

IT'S GOOD TO BE GRATEFUL: GRATITUDE INTERVENTIONS AT WORK

by

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The effect of gratitude on well-being and work specific outcomes was examined. In this study, participants were randomly assigned to one of two experimental conditions (control and gratitude). Participants in the gratitude condition were asked to record weekly lists of four work-specific events that they were grateful for, in addition to survey measures of gratitude, affect, well-being, job satisfaction, and organizational commitment. Survey measures were administered at three time points with two-week intervals. No significant differences were discovered between the control and gratitude groups. Significant increases in well-being and organizational commitment were supported, as well as decreased negative affect in both groups across time. Theoretical and practical implications for these results are discussed along with directions for future research.

IT'S GOOD TO BE GRATEFUL: GRATITUDE INTERVENTIONS AT WORK

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CHAPTER I: INTRODUCTION

Research in positive psychology has increased greatly in the past decade. According to Seligman and Csikszentmihalyi (2000), positive psychology encompasses valued subjective experiences including well-being, contentment, satisfaction, flow, and happiness and considers both positive individual traits as well as civic qualities. Seligman and Csikszentmihalyi have stressed that psychology is not only the study of pathology, weakness, and damage but also strength and virtue.

Since 2000, positive psychologists have increased the understanding of how and why positive emotions and positive character influences people for the better, as well as how to foster these characteristics (Seligman, Steen, Park, & Peterson, 2005). This increased awareness has sparked an interest concerning the benefits of positive psychology for the layperson. Throughout the positive psychology movement, gratitude interventions have stood out as particularly effective interventions for positive attitudinal change in individuals. To date, 12 studies have found significant results using gratitude interventions (Wood, Froh, & Geraghty, 2010) – a striking number, given the short amount of time researchers have been studying gratitude.

Research on gratitude interventions has found a positive relationship between gratitude and well-being (Wood, Joseph, & Linley, 2007; Kashdan, Uswette, & Julian, 2006; Chen, Chen, Kee, & Tsai, 2009). The role of gratitude as it relates to overall well-being is important because of the simplicity of effort required for significant gains to occur. Although several studies have shown the significance of gratitude and gratitude interventions for overall improvements in global well-being, the introduction of gratitude interventions in the workplace has yet to be investigated with an experimental manipulation.

The purpose of this paper is to address the gaps in the literature of positive psychology and gratitude research, specifically in the context of gratitude interventions in the workplace. Guided by previous empirical studies of gratitude interventions, this study aims to explore the distinct relevance of gratitude as it relates to employees, employee mental health, and work attitudes. The goal of the present study is to experimentally investigate the effectiveness of a gratitude intervention for employee well-being, job satisfaction, and organizational commitment.

Subjective Well-being

Subjective well-being involves both cognitive and affective reactions that occur when a person considers their existence. Subjective well-being, to the layperson, would typically be called *happiness*. Kesebir and Diener (2008) suggest that subjective well-being involves four components: life satisfaction, satisfaction with important life domains (e.g., work), positive affect, and low levels of negative affect. It is commonly assumed that happiness only comes after certain events, but Kesebir and Diener (2008) note that happiness also precedes and causes multitudes of positive outcomes. More specifically, happiness is said to predict health, work performance, positive social relationships, and ethical behavior (Kesebir & Diener, 2009).

Positive affect, the term psychologists use to describe happiness, has been defined as “feelings that reflect a level of pleasurable engagement with the environment” (Clark, Watson & Leeka, 1989, p. 206). Positive affect has a marked association with general health (Seligman, et al., 2005; Sin & Lyubomirsky, 2009). These findings are especially strong when studying positive affect as a trait. Measuring trait affective style, or a person’s general emotional experience, instead of as a state that will vary over time (Cohen & Pressman, 2006).

Positive affect has been shown to improve many characteristics of one’s life. According to research by Danner, Snowdon, and Friesen (2001), happiness relates to physical and mental

health. According to this research, one can experience a longer life by being a happier person. Similarly, those who experience positive emotions frequently are better able to recover from negative life experiences (Tugade & Fredrickson, 2004.) Happier people tend to recover from stress more quickly than their less-happy counterparts (Cohen & Pressman, 2006).

Previous studies have found that pursuing happiness might facilitate positive emotions in the future. According to Sheldon and Houser-Marko (2001), using goal fulfillment in the pursuit of happiness can create an upward spiral of increased levels of happiness. In their study, Sheldon and Houser- Marko (2001) observed incoming freshman that were asked to make goals for the coming semester. The results showed that participants with self-concordant goals were more likely to achieve their first semester goals as well as more likely to reach goals in their second semester. As participants achieved continuous goals, their positive affect increased. This upward model is what the authors state to be a productive pursuit of happiness.

Gratitude

One of the most effective ways to improve happiness is through gratitude, making gratitude a valuable construct to psychologists and lay people (Gallup, 1998). Watkins, Woodward, Stone, and Kolts (2003) mention that, although language for gratitude is present in almost every culture, the empirical study of gratitude has been neglected. Past studies of descriptive trait words found “grateful” to be rated in the top four percent with regards to likeability, whereas “ungrateful” was rated as one of the most negative traits (Watkins, et al., 2003). Researchers have speculated that gratitude bestows happiness (Emmons & McCullough, 2003). In this vein, research has shown that gratitude is a pleasant state, often clustered with emotions such as happiness, pride, and hope. Although similar to positive affect, gratitude

remains unique as an affective disposition because it has a separate pattern of appraisals, distinguishing it from positive affect (Weiner, 1985).

People often recommend that others should “count their blessings” (Emmons & McCullough, 2003). Usually this is a way of keeping people aware of the positivity happening around them, in some sense providing a more accurate appraisal of the environment. Expressing gratitude is an easy task, whereas defining the construct of gratitude is less overt. A comprehensive review of the literature on gratitude leads one to many different interpretations of gratitude.

Emmons and McCullough (2003) examined many historical conceptualizations of gratitude, including concepts of emotion, virtue, habit, personality, and coping mechanisms. According to Weiner (1985), gratitude occurs when a person recognizes that a positive outcome has been obtained and is aware that there is an external source for the positive outcome. Gratitude has also been defined as an affective trait that is a “general tendency to recognize and respond with grateful emotions to the roles of other people’s benevolence in the positive experiences and outcomes that one obtains” (McCullough, Emmons, & Tsang, 2002, p. 112). Emmons and McCullough (2003) describe gratitude as an adaptive psychological strategy that allows people to interpret everyday experiences in a positive manner. Following McCullough et al.’s (2002) recommendation, the present study considers gratitude as a disposition that can be enhanced with directed action involving the recognition and response to grateful emotion (i.e., intervention).

McCullough et al. (2002) posit that there are four facets to a grateful disposition that include intensity, frequency, span, and density of expression of gratitude. Gratitude intensity refers to the idea that dispositionally grateful individuals should feel more intensely grateful than

people who are less dispositionally grateful. Frequency involves the number of times the person experiences gratitude within a set period of time. Gratitude span refers to the number of events a person feels grateful at a given time. Density refers to the number of persons for which a person feels grateful, regarding one particular positive outcome.

Gratitude Interventions

Research on gratitude has shown that counting one's blessings (i.e., considering positive events) is positively correlated to a person's subjective well-being and positive affect (McCullough et al., 2002; Emmons & McCullough, 2003). Using the ability to notice and appreciate aspects of one's life can be viewed as a critical determining factor in well-being (Bryant, 1989; Janoff-Bulman & Berger, 2000; Langston, 1994). Although many studies have found success using gratitude interventions, the theory behind *why* these strategies have positive outcomes remains underdeveloped. The mechanisms behind why expressing gratitude relates to positive outcomes may be as varied as the interpretations in gratitude literature.

In studies by Seligman et al. (2005), recording three positive events each day, along with the causes for each event, related to increased positive affect up to six months later. This finding is significant because the participants were only asked to record the three events for a one-week period. Perhaps some participants continued to consider positive events even when they were not actively recording lists after the gratitude intervention. Regardless of the actual mechanism by which recording positive events predicts positive affect, the results provide support for the idea that showing gratitude can have somewhat lasting effects on a person's well-being. One explanation for this result considers that an intentional grateful focus is one form of cognitive appraisal of one's life circumstances with the ability to impact long-term levels of well-being. According to Fredrickson's (2001) "broaden and build" model, gratitude not only relates to

present-moment mood but also predicts positive mood in the future (Emmons & McCullough, 2003). Previous studies have shown that the combination of effort and continued practice of positive psychology interventions result in a more robust improvement in well-being (Sin & Lyubomirsky, 2009).

Similarly, studies by Emmons and McCullough (2003) also found advantages from happiness when participants focused on their “blessings” instead of their “burdens.” In this study, participants were asked to focus on either their hassles or things they were grateful for and either neutral life events or social comparisons. Three studies were conducted in which participants either recorded their specific responses weekly for 10 weeks, daily for 13 days or daily for 21 days. Emmons and McCullough found that a focus on one’s blessings led to positive effects in social, health, and affective dimensions of participants’ lives. Those who were asked to focus on their blessings spent more time exercising, had higher positive affect, and were more likely to have optimistic appraisals of their lives and the upcoming week. The authors also created a gratitude intervention for patients with Motor Neurone Disease and found that instances of negative affect decreased. The authors concluded that the intervention had a significant effect on gratitude and well-being.

The results of a meta-analysis including positive psychology intervention effects on well-being suggest that these interventions do in fact boost well-being and decrease depression (Sin & Lyubomirsky, 2009). In this review, the majority of effect sizes for measures of well-being were in the predicted, positive direction. The results of the meta-analysis concluded that 49 of the studies involving positive psychology interventions (including gratitude interventions and others) not only work, but they work well, as shown by medium sized effect estimates ($r = .29$). The authors suggest that individuals will likely benefit from appreciating life’s positive events.

In sum, a number of gratitude interventions have been proposed. Interestingly, Sheldon and Lyubomirsky (2006) suggest the most noticeable changes in well-being are discovered when the intervention occurs neither too frequently nor infrequently. Although one might assume that participating in a daily intervention might yield stronger results, equally robust findings have occurred in studies employing a weekly participation method. Lyubomirsky (2008) posits that considering what one is grateful for once a week is likely to yield the best results for most people. Previous studies using interventions have used differing durations for interventions, as well. The most successful interventions have been longer than two weeks (Wood et al., 2010). Finally, different gratitude intervention techniques have been proposed. One of the most successful is the gratitude listing intervention, which involves participants listing between three to five items for which they are grateful (Wood et al., 2010; Sin & Lyubomirsky, 2009). Choosing an intervention that is easy to incorporate into a person's daily life and lifestyle is fundamental toward the success of the intervention, making the simplicity of the gratitude listing intervention a realistic change individuals can make in their own lives.

Well-being and Job Satisfaction

Gratitude interventions have a successful history of leading to positive outcomes; however, studies that have tested this method in the past have used traditional positive psychology outcomes such as well-being. This approach begs the question of whether gratitude interventions are effective for other outcomes such as work attitudes. Empirical evidence for the relationship between well-being and job satisfaction is growing (Kaplan, Warren, Barsky, & Thorensen, 2009; Wright & Cropanzano, 2000), but the evidence for interventions in the workplace remains unexplored.

One of the most important work attitudes employers and researchers consider is job

satisfaction. Job satisfaction can be operationalized as an “internal state that is expressed by affectively and/or cognitively evaluating an experience job with some degree of favor or disfavor” (Wright & Cropanzano, 2000, p. 85). In this sense, job satisfaction is a somewhat narrow degree of a person’s overall cognitions towards the work domain, whereas well-being is more broadly defined because it is affected by a myriad of factors within a person’s life.

The importance of the relationship between job satisfaction and well-being has been investigated in past studies; however, there is debate over the directionality of the effects (Page & Vella-Brodrick, 2009). A review of research by Kaplan et al. (2009) specifies the link between positive affect (Watson, 2000), negative affect (Watson, 2000), and job satisfaction (Connolly & Viswesvaran, 2000; Judge, Heller, & Mount, 2002; Thoreson, Kaplan, Barsky, Warren, & deChermont, 2003). These authors report that the results of previous studies are “consistent and encouraging”; however, the specific mechanisms between affect and job satisfaction are still undefined (Judge & Larson, 2001). This study considers that job satisfaction and well-being might have a bidirectional relationship, in that both can and should increase one another.

Since gratitude affects well-being, it is reasonable to assume that gratitude will also affect job satisfaction. Evidence exists that gratitude interventions can affect satisfaction with specific life domains (e.g., school or work), as well as general satisfaction (i.e., well-being). For example, Froh, Sefick, and Emmons (2008) found significant results when introducing gratitude interventions as a method for increasing youths’ attitudes toward school. The results of this study show that students who made a gratitude list had decreased negative attitudes towards school and had increased positive attitudes towards school. Interestingly, the effects were not only present at the end of the study, but also three weeks later. These findings support the idea that using gratitude interventions in a specific domain, such as school or work, can result in positive

changes that may be lasting.

Organizational Commitment

In addition to job satisfaction, organizational commitment is another job attitude that is important to researchers and practitioners. Organizational commitment is defined as a psychological bond between the employee and his or her organization wherein the employee is less prone to leave the organization voluntarily (Allen & Meyer, 1996). Organizational commitment is important to organizations because it is directly related to turnover intentions and actual turnover (Allen & Meyer, 1996). Thus, the ability to potentially lessen the likelihood of turnover by increasing organizational commitment through a gratitude intervention is a valuable investigation. Organizational commitment, as reviewed by Allen and Meyer (1996), is composed of three facets: affective commitment, continuance commitment, and normative commitment. Of specific interest to this study is affective commitment, which results when a person chooses to remain at a given organization because they want to. The effects of organizational commitment are independent of job satisfaction, so it is important to include both attitudes, as they are both important predictors of turnover and productivity (Judge, Thoresen, Bono, & Patton, 2001; Harrison, Newman, & Roth, 2006).

Employees' level of organizational commitment is likely to be related to their perceived gratitude. If a person feels grateful for many things within the workplace, they might also feel more committed to the organization, which would be seen in higher levels of affective commitment. A workplace gratitude intervention may engender more feelings of gratitude among employees, as they notice more aspects of their job for which to be grateful. For example, employees may not consciously recognize stable benefits of their job, such as a constant paycheck, a good supervisor, or a positive work environment unless they make an effort to

notice. A gratitude intervention may make employees take notice of the benefits and enjoyable aspects of their job, making them want to remain in the organization. Likewise, a gratitude intervention may make employees more aware of what they receive from the organization. Recognition of benefits and enjoyable aspects of their job may foster feelings that they enjoy and want to stay at their organization, which would be reflected in increased levels of affective commitment.

The Present Study

According to Watkins et al. (2003), gratitude is a neglected construct in psychology. This void is even more apparent with regards to gratitude in the workplace. Previous studies have looked into the relationships between gratitude and well-being, and well-being and job satisfaction; however, the bridge from gratitude toward employee health and positive work attitudes (i.e., job satisfaction, organizational commitment) has yet to be substantiated. The present study investigates the relationships between gratitude, well-being, job satisfaction and organizational commitment with the experimental manipulation of a gratitude intervention.

In this experimental study, participants completed measures of positive and negative affect, subjective well-being, gratitude, job satisfaction, and organizational commitment along with participation in a gratitude intervention. A gratitude intervention was developed based on the method and results of previous studies (Sin & Lyubomirsky, 2009; Wood et al., 2010). This intervention was directed towards individuals who are employed and aimed to generalize the results of previous studies of gratitude interventions into the workplace. Keeping in mind the successes of previous studies involving interventions (Wood et al., 2010), the current study implemented the best methods for achieving marked increases in gratitude over time. Specifically, participants were instructed to record four events for which they were grateful every

week for four weeks through an e-mailed survey. Choosing an intervention that is easy to incorporate into a person's daily life and lifestyle is fundamental for the success of the intervention. As such, participants might have an easier time listing the four events for which they are grateful for each week if they receive an e-mailed survey as opposed to other more traditional mediums, such as a written diary.

By focusing on aspects specific to the workplace, the current study aids in the extension of previous studies on gratitude interventions and provides evidence that gratitude interventions can cause a change in job satisfaction, organizational commitment, and well-being. I proposed that the relationship between gratitude and well-being should extend to job satisfaction and organizational commitment, especially when the intervention is focused on job-specific events. As such, the following hypotheses are suggested:

Hypothesis 1: The gratitude listing intervention technique will result in participants reporting higher levels of gratitude than the control group.

Hypothesis 2: After the intervention, participants in the gratitude condition will report higher levels of positive affect and well-being, and lower levels of negative affect than the control group.

Hypothesis 3: After the intervention, participants in the gratitude condition will report higher levels of job satisfaction than the control group.

Hypothesis 4: After the intervention, participants in the gratitude condition will report higher organizational commitment than the control group.

CHAPTER II: GRATITUDE INTERVENTIONS AT WORK

Method

Participants. Participants for the present study were employees who, for the most part, were also undergraduate students in a public university. Participants enrolled in introductory psychology or a similar course were granted participation credit upon completion of the study. Only participants who had jobs and worked more than ten hours per week were recruited. A total of 180 participants completed survey one, 153 participants completed survey two, and 128 participants completed survey three. Ninety-eight participants were randomly assigned to the control condition and 90 participants were assigned to the gratitude condition. The majority (81%) of participants in the gratitude condition completed at least three of four possible gratitude lists and were included in further analyses. Twenty-three participants were excluded from analyses because of failure to complete at least two of three surveys. Final analyses included 87 participants in the control group and 78 participants in the gratitude group. The control group was comprised of 34 males and 52 females, while the gratitude group was comprised of 31 males and 46 females.

Of the 165 participants, 65% were Caucasian, 23% were Black, 4.3% were Hispanic, 2.2% were American Indian, 1.1% were Asian, and 2.2% reported “other”. Females comprised 59.4% of the sample. Participants in this study were between the ages of 18 and 53. The average age of participants was 24 years. The average years of work experience was 6.8 years. The majority of participants (70.3%) reported that their income was less than \$20,000 a year. Fifty-five percent of participants reported that their highest level of education was “some college.” Fifty-seven percent of participants reported that their organization employed less than 50 people and 12.1% reported 50–99 employees.

Procedure. Data for this study were collected electronically via online surveys.

Researchers examined both the electronic survey responses as well as data entries collected from the gratitude list survey sent via e-mail. All participants were given informed consent information (see Appendix A) before beginning the study and were asked to click “Yes” or “No” on a webpage to indicate their consent to participate.

After participants agreed to participate in the study, they were randomly assigned to the control group or the gratitude group. All participants were sent an online survey within 24 hours of signing up as a participant. Participants in the gratitude intervention condition were asked to report four positive events that occurred during the week while at work or relating to their job in addition to the survey measures. Instructions for the creation of each week’s gratitude list were created based on instructions used in previous gratitude interventions by Emmons and McCullough (2003) (see Appendix C). Participants in the control condition only completed survey measures at each time point. Participants received links to electronic forms of the survey at Time 2 and Time 3 via e-mail. A complete schedule of survey measures for each condition is listed in Table 1.

Table 1

Study timeline of survey measures

Time	Week	Condition	
		Control	Experimental
Time 1	Week 1	Survey measures	Survey measures & Gratitude list #1
	Week 2		Gratitude list #2
Time 2	Week 3	Survey measures	Survey measures & Gratitude list #3
	Week 4		Gratitude list #4
Time 3	Week 5	Survey measures	Survey measures

Participants randomly assigned to the gratitude condition responded to a weekly e-mailed survey where they were asked to report four positive events that occurred during the week while at work or relating to their work. Participants responded to the e-mailed survey with their gratitude lists each week in order to verify that they are actively participating in the intervention (see Appendix C).

At the end of the intervention period, participants were asked to complete survey measures for Time 3. Participants were debriefed on the details of the study upon completion and thanked for their participation (see Appendix D).

Measures.

Gratitude. Gratitude was measured using the Gratitude Questionnaire developed by McCullough, Emmons and Tsang (2002). Items on this six-item scale reflect gratitude intensity (e.g., “I feel thankful for what I have received in life”), gratitude frequency (e.g., “Long amounts of time can go by before I feel grateful to something or someone”), gratitude span (e.g., “I sometimes feel grateful for the smallest things”), and gratitude density (e.g., “I am grateful to a wide variety of people.”). This measure uses a seven-point Likert-type scale ranging from “1” (*Strongly Disagree*) to “7” (*Strongly Agree*) (see Appendix E). The coefficient alpha of this sample was .72. Cronbach’s alpha estimates from previous studies have ranged from .76 to .84 (McCullough et al., 2002).

Positive and negative affect. Positive and negative affect was measured using the PANAS developed by Watson, Clark and Tellegen (1988). Participants used a five-point Likert-type scale ranging from “1” (*Very slightly or not at all*) to “5” (*Extremely*) to indicate how well each of 20 adjectives described, “How they generally feel” (see Appendix E). The coefficient

alpha of this sample was .85 for positive affect and .85 for negative affect. Previous studies using the PANAS measure have found alphas of .86 (Watson et al., 1988).

Subjective well-being. Life satisfaction was measured using a five-item scale developed by Diener, Emmons, Larsen, and Griffin (1985). One example item from this scale is “I am satisfied with my life.” A Likert response scale ranging from “1” (*Strongly Disagree*) to “7” (*Strongly Agree*) was used (see Appendix E), and the coefficient alpha of this sample was .86. Previous studies using this measure have found alpha values of .83 (Diener et al., 1985).

Job satisfaction. Job satisfaction was measured using the six-item Job Satisfaction Scale (JIG) (brief version; Russell, Spitzmüller, Lin, Stanton, Smith, & Ironson, 2004). A seven-point Likert-type scale from “1” (*Strongly disagree*) to “7” (*Strongly agree*) was used (see Appendix E). The coefficient alpha for this sample was .83. Previous studies that utilized the JIG scale have found alphas ranging from .85 to .87 (Russell et al., 2004).

Organizational commitment. Affective organizational commitment was measured using a six-item measure developed by Meyer, Allen, and Smith (1993). This measure questions the extent of one’s emotional attachment to their organization. One example item included in this measure is “this organization has a great deal of personal meaning to me.” The coefficient alpha for this sample was .75. The six-item version of the affective commitment scale has previously demonstrated an alpha reliability of .85 (Meyer et al., 1993).

Demographics. Demographic items including age, gender, race, and year in school were added as supplementary items to the first survey packet. Other questions such as “How many years of work experience do you have?” and “How many hours have you worked in the past week?” were also included (see Appendix E).

Results

In order to test the hypotheses of the current study, a 3 (time) x 2 (condition) mixed ANOVA was conducted on a composite of each dependent variable, gratitude, positive affect, negative affect, well-being, job satisfaction, and organizational commitment, to determine if main effects and interactions were present. Composite scores for each variable were created by aggregating responses to the items for each variable into a single mean score. Composite variables were created for each variable, gratitude, positive affect, negative affect, well-being, job satisfaction, and organizational commitment, at each of the 3 time points. Post-hoc analyses were conducted to determine where the differences, if any, were present when statistically significant main effects and interactions were identified. Means and standard deviations for the variables are shown in Table 2. Comparison means and standard deviations of the control and experimental group for each variable are shown in Table 3.

Table 2

Sample Means and Standard Deviations

	<i>N</i>	<i>M</i>	<i>SD</i>
Gratitude			
Time 1	163	6.20	0.76
Time 2	145	6.20	0.75
Time 3	135	6.15	0.81
Subjective well-being			
Time 1	163	5.25	1.13
Time 2	143	5.42	1.07
Time 3	135	5.46	1.14
PA			
Time 1	163	3.84	0.57
Time 2	144	3.81	0.64
Time 3	135	3.80	0.65
NA			
Time 1	163	2.00	0.63
Time 2	144	1.87	0.57
Time 3	135	1.89	0.69
Job Satisfaction			
Time 1	163	5.15	1.35
Time 2	143	5.02	1.36
Time 3	135	4.94	1.43
Organizational Commitment			
Time 1	163	4.19	1.42
Time 2	144	4.43	1.39
Time 3	135	4.36	1.49

Table 3

Comparison Means and Standard Deviations

	Control		Experimental	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Gratitude				
Time 1	6.13	0.87	6.28	0.61
Time 2	6.12	0.81	6.29	0.68
Time 3	6.10	0.79	6.20	0.84
Subjective well-being				
Time 1	5.18	1.16	5.32	1.11
Time 2	5.26	1.11	5.47	1.03
Time 3	5.42	1.13	5.51	1.15
PA				
Time 1	3.79	0.57	3.89	0.57
Time 2	3.75	0.61	3.87	0.66
Time 3	3.79	0.61	3.82	0.69
NA				
Time 1	1.99	0.62	2.02	0.64
Time 2	1.79	0.52	1.95	0.61
Time 3	1.82	0.63	1.97	0.76
Job satisfaction				
Time 1	5.18	1.33	5.13	1.39
Time 2	5.03	1.36	5.02	1.37
Time 3	4.92	1.48	4.97	1.39
Organizational commitment				
Time 1	4.22	1.42	4.15	1.44
Time 2	4.38	1.50	4.49	1.28
Time 3	4.28	1.49	4.45	1.50

To verify the effectiveness of the gratitude intervention, Hypothesis 1 was tested. Hypothesis 1 specified that the e-mail gratitude listing intervention technique would result in more gratitude than the control group after the intervention period. This hypothesis was not supported by our findings, as there was no statistically significant interaction between time and condition (see Table 4). Additionally, the results of the 3 (time) x 2 (condition) mixed ANOVA

of gratitude revealed no significant differences changes in gratitude over time, as well as no significance differences between the gratitude and control group comparisons.

Table 4

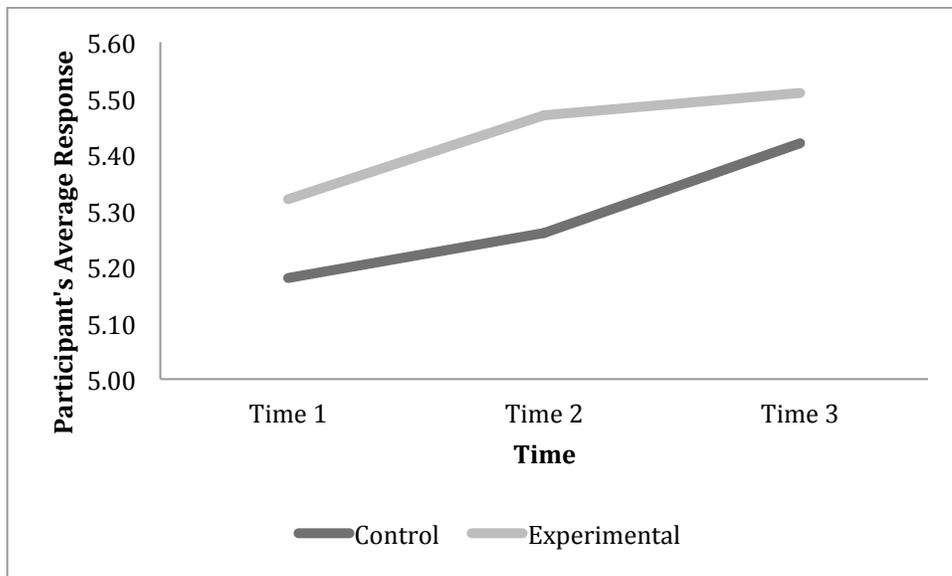
Repeated measures ANOVA

Dependent Variable	ANOVA		
	<i>F</i>	<i>p</i>	
Gratitude	Time	0.40	.65
	Condition	0.80	.37
	Interaction	0.49	.60
Subjective well-being	Time	3.60	.03
	Condition	0.45	.50
	Interaction	0.34	.71
PA	Time	0.46	.63
	Condition	1.29	.26
	Interaction	1.67	.19
NA	Time	9.23	<.01
	Condition	0.72	.40
	Interaction	1.92	.53
Job satisfaction	Time	2.12	.12
	Condition	0.02	.89
	Interaction	0.75	.47
Organizational commitment	Time	1.71	<.01
	Condition	0.62	.43
	Interaction	0.51	.60

Hypothesis 2 stated that after the intervention, participants in the gratitude condition would report higher levels of positive affect and well-being, and lower levels of negative affect than the control group. This hypothesis was not supported, as the interactions between time and condition were not statistically significant (see Table 4). A main effect of subjective well-being was found ($F(2, 113) = 3.596, p = .031$, see Figure 1) in that subjective well-being increased over time. Post-hoc comparisons of subjective well-being at each time point indicate that subjective well-being at Time 2 ($M = 5.51, 95\% \text{ CI } [5.31, 5.71]$), was significantly higher than subjective well-being at Time 1 ($M = 5.36, 95\% \text{ CI } [5.16, 5.56]$), $p = .028$. Comparisons between the Time 3 ($M = 5.48, 95\% \text{ CI } [5.27, 5.69]$) and Time 1 and Time 2 were not statistically significant at $p < .05$. The main effect of condition was not supported (see Table 4).

Figure 1

Subjective well-being

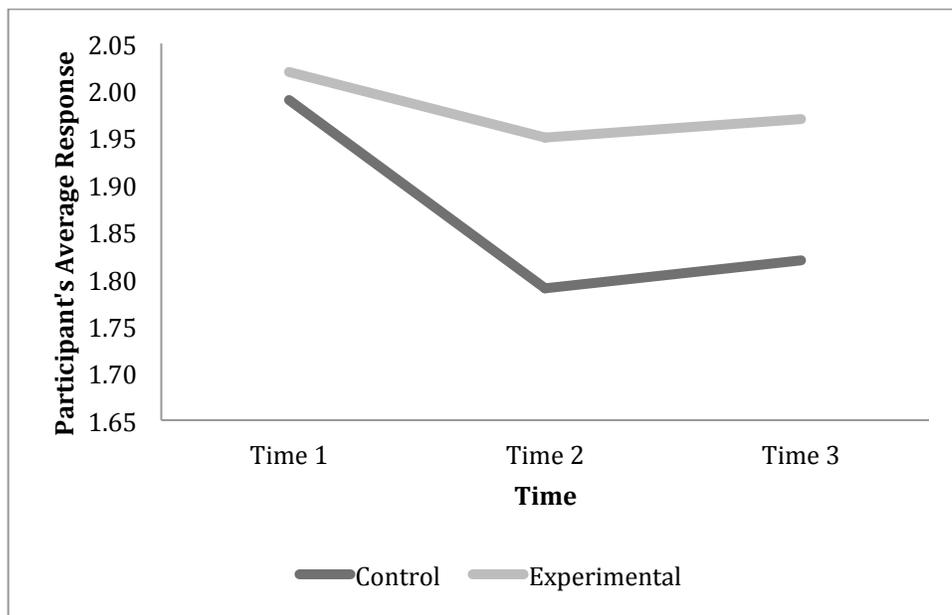


Similarly, there were no significant interaction of condition and time for positive and negative affect (see Table 4). A main effect of negative affect was supported ($F(2, 113) = 9.233$,

$p = .000$, see Figure 2), in that negative affect decreased over time, however, the main effect of condition was not significant. Post-hoc comparisons of negative affect at each time point indicate that negative affect at Time 1 ($M = 2.00$, 95% CI [1.89, 2.12]) was significantly higher than negative affect at Time 2 ($M = 1.85$, 95% CI [1.74, 1.95]), $p < .01$. Additionally, negative affect at Time 1 was significantly higher than negative at Time 3 ($M = 1.85$, 95% CI [1.73, 1.98]), $p = .006$. Comparisons between Time 2 and Time 3 were not statistically significant at $p < .05$.

Figure 2

Negative affect

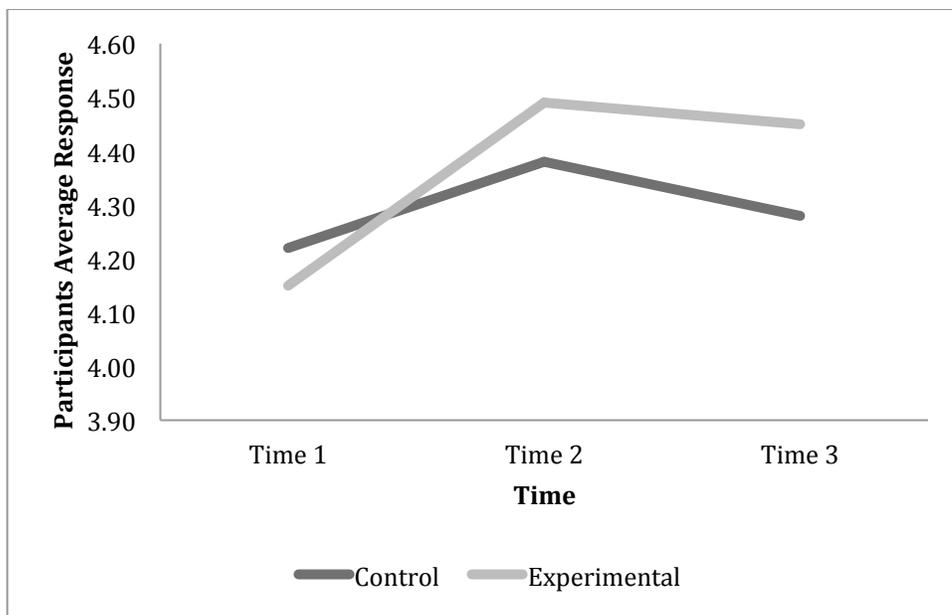


Hypothesis 3 stated that after the intervention, participants in the gratitude condition would report higher levels of job satisfaction than the control group. This hypothesis was not supported, as there was no significant interaction between time and condition. In addition, the results of the 3 (time) x 2 (condition) mixed ANOVA of job satisfaction revealed no significant differences changes in job satisfaction over time, as well as no significance differences between the gratitude and control group comparisons (see Table 4).

Hypothesis 4, that after the intervention, participants in the gratitude condition would report higher organizational commitment than the control group, was not supported as the interaction between time and condition was not significant (see Table 4). While a main effect of time was present $F(2, 113) = 1.708, p < .01$, see Figure 3), increases in organizational commitment over time were not dependent on the participant's condition. Organizational commitment was significantly higher at Time 2 and Time 3 than at Time 1. Post-hoc comparisons of organizational commitment at each time point indicates that organizational commitment at Time 1 ($M = 4.14, 95\% \text{ CI } [3.87, 4.41]$) was significantly lower than organizational commitment at Time 2 ($M = 4.38, 95\% \text{ CI } [4.13, 4.63]$), $p = .006$. Organizational commitment at Time 1 was also significantly lower than organizational commitment at Time 3 ($M = 4.32, 95\% \text{ CI } [4.04, 4.60]$), $p = .05$. Comparisons between Time 2 and Time 3 were not statistically significant at $p < .05$.

Figure 3.

Organizational commitment



Correlational analyses were conducted (see Table 5) to further investigate the relationship between gratitude and the outcome variables of interest in the current study, positive and negative affect, well-being, job satisfaction, and organizational commitment. Gratitude at Time 1 was examined, along with outcomes from Time 3, to see if feelings of gratitude were related to subsequent outcomes. Interestingly, participants' overall gratitude at Time 1 was significantly correlated to positive affect ($r = .28$), subjective well-being (.44), job satisfaction (.23), and organizational commitment (.20) at Time 3.

Table 5

Zero order correlations

	1	2	3	4	5	6
1. Gratitude T1	1					
2. Positive affect T3	.28*	1				
3. Negative affect T3	-.15	-.46**	1			
4. Subjective well-being T3	.44**	.48**	-.37**	1		
5. Job satisfaction T3	.23**	.39**	-.35**	.43**	1	
6. Organizational commitment T3	.20*	.33**	-.25**	.43**	.75**	1

** Correlation is significant at the .01 level

* Correlation is significant at the .05 level.

Note: T1 refers to Time 1 of the study while T3 refers to Time 3.

Discussion

The current study examined the effectiveness of a gratitude intervention for influencing work attitudes and well-being. Despite theoretical indications and past research suggesting that significant improvements in affect, well-being, and gratitude can be gained with the implementation of gratitude lists (Emmons & McCullough, 2003), the present study did not provide evidence to support this. Participants in this study were randomly assigned to one of two conditions, i.e., control or gratitude. Participants in the gratitude condition were asked to record four work-specific events that they were grateful for that either occurred at work or were specifically related to their job each week for four to five weeks.

There are several conclusions that can be drawn from the results of this gratitude intervention study. First, the gratitude listing intervention did not have a statistically significant effect on improvements in gratitude across time. Second, the gratitude intervention did not change employees' levels of positive or negative affect, well-being, job satisfaction, or organizational commitment. Interestingly, increases in well-being and organizational commitment were seen in both groups over time. Similarly, a main effect of negative affect was present in the current study wherein both groups experienced decreased negative affect over time. Third, there were significant relationships between baseline gratitude at Time 1 and several other variables at Time 3. Specifically, gratitude at Time 1 was significantly related to positive affect, subjective well-being, job satisfaction, and organizational commitment at the end of the study (Time 3). These results provide evidence that gratitude might be an antecedent to positive work attitudes and well-being. Surprisingly, gratitude at Time 1 was not significantly related to negative affect.

There may be several reasons why the success of gratitude interventions described in previous work was not replicated in the current study. First, the positive impact of gratitude may have been negated by an increased focus on the job. In other words, by limiting participants to only thinking about what they were grateful for in the work domain, participants may have had trouble thinking of positive attributes of the workplace, which may have triggered thoughts of dissatisfaction at work. In this intervention, negative thoughts or job dissatisfaction may have been triggered, along with thoughts of gratitude, leading to a null effect. Examining the actual gratitude lists that the participants created supports this possibility. For example, one participant wrote, “I am grateful that I don’t have to go to work often.” Gratitude lists like this suggest that limiting the gratitude intervention to the workplace may not foster authentic feelings of gratitude and appreciation. Though previous work by Froh et al. (2008) demonstrated significant findings of increased satisfaction with school, their study allowed participants to report events for their life in general. The current study asked participants to focus their reports solely on work-related events, and this difference might have led to our insignificant findings.

Second, many previous studies have used general gratitude interventions with adult professional samples. Because of this, student participants in the current sample might not have taken the intervention as seriously as previous non-student samples. In addition to not taking the intervention as seriously, the effects of a gratitude activity in students might differ slightly from the results that could be achieved in a sample of working professionals due to differences in maturity. Students may have struggled with this intervention because they have not yet had the life experiences that older employees may have, which contribute to feeling grateful for a job. In addition, the student sample may have been concerned about the confidentiality of their responses and may not have been honest. Lastly, the participants in previous studies have

generally been compensated with money or gift cards for their participation, whereas participants in our study were only given academic research credit for their efforts. Perhaps the positive impact of past interventions has been supplemented by the compensation participants were receiving, as participants in these conditions would be more motivated to follow direction and take the intervention seriously.

Third, previous studies of gratitude interventions have oftentimes used “hassles” listing as a replacement for true control group (Emmons & McCullough, 2003). In the current study, a true control group was used in which participants were only asked to complete survey measures at each time point. As Wood et al. (2010) argues, true control groups are an integral part of research because they allow the researcher to make clear comparisons of the effectiveness of their intervention. As Wood et al. (2010) states, without true control groups it is more difficult to assess the effectiveness of the gratitude aspect of the intervention. While Sin and Lyubomirsky (2009) mention the great success of gratitude interventions and their effectiveness in the past, only a few (e.g., Emmons & McCullough, 2003; Froh et al., 2008; Lyubomirsky, Tkach, & Sheldon, 2004) of the 12 studies discussed included genuine control groups as a comparison. The current study contributes to the literature with the implementation of a true control condition; however, this technique may also be related to our insignificant findings.

Another main finding from the current study is evidence of significant increases in subjective well-being, organizational commitment, and decreased negative affect across time. One explanation for these results might be that participants were expectant of change during the study. Wood et al. (2010) mentions that expectancy of change is problematic because it may be a linking process whereby change actually occurs. Since most participants in this study were psychology students, perhaps they expected changes to occur between each time point, which

might have enhanced the possibility for change. Moreover, previous studies using gratitude interventions have often used “hassles” conditions as a comparison group instead of a true control group (Wood et al., 2010). As a result of this practice, it is possible that the findings from these studies have been due to expectancy in change and not the impact of the intervention. Practice effects may have also occurred as a consequence of the repeated measures design wherein participants may have changed systematically during the course of the study. Because participants were asked to complete survey measures at three time points, their responses might have changed accordingly.

Lastly, it is possible that the current study failed to affect participants in any way, and that changes in attitudes were due to external factors. It is plausible that time of year, along with time of semester may have impacted the attitudes of students participating in this study. For example, perhaps the anticipation of spring break impacted participants in a positive way.

Implications for theory. With regard to gratitude theory, the results of this study suggest that the gratitude listing intervention, specific to the work domain, may not be appropriate for the workplace. Because no significant changes were found in this setting, our results imply that gratitude interventions may be more effective when considering one’s life overall rather than one specific aspect of one’s life (e.g., the workplace). Based on McCullough et al.’s (2002) facets of gratitude, it is possible that one’s workplace alone does not facilitate enough intensity, frequency, span, or density of gratitude. Although individuals spend a large portion of their time at work, this time might not be as filled with gratitude-inducing events as much as other activities outside of work. While some events might occur in the workplace that make one feel grateful, these events might not happen as frequently. More importantly for the current study, if a person struggled to report enough items on their gratitude list, dissatisfaction might have

occurred as a result. A previous study by Seligman et al. (2005) reported that participants who continued to consider positive events even when they were no longer participating in the intervention might have increased the lasting effects found from their gratitude intervention. Similarly, perhaps participants in this study continued to think about the aspects of their work and workplace that they do not enjoy.

The results of this study do support a distinct connection between gratitude and job satisfaction. These results imply that gratitude may in fact support increased job satisfaction later, and by increasing gratitude, one can also expect increased job satisfaction. Similarly, gratitude measured at Time 1, was significantly related to organizational commitment at Time 3. These results provide support that gratitude might be an antecedent of many positive attitudes in the workplace.

In addition, gratitude measured at Time 1 was positive in correlation to positive affect and subjective well-being at Time 3. Because affect and well-being have been shown to be meaningful precursors to physical health (Dockray & Steptoe, 2010; Danner, Snowdon, & Friesen, 2001), our results suggest that a person's gratitude might also be a meaningful predictor of health. This may mean that individuals who include gratitude activities into their lives are going to benefit in several positive ways. Moreover, companies that cultivate gratitude in their employees may also be affected by decreased employee turnover and better employee performance.

Implications for practice. In addition to the theoretical contributions of this study, important implications for applied settings may be supported by our results. Based on the results of this study, organizations might investigate other methods for increasing their employee's gratitude, well-being, and work attitudes. The current study suggests that traditional methods of

fostering gratitude, by writing gratitude lists, may not be effective in the workplace. Perhaps other methods, such as creating a culture of gratitude in the workplace may be more effective. Research in working environments has found that positive emotions are contagious among groups of employees (George, 1990). Thus, another effective method for fostering gratitude could be to encourage supervisors to be openly grateful at work. The results of the current study suggest that “forcing” gratitude through gratitude listing activities was ineffective for employees. Learning from this, organizations that want to foster a climate of gratitude might simply encourage small, informal interventions. One example of this could be encouraging grateful contemplation and positive reminiscence by posting recaps of positive experiences that employees have had at work (e.g., funny photos from the company picnic) that may remind employees of what they are grateful for (Wood et al., 2010; Sin & Lyubomirsky, 2009). These kinds of activities might encourage and facilitate gratitude in the workplace more subtly than a gratitude intervention.

Future research. As an extension of this study, future research might examine the effectiveness of gratitude activities and interventions in samples of working professionals who are not students. Similarly, future research should investigate various methodological components of gratitude interventions at work including type of intervention, time spent on the intervention, length of the intervention period, and device used to initiate the intervention. A longitudinal study that incorporates several intervention methods using similar samples may be a successful way to determine the most effective methods for increasing gratitude in the work place.

Based on the recommendation of Wood et al. (2010), future research should include true control conditions within comparison studies of gratitude interventions. By including a true

control condition, future researchers might be able to draw more meaningful conclusions as to how gratitude-inducing activities compare with doing nothing.

Because the results of this study provide support that gratitude is significantly related to well-being, job satisfaction, and organizational commitment at later times, considering the effectiveness of gratitude interventions at work is a meaningful endeavor for future research. Keeping the possibility that this intervention might instigate feelings of job dissatisfaction, future research should investigate the impact of one's job satisfaction as a moderator in the relationship between gratitude intervention and feelings of gratitude. Perhaps only individuals who are already satisfied in their work can benefit from gratitude intervention. Overall, more research is needed to establish the mechanisms whereby gratitude relates to the workplace. Additional moderators that should be considered in future research might include number of hours worked, and years of work experience.

Limitations. Though the present study has a number of strengths, some limitations are also present. First, this study utilized a working student sample, many of whom received credit for their participation in this study. As such, these findings may have limited generalizability to full time employee populations. Also, the gratitude activity might be best implemented using a smartphone application in which the participant could record their list immediately after receiving notification from the researcher. Because the gratitude activity was conducted via e-mail, it was difficult to assure that the participants read the directions and completed surveys at the appropriate intervals and to control for the setting in which their surveys and lists were completed. Lastly, data in this study was collected via self-report measures and it is possible that impression management and self-deception of participants impacted our findings.

Conclusions. While the hypotheses of the current study were not supported by the results, several conclusions can be made. First, future research using gratitude interventions should be conducted to determine the specific components of successful interventions at work. The current study attempted to extend previous research by asking participants to create gratitude lists with a work-specific focus. While gratitude interventions may still be an effective solution for increasing job satisfaction and organizational commitment in the workplace, future research should investigate new strategies for facilitating gratitude at work and this research should include true control comparison groups. Second, the significant correlation between gratitude at Time 1 and other variables at Time 3 suggests that gratitude is an antecedent of work attitudes. These results provide support for the idea that gratitude is, in fact, an important aspect of one's working life and that an individual's gratitude may be predictive of positive future outcomes at work. Finally, the current study provides support for the importance of gratitude in the workplace in addition to the importance of gratitude in general. Gratitude is an important component of well-being and work attitudes, and should be investigated further.

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APPENDIX A: Informed consent



EAST CAROLINA UNIVERSITY

University & Medical Center Institutional Review Board Office
1L-09 Brody Medical Sciences Building • 600 Moye Boulevard • Greenville, NC 27834
Office 252-744-2914 • Fax 252-744-2284 • www.ecu.edu/irb

TO: Martha Baker, BA, Graduate Student, Department of Psychology, ECU
FROM: UMCIRB *KWB*
DATE: October 21, 2010
RE: Expedited Category Research Study
TITLE: "It's Good to Be Grateful: Gratitude Interventions at Work"

UMCIRB #10-0581

This research study has undergone review and approval using expedited review on 10/20/2010. This research study is eligible for review under an expedited category number 7 because it is research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior), or research employing survey, interview, oral history, focus groups, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: some research in this category may be exempt from the HHS regulations for the protection of human subjects 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt. The Chairperson (or designee) deemed this **unfunded** study **no more than minimal risk** requiring a continuing review in **12 months**. Changes to this approved research may not be initiated without UMCIRB review except when necessary to eliminate an apparent immediate hazard to the participant. All unanticipated problems involving risks to participants and others must be promptly reported to the UMCIRB. The investigator must submit a continuing review/closure application to the UMCIRB prior to the date of study expiration. The investigator must adhere to all reporting requirements for this study.

The above referenced research study has been given approval for the period of **10/20/2010** to **10/19/2011**. The approval includes the following items:

- Internal Processing Form (date 10/14/2010)
- Informed consent – Control Group (version date 10/19/2010)
- Informed consent – Intervention Group (version date 10/19/2010)
- Survey Questions (UMCIRB receipt date 10/19/2010)
- UMCIRB COI Disclosure Form (date 10/13/2010)

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

The UMCIRB applies 45 CFR 46, Subparts A-D, to all research reviewed by the UMCIRB regardless of the funding source. 21 CFR 50 and 21 CFR 56 are applied to all research studies under the Food and Drug Administration regulation. The UMCIRB follows applicable International Conference on Harmonisation Good Clinical Practice guidelines.



Informed Consent to Participate in Research

Information to consider before taking part in research that has no more than minimal risk.

Title of Research Study: It's good to be grateful: Gratitude interventions at work

Principal Investigator: Martha Baker, Lisa E. Baranik, PhD.
Institution/Department or Division: Psychology
Address: East Carolina University, Greenville, NC
Telephone #: 252.737.3000

Researchers at East Carolina University (ECU) study problems in society, health problems, environmental problems, behavior problems and the human condition. Our goal is to try to find ways to improve the lives of you and others. To do this, we need the help of volunteers who are willing to take part in research.

Why is this research being done?

The purpose of this research is to study how gratitude affects individuals with jobs. Gratitude is a topic that researchers find to be both important and interesting and this study looks at gratitude in the workplace. The decision to take part in this research is yours to make. By doing this research, we hope to learn more about gratitude, work attitudes, and well-being.

Why am I being invited to take part in this research?

You are being invited to take part in this research because you are a student that is currently employed. If you volunteer to take part in this research, you will be one of about 150 people to do so.

Are there reasons I should not take part in this research?

I understand I should not volunteer for this study if I am under 18 years of age.

What other choices do I have if I do not take part in this research?

You can choose not to participate.

Where is the research going to take place and how long will it last?

The research study will be conducted at East Carolina University. You will need to come to the Rawl building, 3 times during the study. The total amount of time you will be asked to volunteer for this study is 2 hours over the next 5 weeks.

What will I be asked to do?

You are being asked to do the following:
You will be asked to complete a three-part study. You will be asked to complete a survey that includes questions involving job attitudes, gratitude, and well-being. You will be asked to return to take additional surveys two, and four weeks after their initial participation date.

UMCIRB Number: 10-0581

Consent Version # or Date: 10/19/2010
UMCIRB Version 2010.05.01

UMCIRB APPROVED
FROM 10/20/2010
TO 10/19/2011
Participant's Initials

What possible harms or discomforts might I experience if I take part in the research?

It has been determined that the risks associated with this research are no more than what you would experience in everyday life.

What are the possible benefits I may experience from taking part in this research?

We do not know if you will get any benefits by taking part in this study. This research might help us learn more about job satisfaction among college students. Other people who have participated in this type of research have experienced being more aware of their own feelings about gratitude and attitudes towards their jobs. Completing the surveys in this study may also help you consider how frequently you experience happiness or feeling down. By participating in this research study, you may also experience these benefits.

Will I be paid for taking part in this research?

We will not be able to pay you for the time you volunteer while being in this study. If you are asked to download the gratitude application, you will be paid \$1.00 as reimbursement for the application fee. Reimbursement for the application will occur at the time of the study.

If you are enrolled in PSYC 1000, you will receive research participation credit for your participation in this study

What will it cost me to take part in this research?

It will not cost you any money to be part of the research. The sponsor of this research will pay the costs of the gratitude application.

Who will know that I took part in this research and learn personal information about me?

To do this research, ECU and the people and organizations listed below may know that you took part in this research and may see information about you that is normally kept private. With your permission, these people may use your private information to do this research:

- The University & Medical Center Institutional Review Board (UMCIRB) and its staff, who have responsibility for overseeing your welfare during this research, and other ECU staff who oversee this research.

How will you keep the information you collect about me secure? How long will you keep it?

All information collected in this study will be stored in a locked room only accessible by the principal investigator and research advisor. Identifying information will be stored separately from survey responses. Hard copies of data will be kept on file for 5 years. Electronic data files will only be seen by the two researchers involved in this study. The data file will keep individuals' responses confidential (i.e., will not include email addresses or names). If this data is used for pedagogical purposes in the future, all information will be stripped of identifying information.

What if I decide I do not want to continue in this research?

If you decide you no longer want to be in this research after it has already started, you may stop at any time. You will not be penalized or criticized for stopping. You will not lose any benefits that you should normally receive.

Who should I contact if I have questions?

The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator at 304-638-2187 (days, between 9 am and 5 pm).

If you have questions about your rights as someone taking part in research, you may call the UMCIRB Office at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of UMCIRB Office, at 252-744-1971

I have decided I want to take part in this research. What should I do now?

UMCIRB Number: 10-0581

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Consent Version # or Date: 10/19/2010
UMCIRB Version 2010.05.01

UMCIRB
APPROVED
FROM 10/20/2010
TO 10/19/2011

Participant's Initials

Title of Study: It's good to be grateful: Gratitude interventions at work

The person obtaining informed consent will ask you to read the following and if you agree, you should sign this form:

- I have read (or had read to me) all of the above information.
- I have had an opportunity to ask questions about things in this research I did not understand and have received satisfactory answers.
- I know that I can stop taking part in this study at any time.
- By signing this informed consent form, I am not giving up any of my rights.
- I have been given a copy of this consent document, and it is mine to keep.

Participant's Name (PRINT)	Signature	Date
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Person Obtaining Informed Consent: I have conducted the initial informed consent process. I have orally reviewed the contents of the consent document with the person who has signed above, and answered all of the person's questions about the research.

Person Obtaining Consent (PRINT)	Signature	Date
----------------------------------	-----------	------

Principal Investigator (PRINT) (If other than person obtaining informed consent)	Signature	Date
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UMCIRB Number: 10-0581

Consent Version # or Date: 10/19/2010
UMCIRB Version 2010.05.01

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UMCIRB
APPROVED
FROM 10/20/2010
TO 10/19/2011 Participant's Initials



Informed Consent to Participate in Research

Information to consider before taking part in research that has no more than minimal risk.

Title of Research Study: It's good to be grateful: Gratitude Interventions at work

Principal Investigator: Martha Baker, Lisa E. Baranik, PhD.
Institution/Department or Division: Psychology
Address: East Carolina University, Greenville, NC
Telephone #: 252.737.3000

Researchers at East Carolina University (ECU) study problems in society, health problems, environmental problems, behavior problems and the human condition. Our goal is to try to find ways to improve the lives of you and others. To do this, we need the help of volunteers who are willing to take part in research.

Why is this research being done?

The purpose of this research is to study how gratitude affects individuals with jobs. Gratitude is a topic that researchers find to be both important and interesting and this study looks at gratitude in the workplace. The decision to take part in this research is yours to make. By doing this research, we hope to learn more about gratitude, work attitudes, and well-being.

Why am I being invited to take part in this research?

You are being invited to take part in this research because you are a student that is currently employed. If you volunteer to take part in this research, you will be one of about 150 people to do so.

Are there reasons I should not take part in this research?

I understand I should not volunteer for this study if I am under 18 years of age.

What other choices do I have if I do not take part in this research?

You can choose not to participate.

Where is the research going to take place and how long will it last?

The research study will be conducted at East Carolina University. You will need to come to the Rawl building, 3 times during the study. The total amount of time you will be asked to volunteer for this study is 2 hours over the next 5 weeks.

What will I be asked to do?

You are being asked to do the following:
You will be asked to complete a three-part study. You will be asked to complete a survey that includes questions involving job attitudes, gratitude, and well-being. You will also be asked to record four job-specific things that you

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FROM 10/20/2010
TO 10/19/2011

Participant's Initials

Title of Study:

are grateful for, once a week for four weeks. You will be asked to return to take additional surveys two, and four weeks after their initial participation date.

What possible harms or discomforts might I experience if I take part in the research?

It has been determined that the risks associated with this research are no more than what you would experience in everyday life.

What are the possible benefits I may experience from taking part in this research?

We do not know if you will get any benefits by taking part in this study. This research might help us learn more about job satisfaction among college students. Other people who have participated in this type of research have experienced being more aware of their own feelings about gratitude and attitudes towards their jobs. Completing the surveys in this study may also help you consider how frequently you experience happiness or feeling down. By participating in this research study, you may also experience these benefits.

Will I be paid for taking part in this research?

We will not be able to pay you for the time you volunteer while being in this study. If you are asked to download the gratitude application, you will be paid \$1.00 as reimbursement for the application fee. Reimbursement for the application will occur at the time of the study.

If you are enrolled in PSYC 1000, you will receive research participation credit for your participation in this study

What will it cost me to take part in this research?

It will not cost you any money to be part of the research. The sponsor of this research will pay the costs of the gratitude application.

Who will know that I took part in this research and learn personal information about me?

To do this research, ECU and the people and organizations listed below may know that you took part in this research and may see information about you that is normally kept private. With your permission, these people may use your private information to do this research:

- The University & Medical Center Institutional Review Board (UMCIRB) and its staff, who have responsibility for overseeing your welfare during this research, and other ECU staff who oversee this research.

How will you keep the information you collect about me secure? How long will you keep it?

All information collected in this study will be stored in a locked room only accessible by the principal investigator and research advisor. Identifying information will be stored separately from survey responses. Hard copies of data will be kept on file for 5 years. Electronic data files will only be seen by the two researchers involved in this study. The data file will keep individuals' responses confidential (i.e., will not include email addresses or names). If this data is used for pedagogical purposes in the future, all information will be stripped of identifying information.

What if I decide I do not want to continue in this research?

If you decide you no longer want to be in this research after it has already started, you may stop at any time. You will not be penalized or criticized for stopping. You will not lose any benefits that you should normally receive.

Who should I contact if I have questions?

The people conducting this study will be available to answer any questions concerning this research, now or in the future. You may contact the Principal Investigator at 304-638-2187 (days, between 9 am and 5 pm).

If you have questions about your rights as someone taking part in research, you may call the UMCIRB Office at phone number 252-744-2914 (days, 8:00 am-5:00 pm). If you would like to report a complaint or concern about this research study, you may call the Director of UMCIRB Office, at 252-744-1971

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UMCIRB
APPROVED
FROM 10/20/2010
TO 10/19/2011

Participant's Initials

APPENDIX B: Informed consent revision

10-0581

UNIVERSITY AND MEDICAL CENTER INSTITUTIONAL REVIEW BOARD REVISION FORM

UMCIRB #: 10-0581 Date this form was completed: 1-1-11
 Title of research: It's good to be grateful: Gratitude interventions at work
 Principal Investigator: Martha Baker
 Sponsor: Lisa E. Baranik

Fund number for IRB fee collection (applies to all for-profit, private industry or pharmaceutical company sponsored project revisions requiring review by the convened UMCIRB committee). If you are a non-ECU entity payment is required at the time of submission:

Fund	Organization	Account	Program	Activity (optional)
		73059		

Version of the most currently approved protocol: 10-19-2010
 Version of the most currently approved consent document: 10-19-2010

CHECK ALL INSTITUTIONS OR SITES WHERE THIS RESEARCH STUDY WILL BE CONDUCTED:

- | | |
|--|--|
| <input checked="" type="checkbox"/> East Carolina University | <input type="checkbox"/> Beaufort County Hospital |
| <input type="checkbox"/> Pitt County Memorial Hospital, Inc | <input type="checkbox"/> Carteret General Hospital |
| <input type="checkbox"/> Heritage Hospital | <input type="checkbox"/> Boice-Willis Clinic |
| <input checked="" type="checkbox"/> Other Online | |

The following items are being submitted for review and approval:

- Protocol: version or date ~~1-1-2011~~ ←←
 Consent: version or date ~~1-1-2011~~, both Control and Email condition consents (Online consent) dated - 2-8-11 - KK
 Additional material: version or date

Complete the following:

1. Level of IRB review required by sponsor: full expedited
2. Revision effects on risk analysis: increased no change decreased
3. Provide an explanation if there has been a greater than 60 day delay in the submission of this revision to the UMCIRB. n/a
4. Does this revision add any procedures, tests or medications? yes no If yes, describe the additional information:
5. Have participants been locally enrolled in this research study? yes no
6. Will the revision require previously enrolled participants to sign a new consent document? yes no

Briefly describe and provide a rationale for this revision Revisions to the consent documents reflect that participants will no longer be required to come to campus to take the online survey, participants will now be emailed the survey. The survey items remain the same. The iPod/iPhone condition has been discontinued based on a lack of eligible participants (lack of participants with the devices) and participants will be now be randomly assigned to either the control or email condition. In order to increase the number of participants, non-student employees may be asked to participate. The consent to participate in this study will be changed from a signature to an electronic consent, designated by clicking Yes or No to after reading the informed consent.

Martha Baker Martha Baker 2/8/11
 Principal Investigator Signature Print Date

Box for Office Use Only

The above revision has been reviewed by: <input checked="" type="checkbox"/> Full committee review on _____ <input checked="" type="checkbox"/> Expedited review on <u>2/16/2011</u>		
The following action has been taken:		
<input checked="" type="checkbox"/> Approval for period of <u>2/16/2011</u> to <u>10/19/2011</u>		
<input checked="" type="checkbox"/> Approval by expedited review according to category <u>7</u>		
<input type="checkbox"/> See separate correspondence for further required action.		
<u>Michelle Eble</u> Signature	Michelle Eble Print	<u>2/16/2011</u> Date

APPENDIX C: Instructions for participants in gratitude condition

Please enter your email address into the box below. This will be used to connect your responses over time. Your email address will be replaced by an anonymous participant number at the end of the study. If you are a student participating in this study for research credit, you **MUST** enter your ECU email address here in order to get credit for the study.

There are many things in our lives, both large and small that we might be grateful about. Think about over the past week and type four (4) items below that you are grateful for that either occurred at work, or are directly related to your job. Example items might include : "I'm grateful that my boss let me leave work 15 minutes early", or "I'm grateful that my co-workers are also my friends."

What are you using to complete this survey?

- Laptop computer (1)
- Desktop computer (2)
- Smartphone (3)
- Other (4) _____

APPENDIX D: Debriefing information

EXPERIMENT INFORMATION

Thank you for participating in today's experiment. We hope you found the experience to be interesting and we hope that you learned something about how psychology research is conducted.

In this experiment, we are interested in how gratitude affects people at work. Specifically, we are interested in whether or not gratitude lists will affect a person's job attitudes (job satisfaction and organizational commitment). Additionally, we are interested in the differences between people who record their gratitude lists on Smart Phones and those who record their lists on their computers.

Because this is on-going research, we would like to ask for your cooperation in not revealing any details of this study to others (e.g., friends, classmates) who may eventually participate in this study. These details may affect the way they respond in this experiment, which would adversely affect the nature of our study. If someone does ask, you can just tell him or her that you had to complete survey measures on job attitudes.

If you have further questions or would like to obtain a general summary of the results for the study, please contact Martha Baker at bakerm09@students.ecu.edu or Dr. Lisa Baranik at baranikl@ecu.edu.

Thank you for your time and consideration.

APPENDIX E: Survey measures

Please enter your email address into the box below. This will be used to connect your responses over time. Your email address will be replaced by an anonymous participant number at the end of the study. If you are a student participating in this study for research credit, you **MUST** enter your ECU email address here in order to get credit for the study.

Do you consent to participate in this study?

Yes

No

If No Is Selected, Then Skip To End of Survey

This study is looking into students' satisfaction with their jobs. Today you will be doing several things in preparation for a gratitude activity. You will begin by taking several online surveys. Before each set of questions there will be specific instructions. If you feel uncomfortable or wish not to complete the survey you are free to stop at any time, however you will only receive full credit upon completion of the survey. Your responses to this survey are anonymous.

Below are six statements with which you may agree or disagree. Using the scale provided please indicate your agreement with each item.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
I have so much to be thankful for.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I had to list everything that I felt grateful for, it would be a very long list.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I look at the world, I don't see much to be grateful for.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am grateful to a wide variety of people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Long amounts of time can go by before I feel grateful to something	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

or someone.							
-------------	--	--	--	--	--	--	--

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent to which you feel generally feel this way. Use the following scale to record your answers.

	Very slightly or not at all	A little	Moderately	Quite a bit	Extremely
Interested	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Distressed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excited	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Upset	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guilty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hostile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Enthusiastic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proud	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irritable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alert	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ashamed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inspired	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determined	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attentive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Jittery	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Active	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Afraid	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are five statements with which you may agree or disagree. Using the scale provided please indicate your agreement with each item.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
In most ways my life is close to my ideal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The conditions of my life are excellent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
So far I have gotten the important things I want in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I could live my life over, I would change almost nothing.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are six statements with which you may agree or disagree. Using the scale provided please indicate your agreement with each item.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Work like mine discourages me from doing my best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I finish a day's work I almost always feel like I have accomplished something worthwhile.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The kind of work I do has a favorable influence on my overall attitude toward my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy nearly all the things I do in my job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearly all of the work that I do stirs up real enthusiasm on my part.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really don't like the kind of work that I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Below are six statements with which you may agree or disagree. Using the scale provided please indicate your agreement with each item.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I would be very happy to spend the rest of my career with this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really feel as if this organization's problems are my own.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel a strong sense of "belonging" to my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel "emotionally attached" to this organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel like "part of the family" at my organization.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization has a great deal of personal meaning to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How many hours have you worked for pay in the past week (7 days) ?

- Less than 10 hours
- 10 hours
- 20 hours
- 35 hours
- 40 hours
- More than 40 hours

How many years of work experience do you have? (number only)

What is your gender?

- Male
- Female
- Prefer not to respond

What is your current age?

What is the highest level of education you have completed?

- Less than High School
- High School / GED
- Some College
- 2-year College Degree
- 4-year College Degree
- Master's Degree
- Doctoral Degree
- Professional Degree (JD, MD)

How many employees work in your establishment?

- 1-4
- 5-9
- 10-19
- 20-49
- 50-99
- 100-249
- 259-499
- 500-999
- 1000 or more

What is your annual income range?

- Below \$20,000
- \$20,000 - \$29,999
- \$30,000 - \$39,999
- \$40,000 - \$49,999
- \$50,000 - \$59,999
- \$60,000 - \$69,999
- \$70,000 - \$79,000
- \$80,000 - \$89,999
- \$90,000 or more

What is your religion?

- Agnostic/Atheist
- Buddhist
- Catholic
- Hindu
- Jewish
- Protestant
- Other _____

