

Running head: RELIGION AND EMOTION REGULATION

Protestant and Buddhist Differences in Non-influence Strategies of Emotion Regulation and  
Their Links to Depressive Symptoms

Brooke Wilken

American Institute for Behavioral Research and Technology

Yuri Miyamoto

University of Wisconsin-Madison

Correspondence:

Brooke Wilken

1106 2nd Street Suite 206, Leucadia, CA 92024

[bwilken@aibr.org](mailto:bwilken@aibr.org)

Yuri Miyamoto

1202 West Johnson Street, Madison, WI 53706

[ymiyamoto@wisc.edu](mailto:y Miyamoto@wisc.edu)

**© 2019, American Psychological Association. This paper is not the copy of record and may not exactly replicate the final, authoritative version of the article. Please do not copy or cite without authors' permission. The final article will be available, upon publication, via its DOI: 10.1037/emo0000591**

## Abstract

The present research proposes that Buddhist teachings involve a non-influence emotion regulation strategy, an emotion regulation strategy that consists of individuals not influencing their emotions in any way, more so than do Protestant teachings. We examined religious teachings surrounding the strategy, practitioners' use of the strategy, and its links with depression. Further, the nature of this non-influence strategy was explored. Across three studies that employed student, community, and online samples, results showed that in fact Buddhist practitioners were more likely than were Protestant practitioners to report that their religion teaches them to use non-influence strategies of emotion regulation, and that they use non-influence strategies of emotion regulation. Moreover, the use of non-influence emotion regulation strategies was predictive of lower depressive symptoms across both religions (Studies 1 and 2). Additionally, it was found that to practitioners, non-influence strategies of emotion regulation are active, purposeful strategies and, especially to Buddhist practitioners, they involve acceptance of emotions (Study 2). Furthermore, religion was indirectly linked to the behavioral preference for a non-influence strategy through the self-reported general use of a non-influence emotion regulation strategy (Study 3). Implications for research on religion, self-regulation, and mental health are briefly discussed. (194 words)

*Keywords: cultural psychology, religion, emotion regulation, positive psychology, depression*

## Protestant and Buddhist Differences in Non-influence Strategies of Emotion Regulation and Their Links to Depressive Symptoms

While religion in general has been suggested to influence self-regulation (Laurin, 2017; McCullough & Willoughby, 2009), specific religions have also been shown to differ in the values placed on ways to regulate internal aspects of the self (Abramowitz, Deacon, Woods, & Tolin, 2004; Cohen & Rozin, 2001). Religions may thus also differ in the values placed on different ways to regulate *emotions*. In fact, researchers have argued that what individuals experience emotionally, and what they are taught that they should experience emotionally, may be particularly subject to religious influences (Watts, 1996). At the same time, to date, no empirical studies have examined religious differences in emotion regulation, particularly from the perspective of religious practitioners. While religion has been shown to teach individuals what emotions are ideal or desirable (Kim-Prieto & Diener, 2009; Tsai, Koopmann-Holm, Miyazaki, & Ochs, 2013; Tsai, Miao, & Seppala, 2007; Stratton, 1923), it is not yet clear if religious teachings may also encompass *lessons on how individuals should regulate and deal with emotions* in general. Importantly, religion itself is a cultural meaning system (Cohen, 2009; Saroglou & Cohen, 2011) that may include scripts about emotions, and cultural scripts about emotions can guide how individuals actually regulate their emotions (Miyamoto & Ma, 2011). Therefore, it makes sense that religion and religious teachings likewise may affect how individuals regulate their emotions.

Here, we focus on emotion regulation processes through which people try to deal with an existing emotion (Gross, 1998) by either *influencing* (dampening, maintaining, or enhancing) the emotion or *not influencing* the emotion. Although non-influence emotion regulation may seem antithetic to emotion regulation if one equates “regulation” with “influence”, we propose that the

concept of emotion regulation should encompass a broader array of strategies than strategies to directly influence and control emotions. In fact, studies on Buddhist-inspired therapies and interventions have suggested that observing emotions as they are without trying to control or act on them is a form of emotion regulation (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006).

The present paper examines if Protestants and Buddhists differ in the ways in which they regulate their emotions due to divergent views on what their religions teach about emotion regulation. Specifically, Buddhists may view their religion as teaching its practitioners to use *non-influence* strategies of emotion regulation more than Protestants do. As a result, Buddhists may be more likely than Protestants to use *non-influence* strategies to regulate their emotions. This paper also explores what these proposed strategies of emotion regulation involve according to their practitioners, and why their practitioners believe that the two religions teach them these different strategies. Moreover, since research shows that emotion regulation can have important consequences for mental health (Gross & Munoz, 2006), the present investigation examines the implications of these strategies of emotion regulation for depressive symptoms.

### **Religious Differences in Emotion Regulation**

Colossians 3:5 instructs followers: "... Don't let your feelings get out of control." Only a short while later, in Colossians 3:8, they are told: "... You must put away anger, rage, hate and lies...." Such quotes can be found not just in the Bible, but in particular, in the New Testament, the testament most strongly associated with Protestant beliefs. Importantly, the common theme that binds them seems to be a message on how Christians should deal with, or regulate, their emotions. As the quotes indicate, Christians should try to "change" or "control" their emotions. They should try to "get rid" of emotions that are viewed as harmful by putting them "away." These passages seem to inform Christians (and Protestants in particular) that they should try to

control their emotions, or use *influence strategies of emotion regulation*, in the service of God. Some research on religion has provided suggestive evidence that Protestantism teaches individuals to influence or control their mental states. In their seminal studies, Cohen and Rozin (2001) showed that in comparison to Jews, not only do Protestants expect others to exert more control over their mental states, such as thoughts and emotions, but also that they morally judge others when those others are entertaining certain thoughts rather than controlling them. Moreover, Abramowitz et al. (2004) found that highly devoted Protestants reported a greater need to control their thoughts than agnostic or atheist participants did. This value that Protestantism places on controlling mental states is likely to be reflected in how Protestantism teaches individuals to control their own emotions as well.

However, a very different theme seems to run throughout ancient Buddhist sources. Contrary to the Protestant theme of influence, original Buddhist sources seem to imply that in general, phenomena should not be influenced or controlled. For instance, one of the earliest written teachings in Buddhism (the original date is unknown), *Tilopa's Six Words of Advice*, states quite simply: "Don't control" (translated by McLeod, 2007). Even more directly relevant to emotions in particular, an 8<sup>th</sup> century Buddhist master, Padmasambhava, taught: "Disturbing emotions are liberated into their natural state, without any need for reform or remedy." (p. 237, Tsogyal, 1993) In other words, according to his teaching, emotions do not need to be changed in any way, thus advocating for the use of *non-influence strategies of emotion regulation*. Moreover, in Buddhism, individuals seem to be taught to use non-influence strategies of regulation with all emotions, not just certain categories of emotions. Garab Dorje, an ancient Buddhist master, wrote that mental disturbances (i.e., thoughts and emotions) should be "neither repressed nor indulged," and compared them to "the flickering movement of a gold-fish" (p. 258,

translated by Dowman, 2006). Thus, regardless of if an emotion is pleasant and one wants to indulge it, or unpleasant and one wants to repress it, neither should be done, because all emotions will come and go on their own like the flickering movement of a gold fish. Even from these early Buddhist writings, it seems clear that trying to influence emotions of any type (by controlling, reforming, remedying, repressing, or indulging them) is not seen as positively as it is in the New Testament.

Although there is no direct empirical evidence on religious differences in emotion regulation, there is an empirical basis to suggest that Buddhist teachings likely involve non-influence strategies of emotion regulation. Most pertinently, some clinical psychotherapies have incorporated Buddhist practices (i.e., meditation) as an integral part of their therapies. For instance, Dialectical Behavior Therapy involves teaching emotion regulation techniques with the help of Buddhist-inspired mindfulness meditation (Dimeff & Linehan, 2001). Importantly, the emotion regulation techniques taught within these therapies typically involve watching mental events (i.e., thoughts and feelings) as they come and go without reacting to them (Lynch et al., 2006). Such mindfulness strategies are stressed in a wide range of therapies, such as Mindfulness-Based Cognitive Therapy (Teasdale et al., 2000) and Acceptance and Commitment Therapy (Hayes, Strosahl, & Wilson, 1999). Following descriptions given in the Buddhist texts above, these techniques and interventions can be considered non-influence strategies of emotion regulation. Furthermore, building on these Buddhists-inspired therapies, some researchers used experimental paradigms where they directed participants to accept their emotions (e.g., Campbell-Sills, Barlow, Brown, & Hofmann, 2006; Hofmann, Heering, Sawyer, & Asnaani, 2009; Wolgast, Lundh, & Viborg, 2011) or to observe their emotions (e.g., Chapman, Rosenthal, & Leung, 2009), and showed that these strategies often lead to changes in negative emotions and

physiological responses to a stressful task. Such evidence suggests that non-influence strategies derived from Buddhist teaching are a form of emotion regulation that can have an impact on emotions and physiological responses. Thus, in the present research, we empirically tested if Buddhist teachings actually involve non-influence strategies of emotion regulation more so than do Protestant teachings by directly asking Protestants and Buddhists what emotion regulation strategies their respective religions teach, according to their perceptions.

We also examined if religion can affect how its practitioners regulate their emotions (i.e., individual emotion regulation strategies). It is likely that religious practitioners will agree with and be influenced to some extent by their religion's teachings. A growing body of research has demonstrated that cultural differences in norms, beliefs, and ideals for emotions shape how emotions are regulated and experienced (Miyamoto & Ma, 2011; Miyamoto, Ma, & Petermann, 2014; Sims, Tsai, Jiang, Wang, Fung, & Zhang, 2015; Tsai, Miao, Seppala, Fung, & Yeung, 2007). For example, Miyamoto and Ma (2011) have posited that Eastern and Western cultures have different scripts for how positive emotions should be regulated. More importantly, these researchers found that such cultural scripts do guide individual emotion regulation. Although these findings did not examine religious differences, they suggest that perhaps religious teachings about emotion regulation can similarly provide a roadmap or methods that practitioners can use when regulating their emotions, leading to religious differences in the individual usage of non-influence strategies of emotion regulation.

### **Links to Depressive Symptoms**

As important as religious differences in teachings about and the individual use of emotion regulation are, religious differences in the individual use of emotion regulation also may have implications for depressive symptoms. On the one hand, experiencing emotions that are

discrepant from emotions that are culturally ideal can be associated with depression (Chentsova-Dutton et al., 2007; Tsai, Knutson, & Fung, 2006). In other words, using emotion regulation strategies that do not follow cultural norms could be maladaptive, and therefore, they could be associated with depression. Based on this line of reasoning, Buddhists may exhibit less depressive symptoms if they follow their religion's teachings and use non-influence strategies of emotion regulation, whereas depressive symptoms in Protestants may not be as affected by using non-influence strategies of emotion regulation if non-influence is not taught by their religion.

At the same time, Buddhist-inspired therapies that teach individuals not to influence their emotions have been efficacious in treating depression in samples in the West (Teasdale, et al., 2000). In addition, studies that instructed participants to use non-influence strategies have shown that using such strategies can lead to less subjective distress in responding to or recovering from a stressful task (Campbell-Sills et al., 2006; Wolgast et al., 2011). Therefore, it may be that regardless of religion, non-influence strategies of emotion regulation are less maladaptive and associated with less depressive symptoms. We explored both of these possibilities.

### **Current Research**

In the present research, we examined religious differences in teachings of emotion regulation. We predicted that Buddhists are more likely than are Protestants to report that their religions teach non-influence as an emotion regulation strategy. We also examined if such religious teachings are reflected in how practitioners regulate their own emotions. We predicted that Buddhists are more likely than are Protestants to report using non-influence as an emotion regulation strategy. Moreover, it is expected that religion is linked to the individual use of non-influence strategies of emotion regulation through religious teachings. Furthermore, we explored whether the individual use of non-influence strategies of emotion regulation is linked to less

depressive symptoms across both groups or only among Buddhists, whose religion may be more likely to teach non-influence emotion regulation strategies. Additionally, in Study 2, we tried to unpack the nature of non-influence emotion regulation strategies by assessing the reason participants chose non-influence emotion regulation strategies and measuring whether “not influencing” emotions involved accepting them as they are according to their own religions. At the same time, the measures of emotion regulation strategies used in Studies 1 and 2 assessed the habitual use of emotion regulation aggregated across situations, rather than emotion regulation used in a specific given moment. To examine whether religious difference extend to emotion regulation strategies employed in a specific situation, we measured behavioral preferences for a non-influence strategy in a given moment and further explored whether religion and the behavioral preference for a non-influence strategy are indirectly linked through the habitual use of non-influence strategies in Study 3.

The Education and Social/Behavioral Sciences Institutional Review Board at the University of Wisconsin-Madison approved all of the following studies.

### **Study 1**

Study 1 examined differences in religious teachings about how to regulate emotions and in the individual emotion regulation strategies that Protestants and Buddhists use, as well as if the emotion regulation strategies that religions teach their practitioners to use predict the strategies that practitioners use. Moreover, Study 1 investigated whether religious differences in individual emotion regulation strategies have implications for depressive symptoms.

### **Method**

**Participants.** Respondents were recruited by emails to Protestant and Buddhist (or meditation) student organizations, as well as departments in Asian studies, religious studies, and

philosophical studies at top doctoral-granting public research universities throughout the United States. The emails asked individuals to participate in an online study on religion, culture, and emotions in exchange for entry into a lottery for a \$100 Amazon gift card. They were told that the study would take 10 minutes. Because there were no prior studies on religious differences in non-influence emotion regulation, we did not have any estimate of effect size. We aimed to collect 80 to 100 respondents from each religion with a roughly equal number of European American and Asian/Asian American respondents within each religion. However, due to the difficulty of recruiting Buddhist European American respondents over two semesters, our final sample included 88 Protestants (19 males and 69 females; 34 European Americans and 54 Asians/Asian Americans;  $M_{\text{age}} = 21.31$ ,  $SD = 4.59$ ) and 59 Buddhists (22 males and 37 females; 14 European Americans and 45 Asians/Asian Americans;  $M_{\text{age}} = 23.69$ ,  $SD = 7.48$ ). Sensitivity analyses using GPower 3.1 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) showed that a sample size of 147 ( $\alpha = .05$  and correlation among repeated measures = .56) resulted in 90% power for detecting a minimum effect size of Cohen's  $f = 0.21$ .

**Procedure.** The survey was conducted online. After providing consent online, participants responded to the measure of religious teachings about emotion regulation, which was followed by the measure of the individual use of emotion regulation. At the end of the survey, all participants reported their depressive symptoms. Finally, participants reported their gender, age, ethnicity, and religion.

**Measures.** The following measures were included in the questionnaire.

***Religious teachings about emotion regulation.*** The measures of emotion regulation were adopted from Riediger, Schmiedek, Wagner, and Lindenberger (2009) and modified to fit the present research questions. Participants were presented with a list of emotions and instructed to

“imagine that you are feeling each of the following emotions” and to respond for each emotion, “according to my religion, it is desirable to: enhance the emotion, maintain the emotion, dampen the emotion, or not influence the emotion at all.” Participants were allowed to choose only one response option for each emotion.

The list of emotions included a wide range of emotions to examine whether religious influences generalize across emotions. Since individuals in Eastern and Western cultures have been shown to differ in their beliefs or experiences regarding positive and negative emotions (e.g., Miyamoto & Ma, 2011; Sims et al., 2015), high and low positive arousal emotions (Tsai et al., 2006), and interpersonally engaged and disengaged emotions (Kitayama, Mesquita, & Karasawa, 2006), all of these emotion categories were included in the present research, resulting in 8 emotion categories: high arousal positive (e.g., excited), high arousal negative (e.g., nervous), low arousal positive (e.g., calm), low arousal negative (e.g., dull), engaged positive (e.g., respect), engaged negative (e.g., guilty), disengaged positive (e.g., proud), and disengaged negative (e.g., angry) emotions. (See Table 1 for a list of all of the emotions.)

***Individual emotion regulation.*** The measure for the individual use of emotion regulation was identical to the measure for the religious teachings about emotion regulation except for a slight modification in the instructions; the phrase “according to my religion, it is desirable to” was changed to “I would typically try to.”

***Depressive symptoms.*** We employed the Center for Epidemiologic Studies Depression Scale (i.e., CES-D; Radloff, 1977), which asked respondents to report the frequency of depressive symptoms (e.g., “I felt depressed”) over the past week on a 4-point rating scale ranging from “rarely or none of the time” to “most or all of the time”.

## **Results**

**Calculating the emotion regulation measures.** The number of times that participants chose the option for a non-influence strategy of emotion regulation (i.e., “not influence the emotion at all”) was totaled for each of the eight emotion categories. If participants chose one of the other options (i.e., enhance, maintain, or dampen the emotion), this was considered to be an influence strategy of emotion regulation, which was the exact inverse of choosing a non-influence strategy of emotion regulation. We focused on and used the number of non-influence emotion regulation strategies for the analyses. Thus, a high score of the non-influencing strategies measure means more non-influencing (and less influencing) strategies. The non-influencing strategy measure for each of the eight emotion categories ranged from 0 to 3.

**Religious teachings about emotion regulation.** The emotion regulation measures for religious teachings were submitted to a 2 (religion) by 2 (ethnicity)<sup>1</sup> by 8 (emotion category) mixed design ANOVA. First, there was the hypothesized main effect of religion on non-influence strategies of emotion regulation,  $F(1, 143) = 9.75, p = .002, \text{partial } \eta^2 = .06$ . As predicted, Buddhists reported that their religion taught them to use non-influence strategies of emotion regulation on more emotions ( $M = 0.84, SE = 0.07$ ) than did Protestants ( $M = 0.46, SE = 0.10$ ). In addition, there was a significant main effect of emotion,  $F(7, 1001) = 14.99, p < .001, \text{partial } \eta^2 = .10$ . Individuals reported that their religion teaches them to use non-influence emotion regulation strategies more with some emotions than with others with low arousal negative emotions being the most taught ( $M = 1.19, SE = 0.11$ ) and low arousal positive emotions being the least taught ( $M = 0.33, SE = 0.07$ ).

There was a significant two-way interaction between religion and emotion,  $F(7, 1001) = 3.78, p < .001, \text{partial } \eta^2 = .03$ , which was further qualified by a significant 3-way interaction with ethnicity,  $F(7, 1001) = 2.26, p = .03, \text{partial } \eta^2 = .02$ . In order to interpret these interactions,

follow-up 2 (religion) x 2 (ethnicity) ANOVAs were conducted for each emotion category separately. To correct for family-wise error, we applied Bonferroni corrections (corrected  $\alpha = .006$ ) for all follow-up analyses used in this paper. First, there were significant main effects of religion for three of the eight emotion categories (i.e., high arousal positive emotions, engaged positive emotions, and engaged negative emotions),  $p$ s  $<$  or  $= .001$ , and partial  $\eta^2$ s = .12, .12, and .08, respectively, with Buddhists reporting that their religion teaches them to use non-influence emotion regulation strategies more than did Protestants. Though the pattern was in the same direction, the religious differences were not significant for the other five emotion categories. These results are illustrated in Figure 1-A. In addition, there was a significant interaction between religion and ethnicity for engaged positive emotions,  $F(1, 143) = 7.93, p = .0055$ , partial  $\eta^2 = .05$ ; for engaged positive emotions, religious differences were larger among European Americans,  $t(46) = 4.29, p < .001, d = 1.22$ , than among Asian/Asian Americans,  $t(97) = 1.56, p = .12, d = 0.31$ . However, such an interaction was not found for the other emotions.

**Individual emotion regulation.** Also depicted in Figure 1-A, a 2 (religion) by 2 (ethnicity) by 8 (emotion category) repeated-measures ANOVA was conducted on the measures for the individual regulation of emotions. As in the results for the religious teachings, Buddhists reported that their own strategy of emotion regulation was non-influence more ( $M = 0.60, SE = 0.10$ ) than did Protestants ( $M = 0.33, SE = 0.07$ ),  $F(1, 143) = 5.29, p = .02$ , partial  $\eta^2 = .04$ . As in the results for the religious teachings, there was a main effect of emotion,  $F(7, 1001) = 8.59, p < .001$ , partial  $\eta^2 = .06$ . Individuals reported using non-influence with some emotions more than they did with others with low arousal negative emotions being the emotion with which it was most used ( $M = 0.70, SE = 0.09$ ) and low arousal positive emotions being the emotion with which it was the least used ( $M = 0.20, SE = 0.05$ ). Unlike in the results for the religious

teachings, there was no interaction between religion and emotion,  $F(7, 1001) = 0.004, p = .95$ , partial  $\eta^2 < .01$ . No effects involving ethnicity were significant,  $p > .12$

**Religion → religious teachings → individual emotion regulation.** To test if religion is linked to the individual use of non-influence emotion regulation strategies through religious teachings about non-influence strategies of emotion regulation, a Hayes (2013) bootstrap analysis was conducted (Model 4). In order to conduct such an analysis, the number of non-influencing strategies for the eight emotion categories was summed for both the religious teachings about emotion regulation and the individual emotion regulation variables to create two overall non-influence emotion regulation strategy measures. As predicted, 5000 samples for bias-corrected confidence intervals showed that religion was linked to the individual use of non-influence emotion regulation strategies through religious teachings of non-influence emotion regulation (95% CI [0.43, 3.28]).

**Links to depressive symptoms.** Finally, to investigate the association between religious differences in individual non-influence strategies of emotion regulation and depression across ethnicities, religion (1 = Protestants, 2 = Buddhists), ethnicity (1 = European Americans, 2 = Asians/Asian Americans), and the overall measure for individual non-influence strategies of emotion regulation were entered as predictors of overall CESD scores in the first step of a regression model. Then, all possible interactions between these three variables were entered into the second step. Results showed that the overall measure for individual non-influence strategies of emotion regulation negatively predicted depression,  $\beta = -.23, t(143) = -2.75, p = .007$ .<sup>2</sup> No other significant effects emerged, all  $ps > .37$ .

## **Discussion**

As predicted, Buddhists reported that their religion teaches them to use non-influence strategies of emotion regulation for more emotions than did Protestants. In addition, the same pattern was found across emotions, although it is important to note that the difference was smaller in some emotions than in the others. Buddhists also reported that they use non-influence strategies of emotion regulation for more emotions than did Protestants. Study 1 also found that religion was linked to the individual use of non-influence emotion regulation strategies through religious teachings of non-influence emotion regulation; Buddhists reported that their religion teaches its practitioners to use non-influence strategies of emotion regulation with more emotions than did Protestants, and individuals who reported that their religion teaches its practitioners to use non-influence strategies of emotion regulation tended to report using such strategies on significantly more emotions.

These results also showed that using non-influence strategies of emotion regulation predicted less depressive symptoms among both Protestants and Buddhists. Such findings are in line with previous research that has found that therapies which teach individuals not to influence emotions are efficacious even in samples of depressed patients in the West (Teasdale et al., 2000), and suggest that regardless of religion, non-influence strategies of emotion regulation are associated with better mental health.

## **Study 2**

In Study 2, we attempted to replicate the findings of Study 1 with a community sample of practitioners. Further, in Study 2, we explored what non-influencing strategies of emotion regulation entail for practitioners. Despite the supporting evidence from Study 1, it still is not clear exactly what non-influence strategies of emotion regulation involve. Some might argue that not influencing emotions only occurs when individuals do not know what to do with their

emotions, or when individuals think that they cannot control their emotions and are giving up on influencing their emotions.

In other words, it could be that a non-influence response was being used by participants as an “other” or “junk” category instead of as an option for an active and purposeful emotion regulation strategy. Therefore, in Study 2, we directly asked participants if, when they were choosing the option to “not influence [their emotions] at all,” they were: 1) unsure of what to do with their emotions, or 2) giving up on influencing their emotions. Specifically, it was predicted that on average, participants would have low scores on both of these types of questions. In other words, it was expected that participants would report that when they are choosing the option to “not influence” their emotions, they know what to do with their emotions and they are not just confused or giving up on regulating them.

If non-influence strategies of emotion regulation are not passive strategies or strategies used out of confusion, then it may not be clear exactly what they involve. We reasoned that non-influence strategies of emotion regulation involve accepting emotions as they are for Buddhists, when they occur. In fact, much research on clinical therapies involving Buddhist practices directly emphasizes acceptance of emotions as a key component of treatment (e.g., Acceptance and Commitment Therapy; Hayes et al., 1999). To determine whether or not non-influence strategies of emotion regulation involve accepting emotions in each religion, in the present research, individuals were directly asked if this is the case. We predicted that Buddhists would be more likely than Protestants to think that non-influence strategies of emotion regulation involve acceptance of emotions as they are. Therefore, Protestants and Buddhists may have different definitions for what “non-influencing” involves.

Further, if non-influence strategies are active strategies emphasized in Buddhism, such non-influence strategies may be believed to lead to happiness in Buddhist teachings. In fact, Buddhist texts do emphasize that nirvana, the ultimate happiness, involves being completely at peace with reality as it is without trying to alter or influence it (Majjhima Nikaya 2-Att. 4.68). In this area of the text, the Buddha himself says, “Praise and blame, gain and loss, pleasure and sorrow come and go like the wind. To be happy, rest like a great tree in the midst of them all.” In other words, happiness may lie in resting with, or not influencing, pleasure, sorrow, and other emotions. However, non-influence does not seem to play as central of a role in determining happiness in the New Testament as it does in Buddhist texts. Therefore, we predicted that non-influence strategies are considered to lead to more happiness in Buddhism than they are in Protestantism.

Additionally, in Study 1, answering the questions about religious teachings before answering the questions about the individual use of non-influence emotion regulation strategies could possibly have led respondents to conform to their religion’s teachings. Such cognitive dissonance could further have caused participants to report similar responses to both types of measures. In fact, the measure examining religious teachings about non-influence strategies of emotion regulation and the measure examining the individual use of non-influence strategies of emotion regulation were highly correlated in Study 1,  $r(182) = .61, p < .001$ . In hopes of partially address this issue, in Study 2, the measures of religious teachings and individual use were counterbalanced.

## **Method**

**Participants.** We recruited Buddhist and Protestant non-student practitioners in the local community in Wisconsin. The number of Buddhists respondents was determined based on the

availability of Buddhists practitioners. We matched the number of Protestants with the number of Buddhist respondents we were able to recruit. Our final sample of Buddhists included 36 respondents (18 males, 17 females, and 1 unknown; 30 European Americans, 2 Asian/Asian Americans, and 4 others;  $M_{age} = 51.18$ ,  $SD = 11.75$ ) from Buddhist temples, sanghas, places of worship, and meditation groups. On average, the Buddhists reported that they had been Buddhist for 13.26 years ( $SD = 13.40$ ). They also reported currently attending some form of worship 2.47 times per week ( $SD = 2.14$ ) and practicing some form of religious activity (i.e., meditation, reading texts) 5.81 times per week ( $SD = 2.52$ ). Thirty-six Protestants (14 males, 21 females, and 1 unknown; 29 European Americans, 4 Asians/Asian Americans, 2 others, and 1 unknown;  $M_{age} = 52.66$ ,  $SD = 17.18$ ) were recruited at Protestant churches and Bible groups. The Protestants reported coming from five different denominations (i.e., Evangelical, Lutheran, Methodist, Presbyterian, and Unitarian). On average, Protestants reported having been Protestants for 43.29 years ( $SD = 22.09$ ). They also reported currently attending some kind of religious gathering 1.84 times a week ( $SD = 1.40$ ) and doing some sort of religious practice (e.g., reading the Bible, praying) 5.47 times per week ( $SD = 3.15$ ). A sensitivity analysis using GPower 3.1 (Faul et al., 2009; Faul et al., 2007) indicated that a sample size of 72 ( $\alpha = .05$  and correlation among repeated measures = .63) resulted in 90% power for detecting a minimum effect size of Cohen's  $f = 0.32$ .

**Procedure.** At the places of worship/meditation groups, researchers explained to potential participants that they would be handing out a voluntary 15-30 minute questionnaire about how religion could affect the ways in which people regulated their emotions, and what consequences that could have for mental health. If participants wanted to complete the survey, they were first handed a consent form to fill out. After providing their written consent, the

researchers handed them one of two versions of the survey, which counterbalanced the order of the religion's teachings regarding emotion regulation strategies and the individual use of emotion regulation strategies. Additional questions regarding reasons for choosing "not influence" and religious beliefs about happiness were then asked. At the end of the survey, all participants filled out the CESD and a demographics page in which they were asked to report their gender, age, ethnicity, religion, level of education, and answer questions about their religious practices (which have been reported in the Participants section above).

**Measures.** The content of the emotion regulation measures were identical to Study 1 except for the order and minor changes in instruction (e.g., "Imagine that you are feeling each of the following emotions *very strongly*"). Additional measures included in Study 2 are listed below. The following measures were assessed with a 7 point Likert scale in which 1 = "Strongly disagree" and 7 = "Strongly agree."

**Uncertainty.** Four items asked whether individuals do not influence their emotions because they do not know what to do with them (e.g., "When I do not influence my emotions, it is mostly because I do not know what to do with my emotions"; "When I do not influence my emotions, it is mostly because I am uncertain if I should enhance, maintain, or dampen my emotions";  $\alpha = .83$ ).

**Uncontrollability.** Four items examined whether individuals chose the option of "not influencing" their emotions because they gave up on enhancing, maintaining, or dampening them (e.g., "When I do not influence my emotions, it is mostly because I believe that I could not influence my emotions even if I tried"; "When I do not influence my emotions, it is mostly because I am giving up, giving in, or being defeated by my emotions";  $\alpha = .83$ ).

**Acceptance.** All participants received four items on whether “not influencing” emotions involved accepting them (e.g., “Not influencing emotions at all often means accepting emotions as they are”; “Not enhancing, maintaining, or dampening emotions often means accepting emotions as they are”;  $\alpha = .66$ ). All participants were given the instructions: “To what extent do you think your religion would agree with the following statements?”

**Religious beliefs about happiness.** Participants were asked: “To what extent do you think your religion would agree with the following statements?” Eight statements referring to whether or not non-influence strategies of emotion regulation would bring individuals the most happiness were listed (e.g., “Happiness will result from not influencing emotions at all”; “Enhancing, maintaining, and dampening emotions will lead to happiness” [reverse-coded item];  $\alpha = .86$ ).

## Results

Note that degrees of freedom throughout all of the analyses for Study 2 differ due to missing data. Also, given the small number of Asians/Asian Americans per cell in Study 2, no effects of ethnicity could be examined.

**Calculating the emotion regulation measures.** The measures for religious teachings about non-influence strategies of emotion regulation and the individual use of non-influence strategies of emotion regulation were calculated just as they were in Study 1.

**Religious teachings about emotion regulation.** A 2 (religion) x 8 (emotion category) mixed ANOVA was conducted on the number of emotions for which individuals reported that their religion teaches them to use non-influence strategies of emotion regulation, in order to determine if there were any religious differences in teachings about using non-influence strategies of emotion regulation. In replication of Study 1, a significant main effect of religion emerged,  $F(1, 70) = 38.66, p < .001, \text{partial } \eta^2 = .36$ , with Buddhists reporting that their religion

teaches them to use non-influence strategies of emotion regulation on more emotions ( $M = 1.96$ ,  $SE = 0.16$ ) than did Protestants ( $M = 0.58$ ,  $SE = 0.16$ ). There was once again a significant main effect of emotion,  $F(7, 490) = 14.15$ ,  $p < .001$ , partial  $\eta^2 = .17$ , with low arousal negative emotions being the emotions on which practitioners were taught to use non-influence strategies the most ( $M = 1.85$ ,  $SE = 0.13$ ) and low arousal positive emotions being the emotions on which practitioners were taught to use non-influence strategies the least ( $M = 0.93$ ,  $SE = 0.12$ ).

In addition, there was a significant religion by emotion interaction,  $F(7, 490) = 2.12$ ,  $p = .04$ , partial  $\eta^2 = .03$ . Although Buddhists reported that their religion teaches them to use non-influence strategies on significantly more emotions than did Protestants for all emotion types, differences were largest in high arousal negative emotions,  $t(70) = 6.01$ ,  $p < .001$ ,  $d = 1.45$ , and smallest in low arousal negative emotions,  $t(70) = 3.43$ ,  $p = .001$ ,  $d = 0.81$ . The results are depicted in Figure 1-B.

**Individual emotion regulation.** Another 2 (religion) x 8 (emotion category) mixed ANOVA was conducted on the reported individual use of non-influence strategies of emotion regulation. The results were essentially the same. Once again, a significant main effect of religion was observed,  $F(1, 70) = 26.72$ ,  $p < .001$ , partial  $\eta^2 = .28$ . Buddhists reported using non-influence as an emotion regulation strategy on significantly more emotions ( $M = 1.21$ ,  $SE = 0.13$ ) than did Protestants ( $M = 0.26$ ,  $SE = 0.13$ ), thus replicating findings from Study 1. There was a main effect of emotion,  $F(7, 490) = 7.30$ ,  $p < .001$ , partial  $\eta^2 = .09$ , with low arousal negative emotions being the emotions on which non-influence strategies were used the most ( $M = 1.15$ ,  $SE = 0.13$ ) and high arousal negative emotions being the emotions on which non-influence strategies were used the least ( $M = 0.44$ ,  $SE = 0.11$ ).

Additionally, a significant religion by emotion interaction emerged,  $F(7, 490) = 2.39, p = .02$ , partial  $\eta^2 = .03$ . Follow-up independent samples t-tests (Bonferroni corrected  $\alpha = .006$ ) suggested that although Buddhists reported that they used non-influence strategies of emotion regulation on significantly more emotions than Protestants for all emotion types, religious differences were largest in high arousal positive emotions,  $t(70) = 5.86, p < .001, d = 1.52$ , and smallest in disengaged positive emotions,  $t(70) = 3.16, p = .002, d = 0.78$ . The results are depicted in Figure 1-B.

**Order effects.** To examine potential effects of the order, a 2 (religion) x 8 (emotion category) x 2 (order) mixed ANOVA was conducted with either religious teachings about emotion regulation or individual emotion regulation as the dependent measure. There was no main effect of order or the order x religion interaction on either measure,  $ps > .26$ , all partial  $\eta^2$ s  $< .03$ , partially addressing the concern that reporting religious teaching before reporting individual emotion regulation contributed to the religious differences in the latter in Study 1.

**Religion → religious teachings → individual emotion regulation.** To replicate the findings in Study 1 in which religion was linked to the individual use of non-influence strategies of emotion regulation through religious teachings about non-influence strategies of emotion regulation, Hayes' (2013) bootstrapping procedure (5000 resamples; Model 4) was conducted. As in Study 1, religion was linked to the individual use of non-influence emotion regulation strategies through religious teachings (95% CI [.23, .83]).

**Links to depressive symptoms.** Additionally, religion (1 = Protestants, 2 = Buddhists) and the overall measure for the individual use of non-influence strategies of emotion regulation were entered as predictors of CESD scores in the first step of a regression model to investigate whether religion and the individual use of non-influence strategies predict depression. Then, the

interaction between these two variables was entered into the second step. Results showed that the overall measure for the individual use of non-influence strategies negatively predicted depression,  $\beta = -.32$ ,  $t(68) = 2.30$ ,  $p = .024$ . Replicating Study 1, the more individuals reported regulating their emotions using non-influence strategies, the less depressive symptoms they reported.<sup>3</sup> However, there was no interaction between religion and the individual use of non-influence strategies,  $\beta = -.57$ ,  $t(67) = 0.64$ ,  $p = .53$ .

**Uncertainty.** All of the results for the additional measures are illustrated in Figure 2. To examine if individuals were choosing the option of “not influencing” their emotions at all because they did not know whether to enhance, maintain, or dampen them, a one-sample t-test was conducted on the uncertainty measure. As expected, responses were below the midpoint of the scale (i.e., 4),  $t(71) = 5.76$ ,  $p < .001$ ,  $d = 0.68$ . There were no religious differences on this measure;  $M = 2.92$ ,  $SD = 1.67$  for Buddhists and  $M = 3.04$ ,  $SD = 1.34$  for Protestants,  $t(70) = 0.35$ ,  $p = .73$ ,  $d = 0.08$ .

**Uncontrollability.** Additionally, in Study 1, it could be that individuals chose the option to “not influence” their emotions because they were giving up on their emotions. However, again, the average responses were below the midpoint (i.e., 4) of the scale,  $t(71) = 6.45$ ,  $p < .001$ ,  $d = 0.76$ . An independent samples t-test demonstrated no significant differences between the two religions on the uncontrollability measure;  $M = 2.92$ ,  $SD = 1.77$  for Buddhists and  $M = 2.74$ ,  $SD = 1.28$  for Protestants,  $t(70) = 0.51$ ,  $p = .61$ ,  $d = 0.12$ .

**Acceptance.** To determine if “not influencing” emotions involves accepting them more in Buddhism than it does in Protestantism, an independent samples t-test was conducted on the acceptance measure, with religion as the independent variable. As predicted, there were significant differences on this measure,  $t(69) = 2.94$ ,  $p = .005$ ,  $d = 0.70$ , with Buddhists ( $M =$

5.49,  $SD = 1.30$ ) reporting more than Protestants ( $M = 4.65$ ,  $SD = 1.10$ ) that “not influencing” emotions involves accepting them in their religion.<sup>4</sup>

**Religious beliefs about happiness.** Supporting the hypothesis, Buddhists ( $M = 4.74$ ,  $SD = 1.35$ ) were significantly more likely than were Protestants ( $M = 3.33$ ,  $SD = 0.91$ ) to report that their religion believed that non-influence emotion regulation strategies would lead them to the most happiness,  $t(70) = 5.19$ ,  $p < .001$ ,  $d = 1.25$ . Thus, from practitioners’ perspectives, their religions may encourage them to use emotion regulation strategies that the religions believe will lead them to the most happiness.

## **Discussion**

Study 2 replicated the findings from Study 1 on religious differences in teachings about, and the individual use of, non-influence strategies of emotion regulation, as well as the indirect links between religion and individual emotion regulation through religious teachings. Study 2 also replicated the findings in Study 1 on how the individual use of non-influence strategies of emotion regulation is predictive of less depressive symptoms. Thus, the findings of Study 1 based on college students are replicated in Study 2 with a community sample.

In addition, Study 2 also extended Study 1 in several important ways. Most importantly, Study 2 asked questions to determine exactly what non-influence strategies of emotion regulation involve. Specifically, Study 2 examined if individuals chose the option to “not influence” their emotions on the emotion regulation measures because they did not know what to do with their emotions (i.e., whether to enhance, maintain, or dampen them), or because they were giving up on regulating them. As expected, participants reported that they did not choose this option for either of these reasons. In fact, the average reports were below the midpoint on both scales, and there were no differences between religions. Such findings suggest that the option of “not

influencing” was not just an “other” or “junk” response category for participants. Individuals who chose the “not influencing” option did not do so out of confusion or a sense of passively giving in to their emotions, suggesting that instead, non-influence strategies of emotion regulation are active, purposeful strategies. However, Buddhists rated their religion as believing that “not influencing” emotions involved accepting them as they are more than did Protestants. Furthermore, Study 2 also showed that Buddhists were more likely than Protestants to report that their religion agreed that not influencing emotions will lead to the most happiness.

Finally, the findings from Study 1 could have possibly been the result of an order effect. Specifically, in Study 1, all participants received the measures for religious teachings about how to regulate emotions before they received the measures for which emotion regulation strategies they used. It could have been that individuals reported religious differences in the individual use of non-influence strategies of emotion regulation in order to conform to their religion’s teachings about using non-influence strategies of emotion regulation, particularly because individuals may desire to be in line with their religion’s teachings. Therefore, in Study 2, the order of these different measures of emotion regulation was counterbalanced. Importantly, order effects were not found on either of these dependent variables, indicating that the findings in Study 1 were not likely due to order effects.

### **Study 3**

In both Studies 1 and 2, we found religious differences in the individual use of emotion regulation by using a global measure of habitual emotion regulation. Global assessments of emotion that are aggregated over time, compared to online (in-the-moment) assessments of emotion, tend to be guided by beliefs about emotions (Robinson & Clore, 2002). It is thus possible that religious beliefs about emotion regulation are more likely to guide global

assessments of emotion regulation than to guide how people prefer to regulate their emotions in a specific moment. To address this possibility, in Study 3, we examined whether Buddhists are more likely than Protestants are to prefer to use a non-influence strategy in a given moment. We also explored whether the individual use of non-influence strategies mediates the link between religion and the preference for a non-influence strategy.

## **Method**

**Participants.** Using GPower 3.1 (Faul et al., 2009; Faul et al., 2007) with power = 0.9, a power analysis based on the estimates of religious differences in the individual emotion regulation in Study 1 (partial  $\eta^2 = .036$ , correlation among repeated measures = .56) suggested 176 participants, whereas a power analysis based on the estimates of Study 2 (partial  $\eta^2 = .22$ , correlation among repeated measures = .63) suggested 28 participants. We took the average of the two and aimed to collect 102 participants in total, with 51 participants in each group. Fifty-one Protestants (20 males, 31 females; 46 European Americans, 2 Asians/Asian Americans, and 3 individuals of another ethnicity;  $M_{\text{age}} = 53.61$ ,  $SD = 13.96$ ) and 52 Buddhists (20 males, 32 females; 27 European Americans, 22 Asians/Asian Americans, and 3 individuals of another ethnicity;  $M_{\text{age}} = 50.60$ ,  $SD = 16.54$ ) were recruited by Qualtrics Research services and completed the survey. Whereas Protestants reported having been Protestants for 52.14 years ( $SD = 15.73$ ), Buddhists reported having been Buddhists for 32.05 years ( $SD = 22.57$ ).

**Procedure.** Participants read a consent form online and proceeded to the next page when they agree to participate. Following the procedures of prior studies on emotion regulation where participants were asked to recall an interpersonal situation in which they felt anger and hostility (Ayduk, Mischel, & Downey, 2002; Grossmann & Ethan, 2010), we asked participants to recall and briefly describe such a situation, and then to rate their emotions in the situation on a 5-point

rating scale as a manipulation check (i.e., angry, hostile, calm, and relaxed;  $\alpha = .73$ ).

Subsequently, they were told that they would be asked to think back to the situation that they wrote about and to come up with mental strategies to deal with the emotions. They were asked to rate the degree to which they would prefer, if they could choose, to write about ways to (i) enhance, (ii) maintain, (iii) dampen, and (iv) not influence the anger that they felt on a 5-point rating scale (1 = *not at all prefer* to 5 = *prefer very much*). On the next page, to be in line with the cover story, participants were told to write about ways to deal with the anger using any mental strategies. Participants then completed the measures of religious teachings about emotion regulation and individual emotion regulation (counterbalanced) used in Studies 1 and 2. In addition, all participants responded to demographics questions in which they were asked to report their gender, age, ethnicity, religion, and level of education.

## Results

**Manipulation check.** On average, both Protestants ( $M = 4.05$ ,  $SD = 0.66$ ) and Buddhists ( $M = 3.95$ ,  $SD = 0.80$ ) reported feeling quite angry in the situation and there were no religious differences,  $t(101) = .70$ ,  $p = .48$ ,  $d = 0.14$ . The overall average ( $M = 4.00$ ,  $SD = 0.73$ ) was higher than the midpoint of the scale (i.e., 3),  $t(102) = 13.81$ ,  $p < .001$ ,  $d = 1.36$ .

**Preferences for emotion regulation strategies.** To be in line with our other measures of emotion regulation that assessed the teaching about or use of non-influence strategies over influence strategies, the mean rating of preferences for influence strategies was subtracted from the mean rating of preferences for non-influence strategies to obtain the measure of preferences for a non-influence strategies (over influence strategies) in the moment. The preference for a non-influence strategy did not differ across religions,  $t(101) = 1.04$ ,  $p = .30$ ,  $d = 0.21$ , though the

direction of the means was in the predicted direction ( $M = 0.64$ ,  $SD = 1.41$  for Buddhists;  $M = 0.37$ ,  $SD = 1.14$  for Protestants).

**Religious teachings about emotion regulation.** A 2 (religion) x 8 (emotion category) mixed ANOVA was conducted on religious teachings about non-influence strategies of emotion regulation. Replicating Studies 1 and 2, we obtained a significant main effect of religion,  $F(1, 101) = 7.87$ ,  $p = .006$ , partial  $\eta^2 = .07$ , with Buddhists reporting that their religion teaches them to use non-influence strategies on more emotions ( $M = 0.99$ ,  $SE = 0.07$ ) than did Protestants ( $M = 0.69$ ,  $SE = 0.08$ ). Consistent with Studies 1 and 2, there was a main effect of emotion,  $F(7, 707) = 32.08$ ,  $p < .001$ , partial  $\eta^2 = .24$ , with low arousal negative emotions being the emotions on which practitioners were taught to use non-influence strategies the most ( $M = 1.38$ ,  $SE = 0.08$ ) and low arousal positive emotions being the emotions on which practitioners were taught to use non-influence strategies the least ( $M = 0.35$ ,  $SE = 0.07$ ). There was also a religion by emotion interaction,  $F(7, 707) = 3.26$ ,  $p = .002$ , partial  $\eta^2 = .03$ . Follow-up independent samples t-tests (Bonferroni corrected  $\alpha = .006$ ) suggested that, although Buddhists were generally more likely than Protestants to report that their religion teaches them to use non-influence strategies, religious differences were significant for only two emotion categories: high arousal negative emotions,  $t(101) = 3.59$ ,  $p = .001$ ,  $d = 0.71$ , and engaging positive emotions,  $t(101) = 2.98$ ,  $p = .004$ ,  $d = 0.59$ . The results are depicted in Figure 1-C.

**Individual emotion regulation.** A 2 (religion) x 8 (emotion category) mixed ANOVA was conducted on the individual use of non-influence strategies of emotion regulation. Buddhists reported using a non-influence strategy on more emotions ( $M = 0.75$ ,  $SE = 0.10$ ) than did Protestants ( $M = 0.50$ ,  $SE = 0.10$ ), although the main effect of religion was not significant,  $F(1, 101) = 2.92$ ,  $p = .09$ , partial  $\eta^2 = .03$ . Again, there was a main effect of emotion,  $F(7, 707) =$

13.20,  $p < .001$ , partial  $\eta^2 = .17$ , with low arousal negative emotions being the emotions on which non-influence strategies were used the most ( $M = 1.02$ ,  $SE = 0.10$ ) and low arousal positive emotions being the emotions on which non-influence strategies were used the least ( $M = 0.30$ ,  $SE = 0.08$ ). There was also a religion by emotion interaction,  $F(7, 707) = 3.28$ ,  $p = .002$ , partial  $\eta^2 = .03$ . Although means were generally higher for Buddhists than for Protestants across the emotion categories, follow-up independent samples t-tests (Bonferroni corrected  $\alpha = .006$ ) yielded significant religious differences only for engaged negative emotions,  $t(101) = 3.06$ ,  $p = .003$ ,  $d = 0.61$ . The results are depicted in Figure 1-C.

**Order effects.** To examine effects of the order, a 2 (religion) x 8 (emotion category) x 2 (order) mixed ANOVA was conducted with either religious teachings about emotion regulation or individual emotion regulation as the dependent measure. Consistent with Study 2, there was no main effect of order or the order x religion interaction on either measure, all  $ps > .71$ , all partial  $\eta^2s < .002$ .

**Religion → religious teachings → individual emotion regulation.** Replicating Studies 1 and 2, the bootstrapping procedure (with 5000 resamples; Model 4) yielded a significant indirect link between religion and the individual usage of non-influence emotion regulation strategies through religious teachings (95% CI [.09, .56]).

**Religion → individual emotion regulation → preferences for emotion regulation.** We tested whether religion is indirectly linked to the preference for a non-influence strategy through the individual use of non-influence strategies. Because the preference for a non-influence strategy was measured in response to a negative event, the regulation of negative emotions is likely to be more relevant than the regulation of positive emotions. We thus analyzed the individual regulation of negative emotions separately from the individual regulation of positive

emotions and tested both as potential mediators in the same model. Results of the bootstrapping procedure (with 5000 resamples) assessing indirect effects in multiple mediator models (Preacher & Hayes, 2008) suggested that an indirect link between religion and the preference for a non-influence strategy through the individual regulation of negative emotions was significant (95% CI [.003, .080]), whereas the indirect link through the individual regulation of positive emotions was not (95% CI [-.059, .011]). These results suggest that Buddhists tend to report not influencing a larger number of negative emotions than do Protestants, and those people who report not influencing negative emotions are more likely to prefer to use a non-influence strategy in the moment.

## **Discussion**

Study 3 replicated the findings from Studies 1 and 2 on religious differences in teachings about non-influence strategies of emotion regulation and the individual use of emotion regulation strategies (though the latter was not significant), as well as the role of religious teachings in explaining the link between religion and individual emotion regulation. Study 3 also examined the preference for a non-influence strategy in a given moment. Although we did not find significant religious differences in the preference for a non-influence strategy, religion and the preference for a non-influence strategy were indirectly linked through the individual regulation of negative emotions. These findings imply that, although religion may not be directly linked to the degree to which people prefer to use a non-influence strategy in a given moment, it can be indirectly linked to emotion regulation preferences by shaping the general propensity to use non-influence strategies.

While global assessments of emotions tend to be shaped by beliefs about emotion, in-the-moment assessments of emotions tend to be shaped by experiential and contextual information

(Robinson & Clore, 2002). Thus, the preference for a non-influence strategy in a specific context is likely to be influenced by various contextual factors (such as the specific nature of the event that they recalled), which can lead to smaller effects of religion. At the same time, we also found that the in-the-moment preference for a non-influence strategy was linked to the individual use of a non-influence strategy. Furthermore, religion was linked to emotion regulation preferences indirectly through the individual use of a non-influence strategy. Such findings point to the possibility that religion may indirectly influence people's preferences in a given moment through shaping their general styles of emotion regulation.

### **Meta-Analysis**

Together, three studies provide evidence for religious differences in teachings about and the individual use of a non-influence strategy. However, given some inconsistencies across studies, we conducted a small meta-analysis (Goh, Hall, & Rosenthal, 2016) based on Studies 1-3. As summarized in Table 2, these analyses showed that both religious differences in teachings about using a non-influence strategy,  $d = 0.71$ , 95% CI [0.48, 0.94], and religious differences in the individual use of a non-influence strategy are reliable,  $d = 0.56$ , 95% CI [0.33, 0.78].

### **General Discussion**

Through three studies on national student, community, and online samples, the present research found that there are self-reported religious differences in emotion regulation. Specifically, Buddhists were more likely than were Protestants to report that their religion teaches them to use non-influence strategies of emotion regulation. Additionally, Buddhists were more likely than were Protestants to report that they use non-influence strategies of emotion regulation. Further, religion was linked to the individual use of non-influence strategies of emotion regulation through religious teachings about non-influence strategies of emotion

regulation. Such findings suggest that not only do religions differ in how they teach individuals to regulate their emotions (i.e., via non-influence or influence strategies), but also that such religious teachings likely lead practitioners to regulate their emotions in expected ways.

In addition, the individual use of non-influence strategies of emotion regulation was found to predict fewer depressive symptoms, regardless of religion. As prior research has shown, therapies that teach individuals to not influence their emotions have shown some efficacy in samples in the West (Teasdale et al., 2000). Similarly, the present findings indicate that non-influence strategies of emotion regulation are associated with fewer depressive symptoms among both Buddhists and Protestants. Thus, we speculate that non-influence strategies of emotion regulation are associated with fewer depressive symptoms even among individuals from a typically Western religion (i.e., Protestantism) in much the same way as Buddhist-inspired therapies are efficacious in Western samples. However, this is a correlational study. Therefore, further research is needed before it can be suggested that clinicians make use of non-influence strategies of emotion regulation in their treatment of depressed individuals from both Eastern and Western religious backgrounds.

Study 2 further clarified what non-influence strategies of emotion regulation involved. First, it was examined whether not influencing emotions meant that individuals were giving up on regulating emotions because they had failed at doing so before, or whether they chose to not influence emotions because they were unsure about what they should do with their emotions. According to their responses to these two types of questions, neither explanation turned out to be the case. Such findings suggest that perhaps non-influence strategies are not passive strategies of emotion regulation, nor are they strategies used out of confusion.

Additionally, Study 2 found that non-influence strategies of emotion regulation were strategies of emotion regulation that involved accepting emotions as they are for Buddhists than for Protestants. According to their practitioners, Buddhist beliefs were more likely to suggest that non-influence strategies of emotion regulation were strategies that involved accepting emotions. This finding indicates that, according to Buddhism, a non-influence strategy can be an active process of emotion regulation. Further, Buddhists were more likely than were Protestants to report that their religion agreed that non-influence strategies of emotion regulation would lead individuals to the most happiness (Study 2). Thus, religion appears to serve an important role in defining what happiness is, and exactly how to achieve it emotionally. In Buddhism, happiness appears to result from not influencing emotions. Future research should explore if religions in general teach techniques that they believe will lead their practitioners to the most happiness.

Finally, in Study 3, we examined whether religious differences in the global assessment of the use of emotion regulation strategies extend to the preference for emotion regulation strategies in a specific moment. Although there were no religious differences in the preference for a non-influence strategy, religion was indirectly linked to the preference through the individual regulation of negative emotions.

Although we did not have any hypotheses for the specific types of emotions, some consistent patterns emerged across studies. Across all studies, collapsing across religions, participants reported that their religion teaches them to use non-influence strategies the most for low arousal negative emotions (e.g., dull) and the least for low arousal positive emotions (e.g., calm). A similar pattern was found for the individual use of non-influence strategies, except for Study 2 where non-influence strategies were least likely to be used for high arousal negative emotions (e.g., nervous). In addition, specific emotion types moderated religious differences in

non-influence emotion regulation strategies. For the religious teaching of non-influence strategies, Buddhists were significantly more likely than Protestants to report that their religions teach them to use non-influence strategies (at least across two out of three studies) for four emotion types: high arousal positive emotions (e.g., excited), engaged positive emotions (e.g., friendly feelings), high arousal negative emotions (e.g., nervous), and engaged negative emotions (e.g., guilty). A similar pattern was observed for the individual use of non-influence strategies for two emotion types: high arousal positive emotions and engaged negative emotions. These findings suggest that, religious differences in the teaching and use of non-influence emotion regulation strategies are particularly evident for high arousal positive emotions and engaged negative emotions. Because high arousal positive emotions are valued in Christianity (Tsai, Miao, & Seppala, 2007), it is possible that Protestants are especially likely to try to influence such emotions by increasing or maintaining them.

Previous research has suggested that, whereas Christianity teaches that high arousal positive emotions are ideal, Buddhism teaches that low arousal positive emotions are ideal (Tsai, Miao & Seppala, 2007). In the present findings, Buddhists were more likely than were Protestants to report that their religion teaches them to use non-influence strategies not only for high arousal positive emotions but also for low arousal positive emotions, at least according to the practitioners in Study 2. This finding suggests that overall, Buddhism teaches non-influence strategies more than Protestantism does, even though religious differences may be relatively smaller for low than for high arousal positive emotions. This does not necessarily contradict the fact that Buddhism teaches low arousal positive emotions as ideal (Tsai et al., 2007). Even though Buddhism emphasizes that low arousal positive emotions are ideal, it may not teach individuals to directly enhance or maintain such emotions. Rather, it may expect low arousal

positive emotions to be achieved through different means. For example, non-influencing strategies of emotion regulation may be thought to lead to low arousal positive emotions. In fact, it has been suggested that Buddhist-inspired mindfulness interventions increase acceptance of emotions and such interventions have also been shown to increase the value of low arousal positive emotions (Koopmann-Holm, Sze, Ochs, & Tsai, 2013). It would be important for future research to examine the link between non-influence emotion regulation strategies and their resulting emotions.

We believe that the present findings have implications for the research on religion and self-regulation. Our findings suggest that, although religion in general fosters self-regulation (Laurin, 2017; McCullough & Willoughby, 2009), specific religions can differ in the value placed on *how* to regulate one's mental states. That is, whereas Protestantism places a strong value on controlling mental states (Abramowitz et al., 2004; Cohen & Rozin, 2001), Buddhism seems to place a value on not influencing mental states, which can be considered to be an active form of regulation rather than relinquishment or a lack of regulation. A parallel contrast has been made in the literature on control (Rothbaum, Weisz, & Snyder, 1982; Thompson, Nanni, & Levine, 1994); while influencing existing realities has traditionally been considered the primary means to gain control, accepting existing realities has also been suggested as a form of control. Thus, these findings seem to suggest that both Protestantism and Buddhism foster regulation, even though the specific forms of regulation taught in each religion differ from each other.

While these findings add significantly to the literature on religion, emotion regulation, and depression, at the same time, they are not without their limitations. For instance, given the difficulty of recruiting matched samples of Asians/Asian Americans and European Americans across two religions, our analyses of ethnicity lacked power. The fact that we found religious

differences in Study 2 even among mostly European American participants across two religions suggest that religious differences found in the current research is not due to ethnicity. However, it is still an open question whether the same religious differences exist among mostly Asian/Asian American samples. In fact, research by Sasaki and colleagues (Sasaki & Kim, 2011; Sasaki, Kim, & Xu, 2011) has shown that the same religion can be practiced in slightly different ways cross-culturally. An equivalent study conducted in Asian cultural contexts (e.g., Buddhists and Protestants in Korea) would shed light on this issue. In addition, all three studies were based on correlational data, which precludes us from drawing any causal conclusion from these findings. To rule out a potential third factor, we tried to match demographic factors across two religions as much as possible (despite the difficulty of matching ethnicities across religions). Still, it is important for future research to conduct an experimental study to test if the exposure to religious ideas or practices causes people to use certain emotion regulation strategies.

Further, even though the findings of Studies 2 and 3 showed religious differences in how individuals report regulating their emotions regardless of whether participants were asked the religion questions before or after the individual emotion regulation questions, participants still knew that the study was about religion based on recruitment methods and/or consent forms. Thus, participants may have been primed to think about their religions while filling out the individual emotion regulation questions. Therefore, future research should examine whether Buddhists use non-influences strategies of emotion regulation more than do Protestants when they are not explicitly recruited based on their religions.

In conclusion, to our knowledge, these are the first studies to examine religious differences in emotion regulation. As a result, our findings add to a growing body of literature on the effects of religion on emotion-related processes, as well as to literature on non-Western

emotion regulation strategies in general. These studies show, then, that not only does religion affect mental health via its teachings and associated emotion regulation strategies, but also that non-Western religions should be taken into consideration when formulating emotion regulation theories and the relationship of their various regulatory strategies to mental health.

## Footnotes

<sup>1</sup> Given the small sample size of obtainable European American Buddhist college students, who were a challenge to recruit despite the national nature of the study, analyses using ethnicity as a factor lack power and must be interpreted with caution.

<sup>2</sup> To explore whether this finding was driven by any particular influence strategies, we examined the correlation between the CESD and each of the strategies. Partial correlations of CESD with the number of enhance, maintain, dampen, and non-influence strategies (controlling for religion and ethnicity) were  $r_s = .004$  ( $p = .96$ ),  $.26$  ( $p = .002$ ),  $.02$  ( $p = .79$ ), and  $-.22$  ( $p = .007$ ), respectively. Thus, while the use of a non-influence strategy was negatively associated with depressive symptoms, the use of a maintain strategy was *positively* associated with depressive symptoms.

<sup>3</sup> Following Study 1, we also examined the correlation between the CESD and each of the strategies. Partial correlations of the CESD with the number of enhance, maintain, dampen, and non-influence strategies (while controlling for religion) were  $r_s = .14$  ( $p = .22$ ),  $.18$  ( $p = .11$ ),  $.05$  ( $p = .66$ ), and  $-.27$  ( $p = .015$ ), respectively. Thus, a non-influence strategy was the only strategy significantly associated with depressive symptoms. Therefore, non-influence was the only strategy that significantly correlated with the CESD across Studies 1 and 2.

<sup>4</sup> It is noteworthy that although Protestants were less likely than Buddhists to think that “non-influence” strategies involve acceptance, the Protestants’ rating for acceptance was higher than their ratings of uncertainty and uncontrollability. Thus, across religions, non-influence strategies tend to reflect an active attempt to accept emotions, though it is more so for Buddhists than it is for Protestants.

## References

- Abramowitz, J. S., Deacon, B. J., Woods, C. M., & Tolin, D. F. (2004). Association between Protestant religiosity and obsessive–compulsive symptoms and cognitions. *Depression and anxiety, 20*(2), 70-76.
- Bible, E. (1995). *New International Reader's Version*. New King James Version, New.
- Campbell-Sills, L., Barlow, D. H., Brown, T. A., & Hofmann, S. G. (2006). Effects of suppression and acceptance on emotional responses of individuals with anxiety and mood disorders. *Behaviour Research and Therapy, 44*(9), 1251-1263.
- Chapman, A. L., Rosenthal, M. Z., & Leung, D. W. (2009). Emotion suppression in borderline personality disorder: An experience sampling study. *Journal of Personality Disorders, 23*(1), 29-47.
- Chentsova-Dutton, Y. E., Chu, J. P., Tsai, J. L., Rottenberg, J., Gross, J. J., & Gotlib, I. H. (2007). Depression and emotional reactivity: Variation among Asian Americans of East Asian descent and European Americans. *Journal of Abnormal Psychology, 116*(4), 776-785.
- Cohen, A. B. (2003). RESEARCH: Religion, likelihood of action, and the morality of mentality. *The International Journal for the Psychology of Religion, 13*(4), 273-285. doi: 10.1207/S15327582IJPR1304\_4
- Cohen, A. B. (2009). Many forms of culture. *American Psychologist, 64*(3), 194-204. doi: 10.1037/a0015308
- Cohen, A. B., & Rozin, P. (2001). Religion and the morality of mentality. *Journal of Personality and Social Psychology, 81*(4), 697-710. doi: 10.1037/0022-3514.81.4.697
- Dimeff, L., & Linehan, M. M. (2001). Dialectical behavior therapy in a nutshell. *The California*

- Psychologist*, 34(3), 10-13.
- Dowman, K. (2006). *Old man basking in the sun: Longchen Rabjampa's Treasure of Natural Perfection*. Vajra Publications.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G\* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G\* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191.
- Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social and Personality Psychology Compass*, 10, 535-549.
- Gotama, B. *Majjhima nikaya: The middle length discourses of the Buddha*. Translated by Bhikkhu Nanamoli (2012). Original date unknown.
- Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of General Psychology*, 2(3), 271-299.
- Gross, J. J., & Munoz, R. F. (2006). Emotion regulation and mental health. *Clinical Psychology: Science and Practice*, 2(2), 151-164. doi: 0969-5893/95/S5.00
- Grossmann, I., & Kross, E. (2010). The impact of culture on adaptive versus maladaptive self-reflection. *Psychological Science*, 21(8), 1150-1157.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and condition process analysis: A regression-based approach*. New York, NY US: Guilford Press.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An*

- experiential approach to behavior change*. New York, NY US: Guilford Press.
- Hofmann, S. G., Heering, S., Sawyer, A. T., & Asnaani, A. (2009). How to handle anxiety: The effects of reappraisal, acceptance, and suppression strategies on anxious arousal. *Behaviour Research and Therapy*, *47*(5), 389-394.
- Kim-Prieto, C., & Diener, E. (2009). Religion as a source of variation in the experience of positive and negative emotions. *The Journal of Positive Psychology*, *4*(6), 447-460. doi: 10.1080/17439760903271025
- Kitayama, S., Mesquita, B., & Karasawa, M. (2006). Cultural affordances and emotional experience: socially engaging and disengaging emotions in Japan and the United States. *Journal of Personality and Social Psychology*, *91*(5), 890-903.
- Koopmann-Holm, B., Sze, J., Ochs, C., & Tsai, J. L. (2013). Buddhist-inspired meditation increases the value of calm. *Emotion*, *13*(3), 497-505.
- Laurin, K. (2017). Belief in God: A cultural adaptation with important side effects. *Current Directions in Psychological Science*, *26*(5), 458-463.
- Lynch, T. R., Chapman, A. L., Rosenthal, M. Z., Kuo, J. R., & Linehan, M. M. (2006). Mechanisms of change in dialectical behavior therapy: Theoretical and empirical observations. *Journal of Clinical Psychology*, *62*(4), 459-480. doi: 10.1002/jclp.20243
- McCullough, M. E., & Willoughby, B. L. (2009). Religion, self-regulation, and self-control: Associations, explanations, and implications. *Psychological Bulletin*, *135*(1), 69-93.
- McLeod, K. (2007). *An arrow to the heart: A commentary on the Heart Sutra*. Trafford Publishing.
- Miyamoto, Y., & Ma, X. (2011). Dampening or savoring positive emotions: A dialectical cultural script guides emotion regulation. *Emotion*, *11*(6), 1346-1357. doi:

10.1037/a0025135

Miyamoto, Y., Ma, X., Petermann, A. G. (2014). Cultural differences in hedonic emotion regulation after a negative event. *Emotion, 14*(4), 804-815. doi: 10.1037/a0036257

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*(3), 879-891.

Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385-401. doi: 10.1177/014662167700100306

Riediger, M., Schmiedek, F., Wagner, G. G., & Lindenberger, U. (2009). Seeking pleasure and seeking pain: Differences in prohedonic and contra-hedonic motivation from adolescence to old age. *Psychological Science, 20*(12), 1529-1535. doi: 10.1111/j.1467-9280.2009.02473.x

Robinson, M. D., & Clore, G. L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin, 128*(6), 934-960.  
<https://doi.org/10.1037/0033-2909.128.6.934>

Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology, 42*(1), 5-37.

Saroglou, V., & Cohen, A. B. (2011). Psychology of culture and religion: Introduction to the JCCP special issue. *Journal of Cross-Cultural Psychology, 42*(8), 1309-1319. doi: 10.1177/0022022111412254

Sasaki, J. Y., & Kim, H. S. (2011). At the intersection of culture and religion: A cultural analysis

- of religion's implications for secondary control and social affiliation. *Journal of Personality and Social Psychology*, *101*(2), 401-414. doi: 10.1037/a0021849
- Sasaki, J. Y., Kim, H. S., & Xu, J. (2011). Religion and well-being: The moderating role of culture and the oxytocin receptor (OXTR) gene. *Journal of Cross-Cultural Psychology*, *42*(8), 1394-1405. doi: 10.1177/0022022111412526
- Siev, J., & Cohen, A. B. (2007). Is thought-action fusion related to religiosity? Differences between Christians and Jews. *Behaviour Research and Therapy*, *45*(4), 829-837. doi: 10.1016/j.brat.2006.05.001
- Sims, T., Tsai, J. L., Jiang, D., Wang, Y., Fung, H. H., & Zhang, X (2015). Wanting to maximize the positive and minimize the negative: Implications for mixed affective experience in American and Chinese contexts. *Journal of Personality and Social Psychology*, *109*(2), 292-315. doi: 10.1037/a0039276
- Stratton, G. M. (1923). *Anger: Its religious and moral significance*. London: Allen & Unwin.
- Suzuki, S. (1970). *Zen mind, beginner's mind: Informal talks on zen meditation and practice*. New York: Weatherhill.
- Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., & Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *Journal of Consulting and Clinical Psychology*, *68*(4), 615-623. doi: 10.1037/0022-006X.68.4.615
- Thompson, S. C., Nanni, C., & Levine, A. (1994). Primary versus secondary and central versus consequence-related control in HIV-positive men. *Journal of Personality and Social Psychology*, *67*(3), 540-547.
- Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of*

- Personality and Social Psychology*, 90(2), 288-307. doi: 10.1037/0022-3514.90.2.288
- Tsai, J. L., Koopmann-Holm, B., Miyazaki, M., & Ochs, C. (2013). The religious shaping of feeling: Implications of Affect Valuation Theory. *Handbook of the Psychology of Religion and Spirituality*, 274.
- Tsai, J. L., Miao, F. F., & Seppala, E. (2007). Good feelings in Christianity and Buddhism: Religious differences in ideal affect. *Personality and Social Psychology Bulletin*, 33(3), 409-421. doi: 10.1177/0146167206296107
- Tsai, J. L., Miao, F. F., Seppala, E., Fung, H. H., & Yeung, D. Y. (2007). Influence and adjustment goals: Sources of cultural differences in ideal affect. *Journal of Personality and Social Psychology*, 92(6), 1102-1117.
- Tsogyal, Y. (1993). *The Lotus-born: Life story of Padmasambhava*. Boston, MA: Shambhala Publications.
- Watts, F. N. (1996). Psychological and religious perspectives on emotion. *International Journal for the Psychology of Religion*, 6(2), 71-87. doi: 10.1207/s15327582ijpr0602\_1
- Wolgast, M., Lundh, L. G., & Viborg, G. (2011). Cognitive reappraisal and acceptance: An experimental comparison of two emotion regulation strategies. *Behaviour Research and Therapy*, 49(12), 858-866.

Table 1

*Emotions used in Studies 1 2, and 3*

		Valence	
		Positive	Negative
Arousal			
High	excited, enthusiastic, elated	nervous, hostile, fearful	
Low	calm, serene, peaceful	sluggish, dull, sleepy	
Engagement			
Engaged	friendly feelings, close (feelings)*, respect	indebted, ashamed, guilty	
Disengaged	proud, top of the world, superior	angry, frustrated, sulky feelings	

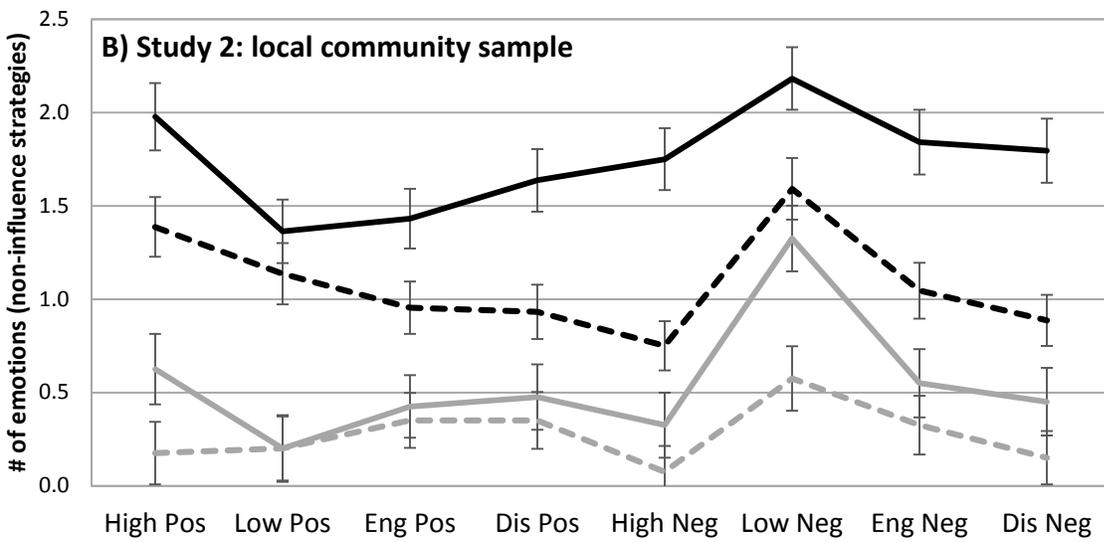
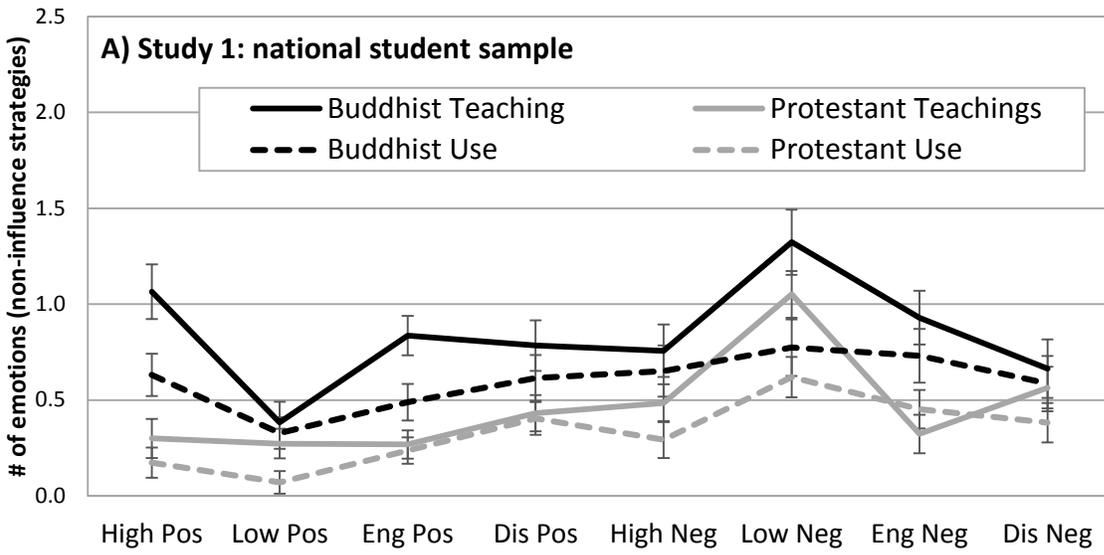
\* “close” was used in Studies 1 and 2, and “close feelings” was used in Study 3.

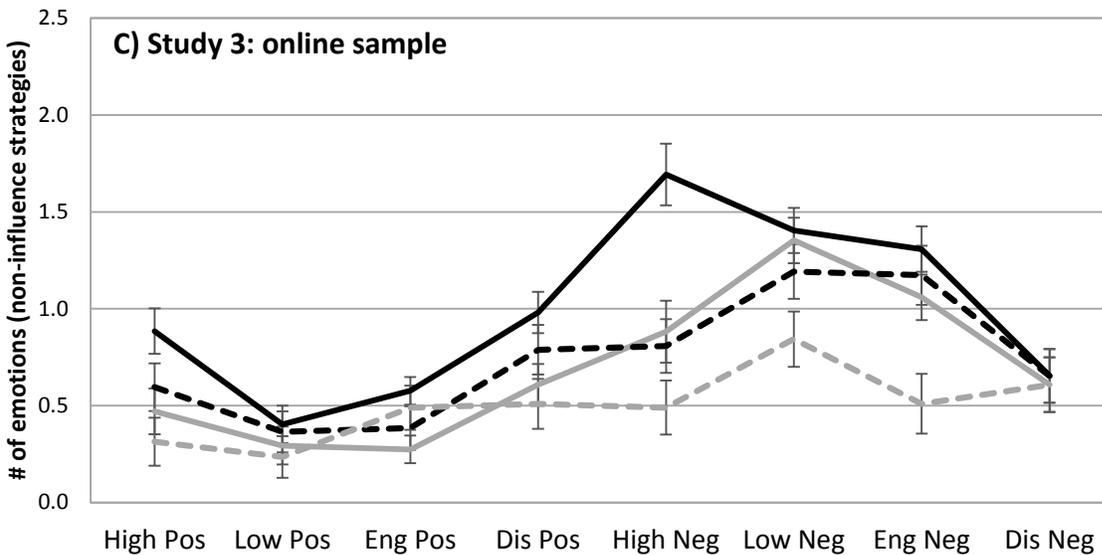
Table 2

*Meta-Analysis of Religious Differences in Emotion Regulation across Three Studies*

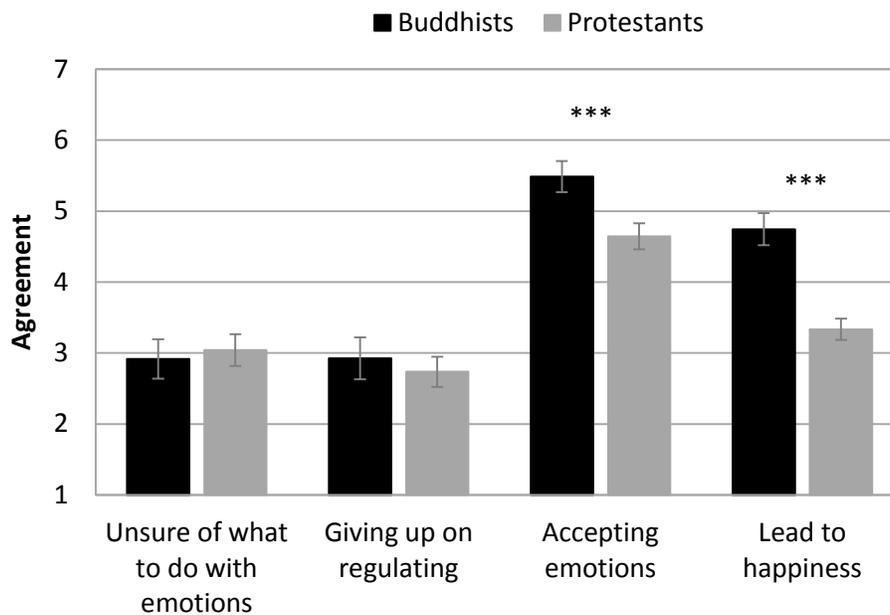
Measures				
Studies	<i>F</i>	<i>df<sub>d</sub></i>	<i>p</i>	Cohen's <i>d</i>
<b>Religious Teachings about Emotion Regulation</b>				
Study 1	9.75	143	.002	0.51
Study 2	38.66	70	<.001	1.50
Study 3	7.87	101	.006	0.55
<i>M<sub>d</sub></i> [95% CI]				0.71 [0.48, 0.94]***
<b>Individual Emotion Regulation</b>				
Study 1	5.29	143	.02	0.41
Study 2	26.72	70	<.001	1.25
Study 3	2.92	101	.09	0.35
<i>M<sub>d</sub></i> [95% CI]				0.56 [0.33, 0.78]***

Note. *df<sub>d</sub>* = degrees of freedom of the denominator of the F-tests. *M<sub>d</sub>* = weighted mean *d* of the difference between Protestants and Buddhists. *p*-value and confidence interval are for fixed effects.





*Figure 1.* The number of emotions (out of three) for which teachings about, and individual use of, non-influence strategies of emotion regulation were chosen in each religion in A) Study 1 with a student sample, B) Study 2 with a community sample, and C) Study 3 with an online sample. High Pos = high arousal positive (e.g., excited); Low Pos = low arousal positive (e.g., calm); Eng Pos = engaged positive (e.g., respect); Dis Pos = disengaged positive (e.g., proud); High Neg = high arousal negative (e.g., nervous); Low Neg = low arousal negative (e.g., dull); Eng Neg = engaged negative (e.g., guilty); Dis Neg = disengaged negative (e.g., angry). Error bars indicate standard errors.



*Figure 2.* Religious differences in definitions of non-influence strategies of emotion regulation (Study 2). The responses were made on a 7 point Likert scale ranging from 1 = “Strongly disagree” to 7 = “Strongly agree.” Error bars indicate standard errors.

\*\*\* $p < .001$