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What is This?

Turning to God in the Face of Ostracism: Effects of Social Exclusion on Religiousness

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Abstract

The present research proposes that individuals who are socially excluded can turn to religion to cope with the experience. Empirical studies conducted to test this hypothesis consistently found that socially excluded persons reported (a) significantly higher levels of religious affiliation (Studies 1, 2, and 4) and (b) stronger intentions to engage in religious behaviors (Study 2) than comparable, nonexcluded individuals. Direct support for the stress-buffering function of religiousness was also found, with a religious prime reducing the aggression-eliciting effects of consequent social rejection (Study 5). These effects were observed in both Christian and Muslim samples, revealing that turning to religion can be a powerful coping response when dealing with social rejection. Theoretical and practical implications of these findings are discussed.

Forms of social exclusion such as ignoring or outright rejection appear to be highly pervasive acts of human behavior. Williams (2007) argues that nearly everyone has experienced social exclusion or isolation at some point in life, whether for a brief or extended period. Social exclusion occurs not only in dyads and small groups but also on a broader societal and intercultural level, begging the question of how people cope with it. It is proposed that turning to religion is one of the major methods utilized to do so. Theoretically, this idea goes back to Freud (1927/1964, 1930/1961), who argued that one of the core functions of religion is to act as a buffer against social loneliness and isolation. Attachment theorists (e.g., Kirkpatrick, 1992, 1998) argue that in all religions, God can be regarded as a real-world, substitute attachment figure, who both secures social relations and guards against exclusion. On an anecdotal level, there is also large-scale societal evidence for the argument that religion buffers social exclusion; for example, African Americans (who still face exclusion and discriminatory acts in American society; Coleman, 2003; Yinger 1998) show higher levels of religious involvement, feel more strongly committed toward their religious beliefs and religious identity, and attend religious services more frequently than White Americans (Taylor, Chatters, Jayakody, & Levin, 1996).

Although previous research on social exclusion has painted a complex picture of coping responses, the role of religious affiliation has been somewhat neglected, with prior studies mainly being nonexperimental, observational, or suggestive. A preliminary experiment conducted by Burris, Batson, Altstaedten, and Stephens (1994) on the relationship between loneliness and intrinsic religion (defined as mature and "pure" devotion to God; Allport & Ross, 1967) revealed that reminding people of their vulnerability to loneliness led to increased levels of intrinsic religiousness (see Burris et al., 1994). Another study by Birgegard and Granqvist (2004) assessed affiliation to God, demonstrating that subliminal activation of the attachment system has effects suggesting that God functions as an attachment-like figure. More recently, Epley, Akalis, Waytz, and Cacioppo (2008) find that when socially rejected people report a stronger belief in supernatural beings including ghosts, angels, and God. Yet, the connection between this belief and religiosity is left uncertain.

Since previous research on the interactions of social exclusion and religion is mostly nonempirical and preliminary, the present research sought to systematically investigate the effects of social exclusion on religiousness and its associated, underlying psychological processes.

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Research on Social Exclusion

In all its forms, social exclusion proves tremendously stressful and painful, in both physical and psychological modalities (see Eisenberger, Lieberman, & Williams, 2003; Zadro, Williams, & Richardson, 2004). The desire for acceptance and the formation of stable, lasting connections with the social world is a fundamental need of every human being (Baumeister & Leary, 1995), and failing to fulfill it can lead to negative social rejection behaviors, such as increased aggression and antisocial conduct (e.g., Leary, Kowalski, Smith, & Phillips, 2003; Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007; Twenge, Baumeister, Tice, & Stucke, 2001). However, ostracism can result in more positive behaviors under specific circumstances, with individuals demonstrating increased levels of prosocial behavior as well as an increased motivation to forge social bonds and reconnect with other people (Maner, DeWall, Baumeister, & Schaller, 2007). According to Twenge (2005), the link between social exclusion and antisocial or prosocial behavior is moderated by several factors, including personality variables such as narcissism or rejection sensitivity and situational factors such as the expectation to interact with the rejecting target in the future.

Previous findings suggest that the threat of social exclusion activates cognitions and actions that reflect a heightened desire for social acceptance. For example, Maner et al. (2007) showed that social exclusion led people to increase both their desire to be with others and their ability to see potential sources of friendship in a positive light. In other experiments conducted by DeWall, Maner, and Rouby (2009), socially excluded individuals demonstrated increased selective attention to signs of social acceptance (such as smiling faces) at the level of early-stage perceptual processing. Therefore, it seems that if this basic need for acceptance is threatened by social exclusion, people will attune to promising opportunities for socially reconnecting with others (the interpersonal reconnection hypothesis; Maner et al., 2007). It can be argued that religion functions as a source of attachment in situations of social rejection and satisfies the otherwise-thwarted desire to belong. The unique role of religion in the coping process is supported by numerous studies, which successfully document how its different aspects help individuals deal with adversity and misfortune in life.

Religion and Coping With Social Rejection

In most cultures, religiousness provides various psychological functions, such as providing a shared system of meaning in social interactions (Becker, 1971; Berger, 1969), consoling people regarding their own mortality (Goodenough, 1986; Jonas & Fischer, 2006; Solomon, Greenberg, & Pyszczynski, 1991), and presenting clear norms and social rules for living a virtuous life (Allport, 1950; Bergin, 1991). Numerous empirical studies have shown that religion helps individuals cope with a variety of personal and collective stressors, such as illness (Spilka, Hood, & Gorsuch, 1985), the loss of a child (McIntosh, Silver, & Wortman, 1993), trauma (Ai, Tice, Peterson, & Huang, 2005), terrorist threat (Fischer, Greitemeyer, Kastenmüller, Jonas, & Frey, 2006), and war (Ai & Peterson, 2004; for an overview, see Hill & Pargament, 2003). Given these positive effects, religion is very important to many people. For example, a recent Gallup Poll revealed that 89% of all Americans describe themselves as being religious, with 59% reporting that their beliefs were very important to them and 44% having visited a church or synagogue during the previous week (Newport, 2004, as cited in Jonas & Fischer, 2006). With this knowledge, it may be supposed that social exclusion is another important social stressor that can be effectively buffered by turning to religion.

The question of why religiousness helps in dealing with adversity has prompted much speculation from researchers. For example, McIntosh et al. (1993) argued that religiosity provides both internal and external coping resources. Internal resources refer to how the individual cognitively and affectively processes external stressors as a function of pre-existing beliefs and attitudes (see Koenig, George, & Siegler, 1988). With regard to this internal account, religious people may simply have more or better cognitive and affective strategies to cope with adverse experiences such as social exclusion (Ai et al., 2005). In contrast, the external coping resources provided by religion concern social support that is provided by a religious leader or the religious community (Thoits, 1986). In times of crisis, this social support can help individuals overcome frustration and adversity (Haden, Scarpa, Jones, & Ollendick, 2007; Oxman, Freeman, & Manheimer, 1995). The present research investigates whether these religious coping strategies are also helpful in the face of social rejection.

The Present Research

Social exclusion threatens some of the fundamental, core values of human beings, such as the need to belong, control, find meaning in life, and feel positively about the self (Williams, 1997). It is hypothesized that turning to religion helps individuals maintain or restore these fundamental social needs, via providing a secure relationship with God (attachment approach; Kirkpatrick, 1998), fostering feelings of control and self-efficacy (Ai et al., 2005; Fischer et al., 2006), and helping in both the discernment of meaning and the bolstering of self-esteem (Pargament, 1997). From a social perspective, membership and participation in a religious group also provide additional resources for coping with social exclusion.

In the following studies, the assumption that religiousness buffers social exclusion was tested using two strategies. In Studies 1 through 4, it was explored whether inducing social exclusion would intensify religious beliefs (Studies 1, 3, and 4) and increase religious behavior or participation (Study 2). Previous research has shown that the intensification of religious beliefs in the face of threat and adversity is indeed a valid

indicator of underlying coping processes (Bjorck & Cohen, 1993; Pargament, 1997). Study 3 thus sought to investigate the underlying psychological processes, which were expected to be located in those related to the buffering of self-esteem. Here, it is argued that social exclusion leads to self-esteem threat, which can be lessened by directing the individual's attention to sources promising reconnection and affiliation such as religion (Williams, 2007). Finally, Study 5 was designed to directly examine whether religiousness causally buffers negative effects of social rejection, using an established aggression paradigm.

Study 1

The first study was designed to gather initial evidence that the socially excluded indeed report being more religious than the nonexcluded. In Germany, Turkish people are the largest ethnic minority group, with surveys of the population revealing that they feel socially excluded in German society, face specific forms of discrimination, and lack opportunities in social, employment, and economic areas (Sauer, 2006). Structural mechanisms of social inequality in relation to education and employment have led to the emergence (and persistence) of segregation for Turkish immigrants living in Germany (Kristen, 2005). Given these facts, it was expected that these immigrants would report higher levels of religiousness than a comparable sample of Turkish people who still live in Turkey (and would, in theory, not feel socially excluded). This hypothesis was tested quasiexperimentally by comparing the self-reported religiousness of Turkish people in Germany versus Turkish people in Turkey.

Method

Participants and design. Participants were 457 people of Turkish origin. The migrant (high social exclusion) sample consisted of 167 individuals (89 women, 78 men) currently residing in Germany (mean age = 40.3, *SD* = 13.13, range = 16 to 71; 28.1% were born in Germany and 71.9% migrated there from Turkey). Participants were recruited in the region of Munich, Bavaria, through local and personal contacts. The nonmigration (low social exclusion) sample consisted of 288 individuals (134 women, 154 men; mean age = 38.80, *SD* = 16.00, range = 16 to 81) recruited in West and Middle Turkey (Anatolia) via personal contacts. For both samples, the questionnaire was presented in Turkish.

Materials and procedure. First, participants were asked to complete a demographic questionnaire indicating their gender, age, and socioeconomic status. Participants' self-reported religiousness was then assessed via a Turkish translation of Allport and Ross's (1967) Religious Orientation Scale (ROS). The ROS contains 12 items, answered on a 9-point Likert-type scale, and it discerns between intrinsic and extrinsic religious orientations. The aim of Allport's theoretical approach was to find the motives behind various religious deeds, with

the intrinsic typology characterizing mature and meaningful religious affiliation, and the extrinsic orientation conceptualized as utilizing religion for instrumental purposes, such as gaining comfort or social connectedness (Allport & Ross, 1967). Allport summarized the distinction in the following statement: "The extrinsically motivated individual uses his religion, whereas the intrinsically motivated lives his" (Allport & Ross, 1967, p. 434). Although the ROS and its two religious factors are the most well-known measures of religious affiliation (Donahue, 1985; Gorsuch, 1988), methods of modifying the scale have been proposed by various researchers, the principal suggestion being to divide the extrinsic scale into two discrete subscales distinguishing between personal and social motivations (Kirkpatrick, 1989; Leong & Zachar, 1990). Thus, three factors emerged from the original ROS (Maltby, 1999): the six-item intrinsic scale, the three-item extrinsic-personal scale (which assesses religion as a source of comfort and security), and the three-item extrinsic social scale (assessing religion as social gain).

Participants were instructed to indicate their level of agreement with each item of the intrinsic and extrinsic subscales from 1 (*very strongly disagree*) to 9 (*very strongly agree*). Items assessing intrinsic religiousness included "Religion offers me comfort when sorrow and misfortune strikes" and "Private religious thought and meditation is important to me." Extrinsic-personal religious orientation was assessed by items such as "The primary purpose of prayer is to gain relief and protection" and "Prayer is for peace and happiness," whereas items assessing extrinsic-social religiousness included "The church is most important as a place to form social relationships" and "I go to church because it helps me to make friends." All of the items were adapted for Muslim participants, with the intrinsic ($\alpha = .79$), extrinsic ($\alpha = .76$), extrinsic-personal ($\alpha = .76$), and extrinsic-social ($\alpha = .70$) scales proving sufficiently reliable.

In addition, a Turkish translation of the Revised Religious Fundamentalism Scale (RRFS) by Altemeyer and Hunsberger (2004; $\alpha = .69$) was employed, containing eight items participants answer on a scale from 1 (*very strongly disagree*) to 9 (*very strongly agree*), such as "To lead the best, most meaningful life, one must belong to the one, true religion" and "There is no body of teachings or set of scriptures which is completely without error" (reverse scored).

Finally, a self-constructed scale of social exclusion was used to test whether Turks in Germany felt more socially excluded than Turks in Turkey. This scale consisted of three items, which were once again answered on a Likert-type scale, this time from 0 (*never*) to 3 (*very often*): "I often feel alone," "The people around me treat me in an unloving way," and "I feel that people surrounding me don't like me" ($\alpha = .67$). After completing the questionnaire, all participants were thoroughly debriefed about the aim of the study. The first author of this article (who is a native Turkish speaker) provided individual assurances in an extended talk, so that no participant was left with any negative feelings.

Results and Discussion

Check for manipulation and interfering effects. A one-way ANOVA revealed that migrant Turks in Germany ($M = .88$, $SD = .83$) felt more socially excluded than nonmigrant Turks in Turkey ($M = .61$, $SD = .71$), $F(1, 445) = 12.3$, $p < .001$, $\eta^2 = .03$. The impacts of religiousness (ROS) and migration status (reported next) remained significant ($p < .001$) when gender and socioeconomic status were statistically controlled as covariates. Checks for interfering effects revealed no significant result for gender, $F < .1$, $p > .62$, but a significant effect for socioeconomic status, $F(1, 447) = 3.90$, $p = .049$, $\eta^2 = .009$.

Migration status and religiousness. A one-way ANOVA with migration status as the independent variable and religiousness (ROS) as the dependent variable revealed a significant main effect for both intrinsic, $F(1, 451) = 26.95$, $p < .001$, $\eta^2 = 06$, and extrinsic, $F(1, 451) = 15.67$, $p < .001$, $\eta^2 = 033$, religiousness, indicating that Turks in Germany reported significant higher levels of intrinsic ($M = 6.29$, $SD = 1.86$) and extrinsic ($M = 6.15$, $SD = 1.78$) religiousness than nonmigrant Turks living in Turkey (intrinsic: $M = 5.29$, $SD = 2.04$; extrinsic: $M = 5.44$, $SD = 1.90$). In addition, significant effects for extrinsic-personal religiousness, $F(1, 457) = 4.04$, $p = .045$, $\eta^2 = 009$, and extrinsic-social religiousness, $F(1, 457) = 42.56$, $p < .001$, $\eta^2 = .086$, were observed, indicating higher levels of extrinsic-personal religiousness ($M = 7.00$, $SD = 1.95$) and extrinsic-social religiousness ($M = 5.43$, $SD = 1.88$) in migrant Turks compared to nonmigrant Turks (extrinsic-personal: $M = 6.57$, $SD = 2.32$; extrinsic-social: $M = 4.19$, $SD = 1.99$). No significant difference was found for religious fundamentalism between migrants ($M = 6.15$, $SD = 1.28$) and nonmigrants ($M = 6.01$, $SD = 1.61$), $F < 1$, $p > .30$.

Process analyses. In support of the hypothesis, a significant correlation between intrinsic religiousness and self-reported social exclusion was found among migrant Turks living in Germany ($r = .19$, $p = .018$). No such correlation was found among nonmigrants living in Turkey ($r = .05$, $p = .44$). For both groups, no significant correlations were found for the effects of extrinsic (all rs $< .09$, all ps $> .27$), extrinsic-personal (all rs $< .03$, all ps $> .67$), and extrinsic-social (all rs $< .13$, all ps $> .10$) religiousness on social exclusion.

In summary, the first study provides initial support that the experience of being socially excluded increases individuals' self-reported religiousness. This effect persisted when socioeconomic status was statistically controlled for. To exclude the possibility of unknown third variables fueling this effect, a second study was conducted, which experimentally manipulated social exclusion and measured the consequent intensity of reported religiousness.

Study 2

To test the causal link between social exclusion and religiousness, the second study manipulated whether participants felt socially excluded, with the intensity of self-reported religiousness (intrinsic and extrinsic religiousness, religious fundamentalism) measured as a function of social exclusion. It was expected that participants in the social exclusion condition would report higher levels of religiousness than those in the nonexclusion condition.

Method

Participants and design. Participants were 53 students of Christian affiliation from the University of Munich (LMU Munich). One person was excluded because of missing data. Thus, data from 52 students of Christian affiliation (34 women, 18 men; mean age = 21.0, $SD = 5.8$, range = 18 to 52 years) were used. Study 2 consisted of a one-factorial design with three independent conditions (social exclusion, social inclusion, and a control group), with participants randomly assigned to one of the three conditions.

Materials and procedure. Participants were recruited from psychology classes at LMU Munich for a study on religious adjustment. First, they were asked to provide some sociodemographic data including their gender, age, and nationality. Participants in the social exclusion condition were then asked to consider a life event where they had experienced severe social exclusion and to write a short essay about it. In contrast, individuals in the social inclusion condition were asked to think about a life event where they had felt completely accepted and wrote a short essay about that (see Gardner, Pickett, & Brewer, 2000, for a similar manipulation). In the control condition, participants were asked to record activities they had taken part in during the previous day. Afterward, all participants reported their positive and negative affect on Watson, Clark, and Tellegen's (1988) Positive and Negative Affect Scales (PANAS).

Next, the intensity of participants' intrinsic ($\alpha = .81$), extrinsic ($\alpha = .72$), extrinsic-personal ($\alpha = .61$), and extrinsic-social ($\alpha = .65$) religiousness was measured utilizing the ROS (Allport & Ross, 1967) in addition to an assessment of fundamentalism (RRFS; Altemeyer and Hunsberger, 2004; $\alpha = .70$). After completing the questionnaire, participants were thoroughly debriefed and thanked for their participation, with individual, personal talks with the first author ensuring that no one was left with negative feelings.

Results and Discussion

Check for interfering effects. As suggested by previous research on social exclusion (Twenge, Catenese, & Baumeister, 2003), the exclusion manipulation did not differentially affect positive or negative affect, all Fs < 1.56, all ps $> .22$. The effect of religiousness (ROS) was still significant ($p < .009$) when gender and positive and negative emotions were controlled as covariates, $F < 1.4$, $p > .24$.

Table 1. Means and Standard Deviations for Religious Orientation Dependent on Experimental Conditions in Study 2

| | Experimental condition | | | | | |
| | Social exclusion | | Social inclusion | | Control | |
Religious Orientation Scale	M	SD	M	SD	M	SD
Intrinsic	4.46	2.09	3.05	1.39	2.89	1.21
Extrinsic	4.87	1.61	3.83	1.41	3.68	1.09
Extrinsic-personal	5.50	1.74	4.24	1.58	4.27	1.66
Extrinsic-social	4.24	1.93	3.34	1.61	3.09	1.37
Fundamentalism	3.82	1.42	3.19	1.01	3.07	1.35

$N = 53$.

Religiousness. Overall, ANOVAs revealed significant main effects for intrinsic, $F(2, 49) = 4.72$, $p = .013$, $\eta^2 = .16$; extrinsic, $F(2, 49) = 3.43$, $p = .040$, $\eta^2 = .12$; and extrinsic-personal, $F(2, 49) = 3.33$, $p = .044$, $\eta^2 = .12$, religiousness. There was no significant effect found for extrinsic-social religiousness, $F < 2.04$, $p > .14$. To increase the power of the tests, we followed the recommendations of Rosenthal and Rosnow (1985) and employed planned contrasts to test the hypothesized patterns. An a priori contrast revealed that participants in the social exclusion condition reported significantly higher levels of intrinsic religiousness ($M = 4.46$, $SD = 2.09$; contrast weight: −2) than did those in the social inclusion ($M = 3.05$, $SD = 1.39$; contrast weight: +1) or control ($M = 2.89$, $SD = 1.21$; contrast weight: +1) conditions, $t(49) = −3.04$, $p = .004$. Participants in the social exclusion condition also reported higher levels of extrinsic religiousness ($M = 4.84$, $SD = 1.61$; contrast weight: −2) than did those in the social inclusion ($M = 3.83$, $SD = 141$; contrast weight: −1) and control ($M = 3.68$, $SD = 1.09$; contrast weight: −1) conditions, $t(49) = −2.60$, $p = .012$. Furthermore, socially excluded participants indicated higher levels of extrinsic-personal religiousness ($M = 5.50$, $SD = 1.74$; contrast weight: −2) than did participants in the social inclusion ($M = 4.24$, $SD = 1.58$; contrast weight: −1) and control ($M = 4.27$, $SD = 1.66$; contrast weight: −1) conditions, $t(49) = −2.51$, $p = .015$. The social exclusion manipulation had no significant effect on reported fundamentalism, $F < 1.68$, $p > .19$. For an overview of the results, see Table 1.

In sum, the results of Study 2 provided initial experimental support for the hypothesis that social exclusion leads to increased levels of self-reported religiousness. Participants who felt socially rejected showed higher degrees of intrinsic, extrinsic, and extrinsic-personal religiousness than did participants who felt socially included or were in a control condition. Interestingly, extrinsic-social religious affiliation was not affected by social exclusion. This finding implies that persons who are socially excluded turn to religion to find *personal* comfort and consolation in God, but not *social* consolation.

Study 3

The third study attempted to replicate the findings of Studies 1 and 2 by employing behavioral measures of religious participation. As a function of social exclusion, the extent to which participants intended to practice their religion on personal and social levels was measured.

Method

Participants and design. Participants were 34 students of Christian affiliation from LMU Munich (24 women, 10 men; mean age = 22.94, $SD = 2.73$, range = 20 to 31). The study consisted of a one-factorial design with two independent conditions: social exclusion and social inclusion. Participants were randomly assigned to one of the two conditions.

Materials and procedure. Participants entered the lab to take part in a study about religion. As in Study 2, they were asked to provide some sociodemographic information before writing an essay on an autobiographic incidence where they had either been socially excluded (exclusion condition) or included (inclusion condition). Afterward, positive and negative affect were assessed using the PANAS (Watson et al., 1988). Subsequently, participants were asked to read six items describing different religious behaviors and to rate the attractiveness of each one on a scale from 0 (*not attractive at all*) to 10 (*very attractive*). Personal dimensions of religion were assessed with the following three items: "Taking some time for reflective thoughts," "Practicing private religious rituals," and "Praying for myself and talking with God." The social component of religious life was also measured with three items: "Meeting with other religious people," "Engaging in a religious association or project to live my religion," and "Communicating with religious leaders (like the priest or the pastor of my religious community)." The six-item religious behavior scale showed high internal consistency ($\alpha = .84$). After completing the questionnaire, participants were debriefed using an identical procedure to Studies 1 and 2.

Results and Discussion

Check for interfering effects. The social exclusion manipulation did not affect reported positive or negative affect, all $Fs < 1.3$, $ps > .24$. The effect of social exclusion on religious behavioral intentions remained significant ($p < .04$) when gender and positive and negative emotions were controlled as covariates, all $Fs < 2.3$, $ps > .13$.

Religious behaviors. Overall, ANOVAs revealed a significant effect for the religious behavior scale as a dependent variable, $F(1, 32) = 6.95$, $p = .013$, $\eta^2 = .18$. Moreover, separate analyses for personal behaviors revealed that participants in the social exclusion condition reported significantly higher levels of perceived attractiveness for the behavior "Praying for myself and talking with God" ($M = 4.17$, $SD = 3.20$) than did socially included participants ($M = 1.94$, $SD = 2.17$), $F(1, 32) = 5.49$, $p = .026$, $\eta^2 = .15$. Additionally, the socially excluded participants reported a significantly higher perceived attractiveness of the item "Practicing private religious rituals" ($M = 2.94$, $SD = 3.15$) than did the socially included participants ($M = 1.00$, $SD = 1.09$), $F(1, 32) = 5.48$, $p = .026$, $\eta^2 = .15$. No significant effect was found for "Taking some time for reflective thoughts," $F = 3.7$, $p = .06$, or for the religious social behavior items, all $Fs < 3.2$, $ps > .08$. For an overview of the results, see Table 2.

Study 3 revealed that the intensifying effects of social exclusion on religiousness could also be found on a more behavioral level. As in Study 2, social exclusion had particular impact on the personal, but not social, dimensions of religion. The next study sought to (a) further clarify the underlying psychological processes at work and (b) use more recent and distinguished measures of religiousness.

Study 4

Based on previous coping theory and research, Study 4 employed measures of self-esteem, social self-certainty, the need to belong, meaning in life, and experienced control as potential mediators for the effect of social exclusion on reported religiousness (Ai et al., 2005; Baumeister & Leary, 1995; Fischer et al., 2006; Leary, Tambor, Terdal, & Downs 1995; Williams, 2007). In addition, a more recent and distinguished measure of intrinsic and extrinsic religiousness was used. Based on factor analytic work by Kirkpatrick (1989), Gorsuch and McPherson (1989) reanalyzed the original ROS subscales, resulting in alterations to the intrinsic, extrinsic-personal, and extrinsic-social scales. The Revised Age–Universal I/E Scale (Revised I/E Scale; Gorsuch & McPherson, 1989) was subsequently employed in Study 4 as an outcome measure of religiousness.

Method

Participants and design. Sixty-six students of Christian affiliation from LMU Munich participated in exchange for course

Table 2. Means and Standard Deviations for Religious Behavior Dependent on Experimental Conditions in Study 3

| Religious behaviors | Experimental condition | | | |
| | Inclusion | | Exclusion | |
	M	SD	M	SD
Meeting with other religious people	2.38	2.68	3.78	3.62
Taking some time for reflective thoughts	3.94	2.81	5.72	2.56
Praying for myself and talking with God	1.94	2.17	4.17	3.20
Engaging in a religious project	1.44	2.15	3.22	3.30
Practicing private religious rituals	1.00	1.09	2.94	3.15
Communicating with religious leaders	1.94	2.46	3.67	3.16

$N = 34$.

credit. Two persons did not fulfill the essay writing task (the manipulation task) and were excluded from the sample. Thus, data from 64 participants were used (51 women, 13 men; mean age = 23.22, $SD = 2.77$; range = 19 to 32). The study consisted of a one-factorial design with two independent conditions: social exclusion and social inclusion. Participants were randomly assigned to one of the two conditions.

Materials and procedure. As in Studies 2 and 3, participants entered the lab to take part in a study about religion and were subject to an identical social exclusion manipulation (writing a short essay about an autobiographical event where they had felt either socially excluded or socially included). After completing the essay, participants provided ratings of their positive and negative affect via PANAS, with the dependent variable intensity of religiousness measured using the Revised I/E Scale. This assessed three dimensions of religiousness on a 9-point Likert-type scale, ranging from 1 (*do not agree at all*) to 9 (*totally agree*): the eight-item intrinsic scale ($\alpha = .78$), the three-item extrinsic-personal scale ($\alpha = .71$), and the three-item extrinsic-social scale ($\alpha = .81$). Items assessing intrinsic religious orientation on the Revised I/E Scale included "I often have a strong sense of God's presence" and the reverse-scored "Although I believe in my religion, many other things are more important in life." Items assessing the extrinsic-personal dimension included "I pray mainly to gain relief and protection" and "Prayer is for peace and happiness," whereas extrinsic-social orientation was assessed by items such as "I go to church because it helps me to make friends" and "I go to church mostly to spend time with my friends."

Derived from previous research on social exclusion and religious coping (Baumeister & Leary, 1995; Williams, 2007), the following potential mediating process variables were tested: (a) self-esteem (via the Rosenberg Self-Esteem Scale; Rosenberg, 1965; $\alpha = .84$), (b) meaning (through the Meaning in Life Questionnaire; Steger, Frazier, Oishi, & Kaler, 2006;

α = .77), and (c) social self-certainty (social self-esteem; Leary et al., 1995) through the following items on a scale from 0 (*I do not agree at all*) to 10 (*I totally agree*): "I feel certain when I get to know new people," "I feel confident in handling my social relationships," "In dealing with other people I feel self-confident," and as a revised item "I often feel anxious in the presence of other persons" (α = .70). The final measure was (d) perceived personal control, assessed by the following three items on a scale from 1 (*I do not agree at all*) to 10 (*I totally agree*): "I have influence on the happenings in my social environment," "I do not feel that I can influence my life," and "I feel uncertain and powerless" (reverse scored; α = .71). Participants then were debriefed using the same procedure as in the previous three studies.

Results and Discussion

Check for interfering effects. As in the previous studies, there were no significant effects for positive and negative affect, all Fs < 1.2, ps > .25. Similarly, the effect of social exclusion on the dependent variable religiousness (Revised I/E Scale) remained significant ($p < .048$) when gender and positive and negative affect were controlled as covariates (all Fs < 1.6, ps > .21)

Religiousness. A one-factorial ANOVA revealed that socially excluded participants reported higher levels of intrinsic, $F(1, 62) = 3.95$, $p = .05$, $\eta^2 = .06$, and extrinsic-personal, $F(1, 62) = 5.74$, $p = .022$, $\eta^2 = .08$, religiousness. Socially excluded participants also reported higher levels of both intrinsic ($M = 3.98$, $SD = 1.79$) and extrinsic-personal ($M = 4.26$, $SD = 2.45$) religiousness than did socially included participants (intrinsic: $M = 3.18$, $SD = 1.40$; extrinsic-personal: $M = 3.04$, $SD = 1.56$). There was no significant effect regarding the extrinsic-social orientation ($F < 1$, $p > .76$). For an overview of the results, see Table 3.

Mediation analyses. One-factorial ANOVAs revealed significant effects of social exclusion on self-esteem, $F(1, 61) = 5.79$, $p = .019$, $\eta^2 = .08$, and social self-certainty, $F(1, 60) = 5.80$, $p = .019$, $\eta^2 = .08$. No effects were found for meaning in life, $F < 1.7$, $p > .20$, and control beliefs, $F < 1.3$, $p > .26$. Thus, mediation tests were only carried out for self-esteem and social self-certainty. The items of the intrinsic and extrinsic-personal scale were collapsed into a scale of personal religiousness (α = .82), as both constructs measured private dimensions of religion ($r = .56$, $p < .001$). Analyses revealed no significant relation between personal religiousness and self-esteem, β = −.006, $t(63) = −.045$, $p = .96$, but did find a significant correlation between religiousness and social self-certainty, β = −.337, $t(62) = −.2,75$, $p = .008$. As the variable self-esteem did not correlate with personal religiousness, it did not meet the necessary requirements for further mediation analyses.

To test whether social self-certainty mediates the effect of social exclusion on religiousness, a bootstrapping analysis

Table 3. Means and Standard Deviations for Religious Orientation and Core Values Dependent on Experimental Conditions in Study 4

| | Experimental condition | | | |
| | Inclusion | | Exclusion | |
Religiousness and core values	M	SD	M	SD
Intrinsic religiousness	3.18	1.40	3.98	1.79
Extrinsic-personal religiousness	3.04	1.56	4.26	2.45
Extrinsic-social religiousness	1.47	1.33	1.56	1.19
Self-esteem	3.35	0.40	3.06	0.54
Social self-certainty	7.37	1.41	6.30	2.08
Meaning in life	4.30	0.95	3.99	1.00
Control	7.00	1.76	6.43	2.23

N = 64.

based on 5,000 bootstraps was executed (Preacher & Hayes, 2004). The results showed a significant direct effect of social exclusion on personal religiousness, $t = 2.51$, $p = .014$, which was reduced to nonsignificance, $t = 1.70$, $p = .10$, when controlling for the mediator (social self-certainty). In addition, the true indirect effect was estimated to lie between 0.071 and 0.7205 with 95% confidence. Because zero is not in the 95% confidence interval, one can conclude that the real indirect effect became significant at $p < .05$ (two-tailed). Thus, it appears that social self-certainty mediates the effect of social exclusion on religiousness.

In summary, Study 4 replicated the effects of Studies 1 through 3 with a more recent and distinguished measure of religiousness: the Revised I/E Scale by Gorsuch and McPherson (1989). Once again, findings indicated that heightened levels of religiousness following social exclusion were specific to personal, but not social, religious dimensions.

The study also clarified the underlying psychological process, revealing that social exclusion increased individuals' motivation to turn to personal religiousness, which was in turn caused by decreased social self-certainty (a proxy for belonging). It may be concluded that in times of social rejection, individuals turn to their *personal religious* world because their social self-esteem within the *real social* world is highly threatened. A secure relationship with the divine may function as a successful compensatory attachment for their (currently lacking) social relationships, and thus may regenerate levels of social self-esteem and belonging (see also Kirkpatrick, 1997).

Study 5

Studies 1-4 consistently demonstrated that social exclusion intensifies self-reported religiousness. However, it remains unknown whether turning to religion in the face of social rejection is actually successful as a coping response. Consequently, Study 5 tested whether religion salience would reduce

the negative effects of social rejection. Recent research has revealed that social exclusion increases aggressive responses (Twenge et al., 2001), which provides an opportunity to test the buffering hypothesis. If turning to religion helps in coping with social exclusion, then priming participants with religiousness should reduce the aggression-eliciting effect of a social exclusion manipulation. In contrast, participants *without* a religiousness prime should show the classic effect of social exclusion—increased aggressive responses.

Method

Participants and design. Fifty-nine students of Christian affiliation (37 women, 22 men; mean age = 22.71, *SD* = 2.5, range = 18 to 29) of LMU Munich participated in exchange for course credit. The study consisted of a 2 (exclusion status: social exclusion vs. inclusion) × 2 (religiousness prime: yes vs. no) between-subjects design. Participants were randomly assigned to one of the four independent conditions.

Materials and procedure. All of the experimental sessions were conducted individually for each participant. After providing some demographic information, participants were asked to read a short paragraph about a situation involving a new job and to imagine themselves as the new employee. Participants in the social exclusion condition were told that their work colleagues wanted no contact with them (e.g., refusing to have lunch together, providing no assistance with new and unknown tasks) by sole virtue of their newness. Participants were also asked to imagine that their boss excluded them and ignored their ideas and suggestions in team meetings. In contrast, participants in the inclusion condition were told that they were highly accepted by their coworkers, who were extremely helpful and sought contact with their new colleague. Moreover, they were informed that they were completely accepted by the company head, who was highly interested in their opinions and ideas. The aim of these manipulations was to generate feelings of isolation and rejection (or acceptance and inclusion) in participants.

Afterward, a manipulation check was conducted by asking participants to rate the item "How excluded did you feel in the situation described?" on a scale from 1 (*absolutely not*) to 10 (*very much*). Next, positive and negative affect were measured using the PANAS, as in the previous studies. The next step entailed manipulating the salience of religiousness, with participants asked to write a short essay. Individuals in the high-religious-salience condition received the following instruction: "We are now interested in your attitude toward religiousness and faith. Please describe what you personally perceive as religiousness and how faith has affected your life so far." In contrast, participants in the non-religious-salience condition received the instruction: "We are now interested in your attitude toward environment protection. Please describe what you personally perceive as environment protection and how it has affected your life so far." Upon receiving the instructions, the participants wrote their essays.

Finally, the dependent variable of aggression was measured utilizing the "ice water" paradigm (adapted from Pedersen, Gonzales, & Miller, 2000). After the religious salience manipulation, the experimenter asked participants for a favor. They were informed that help was needed in assigning experimental instructions to the participants of an upcoming study, which was to investigate the relation between temperature and intellectual performance. In the supposed future study, participants would be required to keep their left hand in ice water while they worked on intelligence tasks—something that could be rather painful if the procedure lasted longer than 30 s. The experimenter continued by saying that because of methodological issues, it was important that a completely unrelated person assign the participants a time for keeping their hand in the ice water.[1] After they had finished the time assignment, the participants were thoroughly debriefed about the real aim of the study. Special attention was paid to informing participants that no one was harmed in the context of the ice water task (no one had displayed suspicion about the hypothesis of the experiment). Finally, participants were asked whether they experienced distress or any negative emotions, with no individuals responding affirmatively.

Results and Discussion

Manipulation check. The social exclusion manipulation was successful: Participants in the social exclusion conditions (*M* = 8.38, *SD* = 2.27) felt significantly more excluded than did participants in the social inclusion conditions (*M* = 2.71, *SD* = 2.15), $F(1, 57) = 96.0$, $p < .001$, $\eta^2 = .62$.

Check for interfering effects. Being socially excluded compared to nonexcluded did not have an effect on positive affect, $F < 2.46$, $p > .12$, but did have a significant effect on negative affect, $F(1, 57) = 6.42$, $p = .014$, $\eta^2 = .10$. However, the two-way interaction between social exclusion status and priming before the aggressive behavior task remained significant (reported next; $p = .05$) when gender and positive and negative emotions were controlled as covariates, all Fs < 2.1, ps > .15

Aggressive behavior. A 2 (status of social exclusion) × 2 (priming) ANOVA revealed a significant two-way interaction, $F(1, 55) = 3.94$, $p = .05$, $\eta^2 = .08$. An a priori contrast demonstrated that socially excluded participants in the non-religious priming condition were willing to require completely unrelated people to experience physical discomfort for longer periods (M = 71.46, SD = 60.56; contrast weight: −3) than were socially excluded participants who were reminded of religion (M = 36.00, SD = 20.10; contrast weight: +1) and socially included participants primed with environmentalism (M = 29.50, SD = 18.76; contrast weight: +1) and religiousness (M = 38.06, SD = 30.54; contrast weight: +1), $t(55) = -2.86$, $p = .006$. For an overview of the results, see Figure 1.
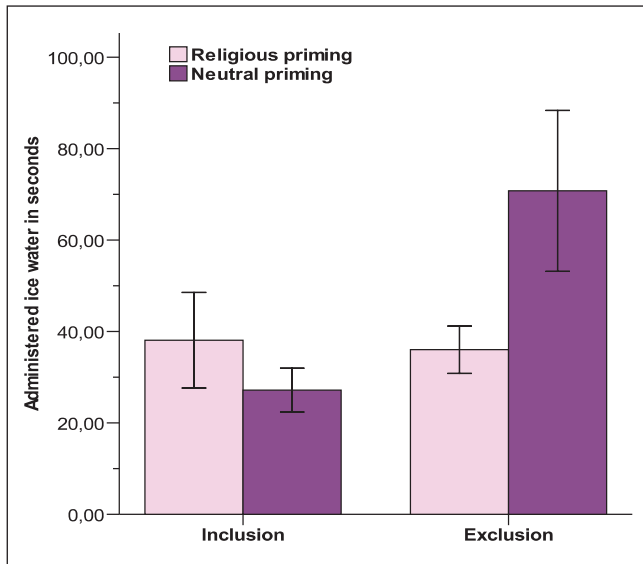
Figure 1. The effect of social exclusion (exclusion vs. inclusion) and religion salience (high vs. low) on aggressive behavior in Study 5
Error bars represent ±1 *SE*.

Overall, Study 5 revealed the successful stress-buffering effect of religion, as socially excluded participants were less aggressive toward an unrelated third person when they had been reminded of religiousness. On the contrary, socially excluded participants who received a neutral prime showed higher levels of aggressive behavior compared to the control groups (as predicted by social exclusion research). This result provides strong evidence that religion is an effective buffer against the adverse consequences of ostracism.

General Discussion

The French philosopher Voltaire once stated "*Si Dieu n'existait pas, il faudrait l'inventer*." ("If God did not exist, it would be necessary to invent him"). In this saying, Voltaire acknowledged the psychological necessity and function of religion for both society and the individual. Turning to a divine or transcendental being seems to be deeply anchored in human existence, with particular reference to times of severe crisis, such as illness or death (for a review, see Pargament, 1997). On the basis of observational and anecdotal research, it was hypothesized that religion functions as a source of affiliation following social exclusion, which arises independently of cultural or religious background (or both). Across five studies, it was consistently shown that social exclusion led to heightened levels of religious affiliation, which buffered the stress caused by rejection, thereby going beyond an initial observation that social exclusion strengthens a belief in supernatural beings including ghosts, angels, and, most importantly for our purposes, God (Epley et al., 2008).

The results of the investigation can be summarized as showing that socially excluded participants report significantly higher levels of both personal (intrinsic, extrinsic-personal) and social (extrinsic-social) forms of religiousness than do nonexcluded individuals (Studies 1-4). Furthermore, a post-exclusion stress buffering effect for religious affiliation could also be demonstrated, as socially excluded participants were less aggressive when reminded of the roles religion and faith play in their lives, compared to excluded individuals who received a neutral prime (Study 5). Study 5 thus gave further support for the assumption that religiousness functions as a successful coping method when dealing with social rejection. To shed light on the underlying psychological process, Study 4 focused on the core values that are negatively affected by social exclusion: belonging, self-esteem, sense of control, and meaningful existence (Williams, 2007; Williams, Cheung, & Choi, 2000). When conducting mediation analyses, it was found that the association between social exclusion and increased levels of personal religiousness was related to self-esteem, particularly in social contexts (with social self-certainty acting as a proxy for belonging; see Leary et al., 1995).

Study 4 also revealed that in times of rejection, decreased levels of social self-esteem result in an increased motivation toward the private dimensions of religiousness, which aids in refortifying threatened self-perceptions.

The Role of Personal Religiousness in Dealing With Social Exclusion

There were no reliable effects demonstrating the salience of social exclusion according to the social dimensions of religiousness in the Christian samples (Studies 2-4). This observation is supported by preliminary experimental studies, which have shown the major impact of feelings of loneliness on intrinsic religiousness (see Burris et al., 1994). Based on a limited literature, it has been argued by Fischer, Ai, Aydin, and Frey (2010) that in contrast to Christians, Muslims have unique coping patterns. According to the authors, Muslims are more likely than Christians to choose collective coping strategies (for a review, see Fischer et al., 2010), as an extrinsic-social religious orientation stresses the collective's importance (i.e., the usefulness of being a member of a religious community; see Gorsuch & McPherson, 1989). Future research should address the question of whether extrinsic-social religiousness (or describing the social utilitarian parts of religion) has the same functional importance for Muslims when coping with social exclusion as the pure, heartfelt faith of intrinsic religiousness.

Interestingly, the impact of social exclusion seems to be invalid for literal views of religiousness—no significant effects of social exclusion on fundamentalist religious orientations were found. Although the link between intrinsic religiousness and fundamentalism has been demonstrated in prior research (Altemeyer, 1988; Kirkpatrik, 1993), its impact was not discerned here. This result can be explained by methodological response biases, as participants may have chosen a socially

desirable answer and thus avoided giving high ratings on the fundamentalism scale. Furthermore, these findings may suggest that feeling rejected does not activate rigid and dogmatic cognitions but rather those of mature and pure religious faith. Of course, these results should be considered suggestive, as replication and extension of these experiments is required to explore the impact of social exclusion on fundamentalism.

Limitations

In addition, these findings should not be generalized uncritically because several shortcomings need to be addressed. First, the inevitable question of whether religion helps only the religious arises—the studies did not employ pretreatment measures of religiousness. It seems obvious that religiously identified participants will prefer religious coping strategies when experiencing social exclusion, in contrast to participants who do not identify as such. In fact, research on religious coping suggests that people turn to religion as a resource when it is already embedded as an orienting system in their cognitive schema (McIntosh et al., 1993). Religious thoughts are thus more easily available to these individuals, and religious cognitions are more likely to be accessed during coping than they might be among persons who feel a weaker identification with their faith. In other words, the more important religion is to the individual, the more likely it is that religious thoughts and beliefs will influence the coping process when dealing with the stress caused by social exclusion.

Moreover, a variety of measures by which religiousness and spirituality can be evaluated exist. The described studies worked with the distinction of intrinsic and extrinsic religious orientation, but religiousness is a highly complex human motivation that includes a variety of experiences. To clarify which specific religious motivations affect social exclusion, it would have been fruitful to extend the measurements of religious affiliation (for a review, see Hill & Pargament, 2003) to give due consideration to the diversity of instruments assessing it.

It should be further noted that Study 3 measured behavioral religious *intentions*, but not their actual occurrence. To address this shortcoming, future research should assess real religious behavior (e.g., praying, reciting the rosary, reading religious text passages, attending church) after social exclusion. Based on the current findings, it could be expected that religious behaviors—particularly private ones—are significantly increased when people feel socially rejected.

Implications and Future Research

Although no evidence that social exclusion leads to a more fundamentalist religious orientation was found in the participant sample (Studies 1 and 2), it is nonetheless argued that feelings of social exclusion might lead to an aggressive adherence to religion. This might in turn lead to hostile responses and reactions on the part of the excluded to (re-)gain attention and increase inclusion status. Supporting extremist Islamic groups is a recent example of a radical response to exclusion. For example, this phenomenon can be seen in cities throughout Europe, where mostly desperate unemployed young Muslims (who live in problem districts) turn to radical fundamentalist groups to fulfill their need for control and to regain a sense of membership and thus belonging (see Coolseat, 2008). Moreover, in the Middle East, the great success of radical parties, such as the Palestinian Hamas, which offers Palestinians the pretense of answers to political and social problems, may be attributed to constituents who feel isolated and excluded by a large part of the world community.

The current research assessed religious affiliation following social exclusion in two monotheistic world religions (Christianity and Islam). Is this phenomenon only valid for monotheistic affiliations, or can it also apply to general supernatural beliefs, independent of a greater religious structure?

It should be further considered whether spiritual and religious thoughts (such as the search for the sacred and the transcendent; see Hill & Pargament, 2003; Pargament, 1997), generally function as a core defense strategy against the threat of social exclusion. Moreover, does exclusion evoke belief in other divine powers, such as deities that are nonspecific to one's own culture? Future research should assess whether belief in unfamiliar deities, such as those in Buddhism, has a supportive function in coping with social exclusion. It can be assumed that rejection facilitates access to religious or spiritual thinking, in general.

Conclusion

Social exclusion functions as a motivator for religious commitment by increasing intrinsic religious affiliation. The results of the present studies extend previous research on social exclusion by investigating the impact of religion on the individual. Although many years of empirical social psychological research have revealed numerous insights into reactions to ostracism, rejection, and social exclusion, the role of religion in dealing with social exclusion has been neglected so far. The new findings have made a contribution to the research body regarding how individuals are affected by social exclusion. A challenge for future research is to investigate the specific conditions under which excluded individuals are more susceptible to a need for social approval, revenge, or religion and religious cognition.

Note

1. No one in the experiment was required to put his or her hand into the ice water.

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