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REGISTERED REPORT



The Effect of Thinking about Being Excluded by God on Well-Being: A Replication and Extension

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ABSTRACT


Prior research has provided initial evidence that thinking about being excluded by God lowers self-reported well-being in a Dutch sample of Christian students. The current research sought to replicate this finding in two studies. The first experiment recruited a USA sample of Christian students from a secular and religious school. The second experiment recruited a USA online sample of Christians contacted via Mechanical Turk. Results of these two studies replicated the initial finding that thinking about being excluded by God lowers self-reported well-being relative to thinking about being included by God, or contemplating that God created the earth. Moreover, a mini-meta analysis of the original study and the current two studies added the novel insight that thinking about being included by God increased well-being relative to contemplating that God created the earth. Overall, these results show how people's perceived relationship with God may influence their quality of life.

Background

Social exclusion – a situation in which someone feels physically or psychologically separated from others – negatively impacts multiple indicators of well-being (e.g., physical stress responses, pain, and threats to psychological needs, such as belonging, control, meaningful existence, and self-esteem; Wesselmann et al., 2016a; Williams, 2009). The excluded person subsequently is motivated to alleviate the pain caused by being excluded (Wesselmann & Williams, 2017). Researchers typically study exclusion in either interpersonal or group interactions and investigate it in different types of relationships (e.g., romantic relationships, friendships, strangers in a laboratory). For instance, Cyberball (Williams et al., 2000) can be used to study exclusion in minimal groups, as well as exclusion in romantic partner relationships (Arriaga et al., 2014). Exclusion can be observed outside of Cyberball in family relationships (Poulsen & Carmon, 2015) and via friends using cell phones during face-to-face conversations (Hales et al., 2018).

One way that individuals may cope with exclusion is through religion. Religiosity has been associated with positive well-being and effective coping with a variety of problems (e.g., Francis & Kaldor, 2002; Kent et al., 2018; Pargament et al., 2005; Spilka & Ladd, 2013). Specifically, studies have demonstrated religion can be a source of comfort when someone feels excluded (Aydin et al., 2010; Chan et al., 2019; Hales et al., 2016; Laurin et al., 2014). One reason that religion may offer a reprieve from feelings of exclusion is that many religions (and religious individuals) advocate viewing one's connection with God as a personal or familial relationship (Wesselmann & Williams, 2010). The idea of having an attachment to a religious figure extends from general attachment theory (Bowlby, 1969;

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Kirkpatrick, 1998). This relationship is not merely one-sided. Many evangelicals in America believe God is present in their daily lives and can communicate with them (Froese & Bader, 2010; Luhrmann, 2012). However, just as any personal relationship can involve the potential for exclusion (e.g., Nezlek et al., 2012), the same may be true for one's perceived relationship with God.

Summary of van Beest and Williams (2011)

How would religious individuals feel if they thought about their God one day excluding them? Van Beest and Williams (2011) investigated this question by examining if religious individuals who imagined the experience of being excluded by their deity would experience similar negative effects found in studies of interpersonal social exclusion (e.g., threatened basic need satisfaction; Williams, 2009). The researchers recruited college students from an on-campus Christian organization located in the Netherlands. The students were placed in individual computer labs and filled out a survey, which included a religiosity scale, paragraphs either about God's exclusion, inclusion, or creation, and a need satisfaction scale. This survey was used to examine if religious individuals who thought about their deity excluding them ultimately experienced threats to their psychological well-being similar to social exclusion in interpersonal relationships. Van Beest and Williams found that Christians who thought about God someday excluding them experienced lowered well-being, compared to both Christians who thought about God always including them and Christians who thought about God creating the Earth (the control condition).

Van Beest and Williams's 2011 study measured religiosity in terms of intrinsic, extrinsic, and quest religious orientation. Persons with *intrinsic* religious orientation have many needs fulfilled by religion and they try to incorporate their religion into all areas of their lives. Intrinsically motivated persons live their religion fully and try to harmonize other sources of fulfillment with their religious faith (Allport & Ross, 1967). The *extrinsically* oriented person may not live their faith, but rather uses their faith to meet needs such as security and belonging through the other members that participate and go to church (Allport & Ross, 1967). A *quest* religious orientation is an open-ended search for meaning in life and answers to life events such as tragedies (Batson et al., 1993). In van Beest and Williams (2011), there was a small interaction between intrinsic religious orientation and the exclusion condition, such that well-being was lower for participants who thought about being excluded by God, especially for Christians with high intrinsic religious orientation.

Limitations of van Beest and Williams (2011)

Assessing religiosity using *intrinsic*, *extrinsic*, and *quest* religious orientation does have limitations. Some critics argue that extrinsic and intrinsic orientations are conceptually poorly defined and call for better ways of understanding a person's orientation toward their religious faith. The terms are criticized for being better fitted as personality variables than religious orientations, having muddled definitions, and being unclear about what exactly is measured by these scales (Kirkpatrick & Hood, 1990). This leads to a call for better ways of understanding a person's orientation toward their religious faith.

One alternative is to view one's religiosity within the context of their psychological *commitment* – their strong emotional attachment to a specific relationship and their long-term orientation toward maintaining it (Arriaga & Agnew, 2001). Even the critics of the religious orientations speculated that the *intrinsic* religious orientation seemed to be measuring religious commitment (Kirkpatrick & Hood, 1990). The construct of commitment is well-established in the interpersonal relationship literature (e.g., Le & Agnew, 2003) and has recently been applied to understanding religion-based relationships. Specifically, one's commitment to God has been shown to have moderate to high correlations with intrinsic religious orientation ($r = .55 - .73$) and also predicted whether belief in God persisted over time (Wesselmann et al., 2016b). The latter finding was analogous to findings in research on commitment to interpersonal relationships and relationship longevity (e.g., Agnew et al., 2008).

The results of van Beest and Williams (2011) were only demonstrated in two experimental studies by the same researchers using samples of Christians from a university Christian student organization based in the Netherlands. The generalizability of research has been called into question within the psychological community because of the lack of diverse samples (Henrich et al., 2010). Further, replication is an important step in the scientific method that has been underused in psychological research. Because of this limitation, in recent years there has been a push in psychology for more replication studies. Thus, we conducted two replication studies in the United States. The first study recruited Christian students from both secular and religious-based universities, and the second study recruited Christian participants from an online platform. We hope our studies will provide an impetus for future evidence investigating and extending the main effect in the original study.

Purpose and hypotheses

Religious people can believe their deity excludes, ignores, and abandons them and when this belief occurs, especially during times of stress, health suffers (Buser et al., 2017; Jones et al., 2015). Only van Beest and Williams (2011) have shown this effect experimentally. We propose to add additional experimental data to this phenomena. We will experimentally manipulate participants' contemplating of the likelihood that God may exclude (i.e., abandon) or include them in the future to assess if these beliefs cause changes in well-being. Van Beest and Williams (2011) found that perceived exclusion by God lowered well-being scores below those who thought about the feeling of God always including them or thought about believing God created the Earth (i.e., the control condition).

Our research could enhance understanding of one's relationship to their deity within the context of theory and research on interpersonal relationships by experimentally testing the effect of God's exclusion or inclusion on Christians' well-being. Additionally, counselors (pastoral or secular) may find this information useful when assisting religious clients with mental health issues. Religion can be helpful for coping with mental health when experiences with religion are positive, and harmful when experiences with religion are negative (Pargament et al., 2005; Seybold & Hill, 2001). Our research will add to the literature on when and how religion can be helpful or harmful to individuals and their well-being.

Confirmatory hypotheses

Similar to the van Beest and Williams (2011) study, we hypothesize: (1) Christians who think about God someday excluding them will have lower well-being compared to those who think about God always including them or God creating the Earth. (2) Christians who think about God always including them will have higher well-being compared to those who think about God excluding them or God creating the Earth. A benefit of our study is our hypothesized results, if supported, would extend van Beest and Williams's (2011) original findings to Christians located in the United States. The results would also provide support for a cause and effect relation between God's perceived exclusion/inclusion and well-being.

Exploratory hypotheses

We will add to the original research by investigating a different moderator, *religious commitment to God* (Wesselmann et al., 2016b). Because van Beest and Williams (2011) found *intrinsic religiosity* to be a moderator and commitment to God has demonstrated between medium to large positive correlations with intrinsic religious orientation (Wesselmann et al., 2016b), we will examine if commitment to God could be a moderator of the relation between exclusion/inclusion and well-being. Thus, we hypothesize (3) commitment to God will moderate the level of well-being caused by thinking about God's exclusion, such that highly committed individuals will have lower well-being when they contemplate God excluding them compared to individuals with less commitment to God. In the inclusion condition, well-being will be increased when commitment to God is high compared to when commitment to God is low.

However, there is research to suggest that the moderation could go in the other direction. Research on personal relationships provide evidence that individuals highly committed to their personal relationships are more likely to make relationship-saving attributions, which leads to the downplay of hurtful relationship behaviors from their partners (Arriaga et al., 2016, 2007; Rusbult & Martz, 1995). Thus, it could be that (4) commitment to God will moderate the level of well-being caused by thinking about exclusion by God, such that highly committed individuals will have higher well-being in the exclusion condition compared to individuals with less commitment to God. This effect theoretically would be driven by the idea that highly committed individuals will tolerate more negative behavior in their relationship with God. If this hypothesis is confirmed, it could be that highly committed Christians will make more relationship-saving attributions to diminish the pain caused by God's exclusion.

Study 1

Methods

Participants

We recruited Christians from two locations – a private Christian university and a public university, both located in a Midwestern state – by using a demographic question on religious affiliation to screen for participants who identify as Christian. Van Beest and Williams (2011) had 110 participants in their study. We conducted a power analysis for the main effect using G-Power (Faul et al., 2007) which indicated that 122 participants should be sufficient to find an effect as large as that observed in the original study (effect size $f = .425$, two-tailed $\alpha = .05$, power level = .99, $df = 2$, number of groups = 3, number of covariates = 1). In total, we had 135 participants; 46 participants were in the exclusion condition, 45 participants were in the inclusion condition, and 44 participants were in the control condition. In the present study, there were 32 males, 101 females, 1 transgender woman, and 1 person preferred not to answer. In regard to race, 92 participants were White, 20 African American or Black, 5 Asian American or Asian Descent, 12 Latino/a, 5 biracial, and 1 person of Middle Eastern Descent. The mean age of participants was 20. Participants were recruited from psychology courses at both universities and offered extra credit in exchange for their participation.

Materials and procedures

We kept the methods as similar as possible to the original study. The parallel conditions include religious demographic of participants, environment of study, materials, and main effect variable. Individuals who agreed to participate in the study signed up for a time to come into the laboratory. Each participant completed the study in an individualized and private computer space at each location. Consenting participants were asked demographic questions, including religious affiliation. Only participants identifying as Christian took part in this study.

All participants completed the 6-item religious commitment subscale (8-point rating scale, 0 = *do not agree at all* to 7 = *agree completely*; Wesselmann et al., 2016b). See Supplementary Materials, Table S1. The reliability of the religious commitment subscale in our sample ($\omega = 0.96$, Cronbach's $\alpha = .96$) is higher than all of the scales used to assess religiosity in the van Beest and Williams (2011) study (*Extrinsic* scale $\alpha = .74$, *Intrinsic* scale $\alpha = .95$, *Quest* scale $\alpha = .81$).

We obtained the exact materials from van Beest and Williams (2011) for the condition texts and the 12-item well-being (basic need satisfaction) scale, which is our chosen indicator of psychological well-being. See Supplementary Materials, Table S2. With the first author's help, we translated the original material from Dutch to English, except for the Bible verses. Christian participants read the same Bible verses used for the manipulation in van Beest and Williams (2011). We used the New International Version (NIV) translation for all the Bible verses except Samuel 18:12, for which we used the Good News Translation (GNT). The GNT translation was used for this verse because GNT translation uses

the word *abandoned* in this verse which is the same word we used in the exclusion condition paragraph (e.g., *at some point God will abandon you*).

We used the *Qualtrics* randomizing function to randomly assign participants into one of three conditions. Participants read two Bible verses and a paragraph which prompted Christians to think about God abandoning them (exclusion condition), about God always being with them (inclusion condition), or about God creating the Earth (control condition). The Bible verses that were used in the exclusion condition were Psalm 22:1b-2¹ and Samuel 18:12.² The inclusion condition used Christian scripture from Deuteronomy 31:6³ and Romans 8:39.⁴ In the control condition, the Bible verses were Genesis 1:1-2⁵ and Genesis 2:1-2.⁶

Following these verses, participants in the respective conditions were given a paragraph that explicitly states either 1) God will abandon them at some point in their lives (exclusion condition), 2) God would always be with them (inclusion condition), or 3) God created the earth (control condition). After reading the verses and receiving the condition-specific text, participants wrote down their thoughts on the verses.

Participants completed a one question manipulation check which asked participants which type of paragraph they read (inclusive, exclusive, or descriptive), then participants answered a 12-item need satisfaction scale (7-point rating scale, 1 = *totally disagree* to 7 = *totally agree*) found to have a Cronbach's $\alpha = .81$ and $\omega = 0.83$. This scale is the dependent variable, measuring participants' feelings of need satisfaction that are often threatened by social exclusion (i.e., belonging, control, self-esteem, and meaningful existence; van Beest & Williams, 2011). We followed the typical practice of combining all the items into one overall aggregate need satisfaction score because a combined measure typically has higher reliability and we had no a priori hypotheses about differential need effects (Williams, 2009). This need satisfaction score was used as the indicator of participants' well-being.

Results

The primary outcome was participants' well-being (i.e., overall need satisfaction). Condition (inclusion, exclusion, control) was used as a focal predictor, religious commitment was used as a continuous predictor. Data from both collection sites were analyzed together in all analyses. Missing data was handled through casewise deletion. One outlier was found (determined by having a standardized residual > 3). The results did not change after analyzing the data without the outlier, so we are reporting the results with the outlier present.

Only 63% of our participants correctly answered the manipulation check. Due to this limitation, we are not using this manipulation check to remove participants. Looking through the writing text of the participants, it does appear that every participant wrote about a subject relating to God, religion, and/or their feelings about the paragraph. Given this, we concluded that all participants did at least read the paragraph.

Confirmatory hypothesis

We conducted one-tailed regression analyses and used planned contrasts (i.e., exclusion vs. others [-1, .5, .5] and inclusion vs. control [0, -1, 1]) to study the main effect. The following

¹Exclusion condition text: *My God, my God, why have You forsaken me? Why are You so far from saving me, so far from my words of groaning? I cry out by day, O my God, but You do not answer, and by night, but I have no rest* (Psalm 22:1b-2).

²Exclusion condition text: *Then Saul became afraid, because he noticed the LORD had abandoned him* (Samuel 18:12).

³Inclusion condition text: *Do not be afraid or terrified because of them, for the LORD your God goes with you; he will never leave you nor forsake you* (Deuteronomy 31:6).

⁴Inclusion condition text: *Neither height nor depth, nor anything else in all creation, will be able to separate us from the love of God that is in Christ Jesus our Lord* (Romans 8:39).

⁵Control condition text: *In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters* (Genesis 1:1-2).

⁶Control condition text: *Thus the heavens and the earth were completed in their entire vast array. By the seventh day God had finished the work he had been doing; so on the seventh day he rested from all his work* (Genesis 2:1-2).

Table 1. Means and standard deviations of scales by location in Study 1.

| Location | Scale | <i>M</i> | <i>SD</i> |
|------------------|-------------------------|----------|-----------|
| Religious school | Religious Commitment | 37.29 | 6.54 |
| | Basic Need Satisfaction | 60.63 | 13.95 |
| Secular School | Religious Commitment | 33.91 | 10.19 |
| | Basic Need Satisfaction | 65.24 | 12.14 |

are the results of the main effect analyses without location included in the model. The exclusion ($M = 55.65$, $SD = 14.01$) vs. other conditions ($M = 66.83$, $SD = 10.58$) regression analyses significantly predicted well-being score, $t(133) = -5.08$, $p < .001$, $d = -0.92$. However, there was not a significant difference between the inclusion ($M = 65.40$, $SD = 11.17$) and control conditions ($M = 68.30$, $SD = 9.86$) on well-being score, $t(87) = -1.30$, $p = .198$, $d = -0.28$.

When location is added to the model, results do not change. Table 1 shows the means and standard deviations between the secular school and religious school on the questionnaires. There is a significant interaction between the exclusion condition on well-being by location, $t(46) = 2.35$, $p = .020$, such that those at the religious school ($n = 22$; $M = 49.77$, $SD = 14.04$) have lower well-being scores compared to those from the secular school ($n = 24$; $M = 61.04$, $SD = 13.33$) when thinking about God's exclusion.

Exploratory hypothesis

A difference between the original study and ours is that we did not use the same moderating variables as the original study. Due to the criticisms against the original moderating variables of intrinsic, extrinsic, and quest religiosity (Kirkpatrick & Hood, 1990), we used the exploratory moderating variable of *religious commitment to God* instead. This variable captures an individual's emotional attachment to their relationship with God and their long-term orientation toward maintaining this relationship (Arriaga & Agnew, 2001; Wesselmann et al., 2016b).

The data was analyzed using the Process Macro (Hayes, 2018) to test the interaction of commitment to God on the relation between condition and well-being (moderation model was Condition \times Commitment + Location). Contrary to hypotheses 3 and 4, this interaction was found to be non-significant, $\Delta R^2 = .02$, $F(2, 127) = 1.43$, $p = .242$. The correlation between commitment and well-being was marginally significant, $r(134) = .168$, $p = .053$.

Discussion

The main effect of van Beest and Williams (2011) was found in our sample. This provides further evidence that thinking about God's abandonment lowers Christian's well-being. The interaction in our study was not significant. We may have been underpowered to detect the effect, especially given that the effect of intrinsic religiosity was small in the initial study. Another possibility is that both hypotheses 3 (high religious commitment *lowers* well-being in the exclusion condition) and 4 (high religious commitment *increases* well-being in the exclusion condition) were happening, leading to a null effect. Another limitation of our study is that only 63% of our participants correctly answered the manipulation check, compared to van Beest and Williams (2011) where 90% of participants correctly answered the manipulation check. This may have been a translation issue, such that the way the manipulation check was worded in Dutch may have read clearer than the English version. We conducted another study in an attempt to address these limitations. Knowing that the measure of psychological commitment correlates with relationship-relevant attributions but does not directly assess them, a measure on how Christians react to God's transgressions was added to try to better understand how Christians react to thinking about God excluding them.

Study 2

Methods

Participants

We recruited Christians from Amazon Mechanical Turk using TurkPrime (Litman et al., 2017) to screen for Christian participants in the United States. We set our smallest effect size of interest to the value $d = 0.30$. We set $d = 0.30$ as the smallest effect size of interest for three reasons: 1) This approximates the minimal difference that participants subjectively report in other affective outcomes (Anvari & Lakens, 2019), 2) it is slightly smaller than the effect van Beest and Williams (2011) had 33% power to detect (see *small-telescopes* approach, Lakens, Schell, & Isager, 2018; Simonsohn, 2015), and 3) beyond this point, studies would require more than 300 participants to achieve 80% one-tailed power, which may be cost-prohibitive to many researchers, including ourselves.

Using G*Power we would need $N = 275$ for an effect size of $d = 0.30$. We recruited 277 participants for the study, 89 participants were in the exclusion condition, 89 participants were in the inclusion condition, and 99 participants were in the control condition. The average age of participants in our study is 42 ($SD = 13.25$). Using TurkPrime, our survey was set to only be viewable by Christian workers. Using additional demographic questions, we ensured that participants taking the study were Christian. Workers were paid 1.25 USD for a survey that took around 10 minutes to complete. There were 160 females, 116 males, and 1 transgender female participant. The majority of the participants were white or European-American ($n = 192$), followed by African-American ($n = 37$), Latino/a ($n = 21$), Asian-American ($n = 14$), multi-racial ($n = 8$), Native American ($n = 4$), and Pacific Islander ($n = 1$). For reference, van Beest and Williams (2011) had 110 participants in their study and we had 135 participants in our Study 1.

Materials and procedures

The methods and material are almost identical to Study 1. The changes to Study 2 include adding additional attention and manipulation checks and an additional questionnaire measuring accommodations for God's transgressions. All participants answered more than half of the attention and manipulation checks correctly, which is the stated amount we pre-registered to include participants (OSF Registration Link: <https://osf.io/4kxbx2/>).

Participants answered questions from the religious commitment subscale (Wesselmann et al., 2016b; $\omega = 0.96$, Cronbach's $\alpha = .96$) then were randomly assigned into one of three conditions. Participants read the same Bible verses and paragraphs as study 1 in their respective conditions: exclusion condition (Psalm 22:1b-2 and Samuel 18:12, inclusion condition (Deuteronomy 31:6 and Romans 8:39), and control condition (Genesis 1:1-2 and Genesis 2:1-2). Following this, participants wrote down their thoughts relating to the conditions.

Next, participants completed the 12-item need satisfaction scale ($\omega = 0.93$, Cronbach's $\alpha = .88$). Which was followed by the added 12-item Accommodating God's Transgressions scale ($\omega = 0.91$, Cronbach's $\alpha = .91$; Laurin et al., 2014). Participants rated their likelihood of engaging in each behavior (e.g., pray more, be angry, leave the faith) using a 9-point scale (1 = *extremely unlikely* to 9 = *extremely likely*), meaning the range of possible scores was from 12 – 108.

Results

Missing data was handled through the default of R and SPSS, casewise deletion. No data had a standardized residual > 3 , our pre-specified sensitivity analysis. Therefore, no data were removed as outliers.

Confirmatory hypotheses

We conducted one-tailed regression analyses and used planned contrasts (i.e., exclusion vs. others $[-1, .5, .5]$ and inclusion vs. control $[0, -1, 1]$) to study the main effect. The exclusion ($M = 49.79$,

$SD = 21.17$) vs. other conditions ($M = 70.39$, $SD = 11.73$) regression analyses significantly predicted well-being score, $t(275) = -10.41$, $p < .001$, $d = -1.34$. There was not a significant difference between the inclusion ($M = 72.07$, $SD = 10.38$) and control conditions ($M = 68.89$, $SD = 12.68$) on well-being score, $t(186) = 1.87$, $p = .063$, $d = 0.27$.

Earlier we stated the smallest effect size of interest was $d = 0.30$. Using the TOST package (Lakens et al., 2018) in R to run an equivalence test, we tested our observed effect size against the bounds of $[-.30, .30]$ and $\alpha = .05$. The null hypothesis is that the observed effect is as large or larger than the bounds of $[-.30, .30]$. Results indicated the null hypothesis test was significant, $t(114.3) = -8.58$, $p < .001$. These results indicate that the observed effect is at least as extreme as the critical bounds and statistically not equivalent to zero.

Exploratory hypothesis

The moderation analysis of commitment on the relation between condition and well-being (i.e., moderation model was Condition \times Commitment) was conducted using the Process Macro (Hayes, 2018) to test the interaction of commitment to God on the relation between condition and well-being. This interaction was found to be non-significant, $\Delta R^2 = .003$, $F(2, 270) = 0.52$, $p = .593$. Religious commitment was found to have a small correlation to well-being $r(274) = .185$, $p < .01$.

Supplementary statistical analyses

As an exploratory measure we added a scale assessing *Intentions to Accommodate God's Transgression* ($\omega = 0.91$, Cronbach's $\alpha = .91$; Laurin et al., 2014). Participants in each condition were asked how they would accommodate God excluding them (e.g., pray more, be angry, leave the faith). Intentions to accommodate God's transgressions was strongly correlated with religious commitment, $r(276) = .583$, $p < .001$ and moderately correlated with well-being, $r(270) = .347$, $p < .001$. A univariate ANOVA revealed a non-significant effect of condition on accommodating God's transgressions, $F(2, 272) = 1.69$, $p = .186$.

The three-way interaction between condition, commitment to God, and intentions to accommodate God's transgressions (Condition \times Commitment \times Accommodation) on well-being was not significant, $F(2, 259) = 0.29$, $p = .749$. The interaction between the exclusion condition, commitment to God, and intentions to accommodate God's transgressions (Exclusion Condition \times Commitment \times Accommodation) on well-being was not significant, $F(1, 263) = 0.10$, $p = .754$.

Mini meta-analysis on main effects

We used meta-analysis to combine effect size estimates across the two studies in this manuscript and the original study. Contrasts were meta-analyzed across studies for a higher-precision estimate of the effect size (Goh et al., 2016). To conduct the mini-meta analysis we obtained the data from van Beest and Williams (2011). Using the same methods as above, we combined the original data with both studies' data to conduct one-tailed regression analyses using planned contrasts (i.e., exclusion vs. others $[-1, .5, .5]$ and inclusion vs. control $[0, -1, 1]$). The results of the mini meta-analysis revealed the exclusion ($M = 51.92$, $SD = 17.03$) vs. other conditions ($M = 67.61$, $SD = 11.66$) regression analysis significantly predicted well-being score, $t(520) = -11.93$, $p < .001$, $d = -1.11$. Moreover, the mini-meta analysis revealed a significant difference between the inclusion ($M = 67.75$, $SD = 11.67$) and control conditions ($M = 59.87$, $SD = 11.69$) on well-being score, $t(520) = 5.45$, $p < .001$, $d = 0.58$.

Discussion

In the Netherlands, van Beest and Williams (2011) discovered Christians experienced lowered well-being scores when they thought about God abandoning them at some point in their lives. We sought to

replicate that study with two different studies. We experimentally manipulated thinking about God's potential exclusion and inclusion to determine if these thoughts caused differences in well-being among Christians. In both studies, thinking about God's potential exclusion significantly lowered well-being compared to thinking about God's potential inclusion and thinking about God creating the Earth. Our data extend van Beest and Williams (2011) original findings with Dutch Christians to Christians located in the United States. These results provide support for a causal effect of thinking about God's potential exclusion on well-being.

Perhaps Christians are taught and generally believe their God will always include them leading them to ignore the possibility of times when they might feel like God is not present. This could be why Christians have lowered well-being from thinking about God's exclusion – they could be surprised and thus underprepared for a time when God may exclude them. This thought brings pain and lowered well-being. A solution for the issue of lowered well-being could be for Christians, Pastors, and counselors to prepare themselves, their congregation, and their clients (respectively) for times when they may believe that their God has abandoned them, especially given correlational data showing belief in God's abandonment can have increased negative health outcomes (Buser et al., 2017; Jones et al., 2015). Future research should examine if awareness and preparation for God's future exclusion could diminish some of the effect God's exclusion has on well-being.

While the individual studies, as well as the original study, showed no significant effect on the relation between the inclusion and control conditions on well-being, the mini-meta analysis showed there was a benefit to well-being when Christians read that God would always be with them compared to reading about God creating the Earth. Future research could examine this relation more closely to determine if it is a true effect. Both our studies, as well as the original study, may simply have been underpowered to detect this effect. The control conditions in all three studies were Bible verses, and thus future research could have a more neutral control condition that does not include religious scripture.

We also explored whether we would be able to moderate the exclusion effect on well-being. Van Beest and Williams (2011) observed that the exclusion effect was especially found among participants with an intrinsic religious motivation. We instead focused on religious commitment. In both our studies we failed to find support that religious commitment moderated our findings. This could imply that religious commitment is not a factor. It could also imply that the findings of van Beest and Williams are due to the variance that is not common in both the intrinsic and commitment variables. Future research may test this and include both measures as to see whether it is indeed only intrinsic religiosity and not commitment, or alternatively that the current samples were not large enough to detect an effect of commitment.

Another limitation in both studies is the lack of variety in religious affiliation. Future research is needed to understand if divine exclusion has the same effect on well-being in the context of other monotheistic religions. Despite limitations, the findings could enhance understanding of one's relationship to their deity and may have implications for how religious people read and interpret their scripture, as well as how they view their relationship with God. Additionally, counselors (pastoral or secular) may find this information useful when assisting religious clients.

Conclusion

The current research successfully replicated the finding that thinking about being excluded by God lowers self-reported well-being. Adding to the existing literature, we also provided some initial support that thinking about being included by God may actually increase well-being, although this latter effect was only obtained in an overall analysis of the studies and not observed on the level of the individual study.

Religion can be helpful for coping with mental health when experiences with religion are positive, and harmful when experiences with religion are negative (Pargament et al., 2005; Seybold & Hill, 2001). Taken together, our research adds to the literature on when and how religion can be helpful or

harmful to individuals and their well-being; thinking about one's God abandoning or otherwise excluding them can have negative psychological consequences.

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Data availability statement

The data described in this article are openly available in the Open Science Framework at <https://doi.org/10.17605/OSF.IO/4KBX2>.

Open scholarship



This article has earned the Center for Open Science badges for Open Data and Preregistered. The data and materials are openly accessible at <https://doi.org/10.17605/OSF.IO/4KBX2>.

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