I looked like someone else
12. People my own age like my looks
13. My looks upset me
14. I’m as nice looking as most people
15. I’m pretty happy about the way I look
16. I feel I weight eh right amount for my height
17. I feel ashamed of how I look
18. Weighing myself depresses me
19. My weight makes me unhappy
20. My looks help me to get dates
21. I worry about the way I look
22. I think I have a good body
23. I look as nice as I’d like to

Spiritual Well-being Scale
(Ellison & Smith, 1991)

Instructions: Read each of the following statements and select the response that best describes how true each statement is for you.

(1 = Strongly Disagree, 2 = Moderately Disagree, 3 = Disagree, 4 = Agree, 5 = Moderately Agree, 6 = Strongly Agree)

1. I don’t find much satisfaction in private prayer with God.
2. I don’t know who I am, where I came from, or where I am going.
3. I believe that God loves me and cares about me.
4. I feel that life is a positive experience.
5. I believe that God is impersonal and not interested in my daily situations.
6. I feel unsettled about my future.
7. I have a personally meaningful relationship with God.
8. I feel very fulfilled and satisfied with life.
9. I don’t get much personal strength and support from my God.
10. I feel a sense of well-being about the direction my life is headed in.
11. I believe that God is concerned about my problems.
12. I don’t enjoy much about life.
13. I don’t have a personally satisfying relationship with God.
15. My relationship with God helps me not to feel lonely.
16. I feel that life is full of conflict and unhappiness.
17. I feel most fulfilled with I'm in close communion with God.
18. Life doesn't have much meaning.
19. My relationship with God contributes to my sense of well-being.
20. I believe there is some real purpose for my life.

### Demographics

1. Height (feet, inches):
2. Weight (in pounds):
3. Race/Ethnicity (Select all that apply):
   a. American Indian or Alaska native
   b. Hawaiian or Other Pacific Islander
   c. Asian or Asian American
   d. Black or African American
   e. Hispanic or Latino
   f. Non-Hispanic White
   g. Other
4. Religion:
   a. Non-denominational Christian
   b. Catholic
   c. Protestant
   d. Jewish
   e. Mormon
   f. Muslim
   g. Buddhist
   h. Hindu
   i. None
   j. Other
Appendix G

DEBRIEFING STATEMENT
The Effects of Affirmations on Disordered Eating and Body Dissatisfaction

Thank you for your participation in this study. The study you have just completed was designed to investigate the effects of different types of affirmations on disordered eating attitudes and body dissatisfaction. More specifically, this study compared the impact of affirmations which were religious in nature or related to the body. In this study, there were four different affirmation groups: religious body affirmations, religious non-body affirmations, non-religious body affirmations, and non-religious non-body affirmations.

The religious body affirmations were explicitly theistic, Christian-based, and mentioned the body (“The Spirit of God is expressed in my body, and therefore, it is my duty to treat it with reverence and respect”). The religious non-body affirmations were explicitly theistic, with no mention of the body (“God gives me strength when I am weary and increases my power when I am weak”). The non-religious body statements were not religious in nature, and focus on the body (“I am perfect and whole and my body is perfect and whole”). The non-religious non-body affirmations were not religious in nature and made no mention to the body (“I feel safe in the rhythm and flow of ever-changing life”).

The aim of this study was to determine which type of affirmation would best decrease disordered eating attitudes and body dissatisfaction. By participating in this study, we hope you benefitted by experiencing a reduction in disordered eating attitudes as well as body dissatisfaction. The results of this study will further benefit future individuals with disordered eating. By understanding which type of affirmations were most effective, future clinicians will be able to implement these affirmations into the treatment process.

By participating in this study, you will receive $0.50 credited to your Mechanical Turk account.

Thank you for your participation. If you have any questions about the study, please feel free to contact Cassandra A. Vogt at cavogt@eiu.edu or Steven J. Scher at sjscher@eiu.edu. If you would like to obtain a copy of the results of this study, please contact Cassandra A. Vogt at the end of Summer 2017.