

*In press, Journal of Personality and Social Psychology*

Christian Self-Enhancement

Jochen E. Gebauer

University of Mannheim

Constantine Sedikides

University of Southampton

Alexandra Schrade

Humboldt-University of Berlin

We acknowledge support from the German Research Foundation (DFG; Grant GE 2515/2-1) and the John Templeton Foundation (The Character Project at Wake Forest University; Grant ID #15519-11-011). Corresponding author: Jochen Gebauer, Mannheim Centre for European Social Research, University of Mannheim, A5, 6, D-68159 Mannheim, Germany; email: [mail@JochenGebauer.info](mailto:mail@JochenGebauer.info).

**ABSTRACT**

People overestimate themselves in domains that are central to their self-concept. Critically, the psychological status of this “self-centrality principle” remains unclear. One view regards the principle as an inextricable part of human nature and, thus, as universal and resistant to normative pressure. A contrasting view regards the principle as liable to pressure (and subsequent modification) from self-effacement norms, thus questioning its universality. Advocates of the latter view point to Christianity’s robust self-effacement norms, which they consider particularly effective in curbing self-enhancement, and ascribe Christianity an ego-quieting function. Three sets of studies examined the self-centrality principle among Christians. Studies 1A-1B ( $N = 2,118$ ) operationalized self-enhancement as better-than-average perceptions on the domains of commandments of faith (self-centrality: Christians  $\gg$  non-believers) and commandments of communion (self-centrality: Christians  $>$  non-believers). Studies 2A-2H ( $N = 1,779$ ) operationalized self-enhancement as knowledge overclaiming on the domains of Christianity (self-centrality: Christians  $\gg$  non-believers), communion (self-centrality: Christians  $>$  non-believers), and agency (self-centrality: Christians  $\approx$  non-believers). Studies 3A-3J ( $N = 1,956$ ) operationalized self-enhancement as grandiose narcissism on the domains of communion (self-centrality: Christians  $>$  non-believers) and agency (self-centrality: Christians  $\approx$  non-believers). The results converged across studies, yielding consistent evidence for Christian self-enhancement. Relative to non-believers, Christians self-enhanced strongly in domains central to the Christian self-concept. The results also generalized across countries with differing levels of religiosity. Christianity does not quiet the ego. The self-centrality principle is resistant to normative pressure, universal, and rooted in human nature.

**KEYWORDS:** Religiosity, Self, Self-Enhancement, Self-Centrality, Human Nature.

“Nothing, it is said, is ultimately sacred except the beloved ego.”

— Gordon Allport (1937, p. 169)

“In humility regard others as better than yourself.”

—Philippians 2:3

People hold overly positive views of themselves in domains that are central to their self-concept. In other words, they self-enhance in self-central domains. This “self-centrality breeds self-enhancement” principle ( “self-centrality principle,” for short) is supported by an influential theoretical and empirical tradition dating back to William James (1907; for a recent review, see Gebauer, Wagner, Sedikides, & Neberich, 2013). Since then, the self-centrality principle has received remarkable empirical attention in many fields of psychology (e.g., cross-cultural—Pepitone & Triandis, 1987; developmental—Harter, 1993; evolutionary—von Hippel & Trivers, 2011; motivational—Sedikides, Gaertner, & Cai, 2015; social—Dunning, 2014; personality—Gebauer et al., 2015). Moreover, key theories in psychology rely on this principle as a basic, underlying mechanism (e.g., cognitive dissonance theory—Stone & Cooper, 2001; terror management theory—Greenberg, Solomon, & Pyszczynski, 1997; self-affirmation theory—Steele, 1988; social identity theory—Tajifel & Turner, 1986; self-concept enhancement tactician model—Sedikides & Strube, 1997; self-evaluation maintenance model—Tesser, 1988; for a review, see Gregg, Sedikides, & Gebauer, 2011).<sup>1</sup>

Despite the influence of the self-centrality principle, its psychological status remains a topic of debate between two views. The first view regards it as deeply rooted in the evolution of *Homo sapiens* and, thus, as an inextricable part of humanity. This view considers the principle as universal among well-functioning people, and therefore as highly resistant to normative pressure (Sedikides, Skowronski, & Dunbar, 2006; Taylor & Brown, 1988; von Hippel & Trivers, 2011). We label that first view “self-centrality principle as universal” or “SCP-universal,” for short. The alternative portrays self-enhancement—whether in self-central domains or not—as a temptation that can be curbed effectively by self-effacement

norms (Leary, 2004; Markus, Kitayama, & Heiman, 1996; Pepitone & Triandis, 1987). Christianity promotes robust self-effacement norms (“pride precedes destruction”—Proverbs, 16:18; see Baumeister, Campbell, Krueger, & Vohs, 2003; Greenberg, 2008), which ought to be particularly effective in curtailing self-enhancement. Christianity, then, is thought to have an “ego-quieting” function (Leary, 2004; see also Baumeister, 1991; Haidt, 2012). We label this view “Christianity as ego-quieting” or “ego-quieting,” for short.

In this article, we pit the two views against one another (Platt, 1964). Building on our two opening quotes, we ask: (1) Does self-centrality also breed self-enhancement among Christians, as Allport’s quote suggests? That is, does the self-centrality principle generalize to Christianity, exemplifying the principle’s fundamental and universal nature? Alternatively, (2) are Christian self-effacement norms effective in curbing the lure of self-enhancement, as the Philippians’ quote suggests? That is, do Christians self-enhance less than non-believers, and is self-enhancement reduced across all key facets of the Christian self-concept? Answers to these questions promise far-reaching implications for scholarly understanding of three core topics in psychology: self-enhancement, religiosity, and human nature. Support for the SCP-universal view would affirm the fundamental nature of the self-centrality principle, whereas support for the ego-quieting view would challenge the idea that self-enhancement is an inextricable part of humanity, calling into question theories that are underpinned by the principle.

We first outline the two opposing views and derive their predictions regarding Christian self-enhancement. We proceed with a review of the literature on Christian self-enhancement, highlighting the sparseness and inconclusiveness of prior findings. In the empirical section, we present three sets of studies, which take a novel and varied look at Christian self-enhancement while giving the self-centrality principle center stage. We conclude by considering implications of our findings.

### **Self-Centrality Principle as Universal**

The SCP-universal view was first articulated by William James (1907, p. 31):

“I, who for the time have staked my all on being a psychologist, am mortified if others know much more psychology than I. But I am contented to wallow in the grossest

ignorance of Greek. My deficiencies there give me no sense of personal humiliation at all. Had I ‘pretensions’ to be a linguist, it would have been just the reverse.”

The sociologist Morris Rosenberg (1965) formalized James’s idea and labeled it the “psychological centrality principle.” Arguably, the term *self-centrality* reflects more accurately what Rosenberg meant with *psychological centrality* (Verplanken & Holland, 2002). Hence, for clarity reasons, we favor the label “self-centrality (breeds self-enhancement)” principle (see also Gebauer, Wagner, Sedikides, & Neberich, 2013). Rosenberg (1965) ascribed this principle fundamental and universal significance, positioning it at the heart of his theory.

Congruent with Rosenberg’s thinking, the self-centrality principle has figured as a fundamental and universal mechanism in most psychological theories on the self and in virtually all self-enhancement models (self-efficacy theory—Bandura, 1997; self-discrepancy theory—Higgins, 1987; symbolic self-completion theory—Wicklund & Gollwitzer, 1982; contingencies of self-worth model—Crocker & Wolfe, 2001; terror management theory—Greenberg et al., 1997; self-concept enhancement tactician model—Sedikides & Strube, 1997; social self-analysis—Alicke, Zell, & Guenther, 2013; mnemonic neglect model—Sedikides, Green, Saunders, Skowronski, & Zengel, 2016; self-evaluation maintenance model—Tesser, 1988). The empirical evidence justifies its prominence. Although research among Christians is wanting, research outside the domain of religiosity indicates that the principle is a fundamental and universal component of human nature (Alicke, 1985; Alicke & Sedikides, 2011; Brown, 2012; Dunning, 1993; Campbell, Rudich, & Sedikides, 2002; Harter, 1993; Paulhus, 2011; Sedikides, Gaertner, & Toguchi, 2003; Sedikides & Green, 2009). But what determines whether an attribute is central to a person’s self-concept?

The most frequently mentioned determinant of self-centrality is prevailing group norms (e.g., religious norms; Gebauer, Nehrlich, Sedikides, & Neberich, 2013; Gebauer, Wagner, Sedikides, & Neberich, 2013). To illustrate, self-categorization theory posits that “group membership causes people to ... define themselves in terms of group norms,” thus, affecting what attributes are central to the group members’ self-concepts (Terry & Hogg, 1996, pp. 779-780). At the broadest level, such group norms include cultural norms (e.g.,

country-level norms; Cai et al., 2011; Gebauer et al., 2015; Markus & Kitayama, 1991).

Terror management theory, for example, assumes that self-central attributes are “derived from the culture at large” (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004, p. 437).

Of interest is the prediction that the SCP-universal view makes regarding Christian self-enhancement. The view predicts that the self-centrality principle will apply to Christianity in the same way as it applies to other social groups (e.g., motorists—Svenson, 1981; students—College Board, 1976; college instructors—Cross, 1977).

### **Christianity as Ego-Quieting**

The view that Christianity has an ego-quieting function (Leary, 2004; see also Baumeister, 1991; Haidt, 2012) has deeper roots than its alternative. Scripture refers to self-enhancement as a worldly temptation that stands in the way of God’s intentions for humanity. In the Old Testament, for example, the Story of Lucifer (Isaiah 14:12) describes how the archangel succumbed to the lure of vanity and pride, which is why God reportedly condemned him to lead a miserable existence in hell. Likewise, in the New Testament, it is written that “For all that is in the world — the lust of the flesh, and the lust of the eyes, and the *pride of life* — is not of the Father, but is of the world” (1 John 2:16; emphasize added).

Presumably to help believers resist the enticement of self-enhancement, Christian authorities throughout the ages have robustly prescribed self-effacement norms (Baumeister et al., 2003; Greenberg, 2008). For example, superbia (i.e., vanity/pride) is one of the seven deadly sins in the Catechism of the Catholic Church. Similarly, Pope Gregory (540-604) wrote: “He who attributes to himself gifts which he has not falls into sin” (Delany, 1911). Thomas Aquinas (1225-1274) went further calling superbia the deadliest of all deadly sins (Pope, 2002). Of relevance, there is consensus among Christian thinkers that self-effacement norms are effective. For example, church father Augustine of Hippo (354-430) advocated that loving God (*amor dei*) is antithetical to loving oneself (*amor sui*) (O’Donovan, 1980). Martin Luther (1530) maintained that regular church attendance counteracts pride. Søren Kierkegaard (1983) considered Christianity as the optimal arsenal to battle self-superiority. Interestingly, the ego-quieting view, although originated in Christian theology, is not restricted to it. In fact, the view has been echoed in the scientific world as well. Charles Darwin (1998/1871),

proposed that religious believers' "deep religious feelings" foster concern for others at the expense of self-centeredness and bias. Emile Durkheim (1995/1915) held that engagement in the sacred realm of life subsidizes the self in favor of collective interests.

Of particular consequence for this article, Christianity has been ascribed an ego-quieting function in psychology. For example, Leary (2004) proposed that "self-centered desires of the ego stand in opposition to people's inherent spiritual nature" and "religion itself might fruitfully be regarded as a system for counteracting the deleterious personal and social effects of self-awareness" (pp. 149-151). Similarly, Baumeister (1991) wrote about practices that help to turn attention away from the self and reasoned that "religious experience is perhaps the most obvious form of this escape from self" (p. 35). Most recently, Haidt (2012) argued that religiosity can turn on a psychological "hive switch" — a condition in which people focus on benefits for the religious ingroup and forget about the self, including personal sentiments of self-importance and personal pride.

From a broader psychological perspective, the ego-quieting view is plausible and viable. Christians are able to resist a whole host of worldly temptations, such as wealth accumulation (Gebauer, Nehrlich, Sedikides, & Neberich, 2013; Saroglou, Delpierre, & Dernelle, 2004), drug use (Kendler, Liu, Gardner, McCullough, Larson, & Prescott, 2003; Willis, Yaeger, & Sandy, 2003), and pornography consumption (Wright, 2013; Wright, Bae, & Funk, 2013). A key reason for this resistance lies in the effectiveness of self-control practices that Christianity endorses, such as implicit counter-regulation of temptations and embodiment of commandments (e.g., bowing as an embodiment of humility) (Koole, McCullough, Kuhl, & Roelofsma, 2010; McCullough & Willoughby, 2009). Christians' self-control capacity and success in bridling other temptations conduce to the possibility that they will manage to curtail self-enhancement as well.

Moreover, a central component of self-enhancement is defense against "ego threat" (Greenberg, Solomon, & Pyszczynski, 1997; Greenwald, 1988; Hepper, Gramzow, & Sedikides, 2010; Kunda, 1990; for a review, see Leary, Terry, Allen, & Tate, 2009). For example, Hart, Shaver, and Goldenberg (2005) argue that people self-enhance to buffer against weak social ties, thwarted attachment, and death anxiety. Christianity strengthens

social ties (Graham & Haidt, 2010; Saroglou, 2011; Ysseldyk, Matheson, & Anisman, 2010), satisfies attachment needs (Gebauer & Maio, 2012; Granqvist, Mikulincer, & Shaver, 2010), and reduces death anxiety (Jonas & Fischer, 2006; Vail, Rothschild, Weise, Solomon, Pyszczynski, & Greenberg, 2010). Hence, it is conceivable that Christians self-enhance less than non-religious individuals, given that Christians' egos are less threatened.

Of interest are the predictions that the ego-quieting view makes for Christian self-enhancement. Christianity is replete with stringent self-effacement norms, which the view's champions regard as effectual in keeping self-enhancement at bay. Christians, then, should self-enhance less than non-believers; stated differently, Christians should self-efface relative to non-believers. Some authors even argue that Christians should not self-enhance at all, but rather should self-efface in absolute terms (O'Donovan, 1980; see also the Philippians' introductory quote). Unlike its alternative, the ego-quieting view does not make predictions about self-centrality. Christians should self-enhance less than non-believers, and they should do so in any judgmental domain, regardless of its centrality to the self-concept.

### **Literature Review**

The literature on Christian self-enhancement is sparse and inconclusive. We reinforce this point by illustrating that, although generally testing whether Christians self-enhance or self-efface, this literature has largely neglected the self-centrality of the judgmental domain. In so doing, it neglected the self-centrality principle per se. We sort the relevant studies into three categories: religiosity and better-than-average perceptions, religiosity and criterion-discrepancies, religiosity and socially desirable responding.

#### **Religiosity and Better-Than-Average Perceptions**

The better-than-average task (Alicke, 1985; Alicke & Govorun, 2005) is the most widely used measure of self-enhancement (Alicke & Guenther, 2011; Sedikides & Alicke, 2012; Sedikides & Gregg, 2008). In this task, participants compare themselves with the average person from the same reference group (e.g., age, gender, religion). The typical finding is that the vast majority of participants perceive themselves as better-than-average on self-central attributes (Alicke & Sedikides, 2009; Sedikides & Alicke, 2012). This finding is a



signature of self-enhancement, given that the number of individuals who are better than average ought to be equal to the number of individuals who are worse than average.<sup>2</sup>

In the first study on religious self-enhancement, Kurman (2001) administered a better-than-average task among 158 religious and 159 secular high school students. The students compared themselves with the average other on intelligence, health, and sociability. In line with the ego-quieting view, religious participants self-enhanced less than secular ones across the board. Rowatt, Ottenbreit, Nesselroade, and Cunningham (2002) conducted a similar study, but reported opposing results. These researchers asked 191 students from a religious university to compare themselves with their fellow students. One set of items included religious commandments, and another set included generically positive and negative items. Consistent with the SCP-universal view, religious students self-enhanced on the religious commandments, but not on the generically positive or negative items.<sup>3</sup>

Eriksson and Funcke (2014) compared self-ratings of 800 American MTurkers with their ratings of the “average person sharing my religious persuasion” on two domains: agency/competence (e.g., “ambitious,” “capable”) and communion/warmth (e.g., “forgiving,” “sociable”). On the agency/competence domain, participants perceived themselves as neither above nor below the average person of their religious persuasion. On the communion/warmth domain, however, participants perceived themselves as below average. These results are more consistent with the ego-quieting view. The SCP-universal view would also have anticipated a null effect on agency/competence self-enhancement, because this domain is not particularly central to religious people’s self-concept, but it would have anticipated a self-enhancement effect on communion/warmth, because this domain is rather central to religious people’s self-concept (Gebauer, Wagner, Sedikides, & Neberich, 2013; Trappnell & Paulhus, 2012). In another study, Eriksson and Funcke (2014) examined the relation between the proportion of religious people in a country (Diener, Tay, & Myers, 2011) and people’s better-than-average perceptions in that country (Loughnan et al., 2011). The study, which included data from 15 countries, revealed a stronger better-than-average effect in particularly religious countries. Unfortunately for our research objectives, Loughnan et al.’s (2011) better-than-average index is an aggregate of traits that are central to religious persons (e.g., agreeableness, self-

transcendence values) and traits that are anti-central to religious persons (e.g., openness, openness values) (Saroglou, 2004, 2010). Still, Eriksson and Funcke's (2014) cross-cultural results are more consistent with the SCP-universal view than the ego-quieting view.<sup>4</sup>

Taken together, two studies favor the SCP-universal view, two the ego-quieting view. This contradictory and scant evidence calls for a more definitive, large-scale investigation on Christian better-than-average perceptions—an investigation that would attend directly to the self-centrality principle. Studies 1A-1B respond to this call.

### **Religiosity and Criterion-Discrepancies**

Criterion-discrepancy measures operationalize self-enhancement as the discrepancy between people's subjective self-reports and an objective criterion. Kurman (2001) examined academic criterion-discrepancies between 159 secular and 158 religious high school students. To calculate criterion-discrepancies, she compared academic self-evaluations (subjective self-reports) with school grades (objective criterion). Religious students self-enhanced less than secular ones. These results side with the ego-quieting view. The SCP-universal view would have anticipated no self-enhancement differences in the academic domain, because that domain should be similarly self-central to religious and secular students.

Ludeke and Carey (2015) tested the relation between religiosity and criterion-discrepancies regarding the Big Five personality traits (John, Naumann, & Soto, 2008). They compared Big Five self-evaluations (subjective self-reports) with Big Five peer-reports (objective criteria). Religiosity was related to larger criterion-discrepancies regarding agreeableness,  $r(524) = .15$  [.07, .23], but was unrelated to all other Big Five criterion-discrepancies. This pattern fits the SCP-universal view, because, from all Big Five traits, agreeableness is most self-central to religious people (Gebauer et al., 2015; Saroglou, 2010).

Two other lines of research are somewhat relevant. One line indicated that religious people describe themselves as highly prosocial on self-report measures (Galen, 2012; Norenzayan & Shariff, 2008). Yet, another line indicated that religious people do not consistently behave more prosocially compared to non-believers (Hofmann, Wisneski, Brandt, & Skitka, 2014; Saroglou, 2012). The overall pattern seems to provide circumstantial evidence for the notion that religious people self-enhance in the prosociality domain, a pattern

supportive of the SCP-universal view given that prosociality is central to Christians (Gebauer et al., 2015; Saroglou, 2010).

In all, existent criterion-discrepancy studies reached divergent conclusions on the relation between religiosity and self-enhancement. This inconclusiveness highlights the need for additional research with an improved criterion-discrepancy measure. Such research should also attend directly to the self-centrality principle. We conducted Studies 2A-2H with these two goals in mind. Specifically, we used a different and highly suitable criterion-discrepancy measure, the overclaiming task (Paulhus, Harms, Bruce, & Lysy, 2003). Further, we distinguished among overclaiming in three domains: agency (not particularly self-central to Christians), communion (somewhat more self-central to Christians), Christianity (particularly self-central to Christians).

### **Religiosity and Socially Desirable Responding**

Measures of socially desirable responding (SDR) are frequently used to assess trait self-enhancement. In fact, “in the context of questionnaire styles, self-enhancement is typically referred to as socially desirable responding” (Paulhus & Holden, 2010, p. 221). Many studies have focused on the relation between religiosity and SDR. An early meta-analysis, summarizing results across 14 samples, reported a small-to-medium relation between intrinsic religiosity and SDR,  $r(1,487) = .18$  [.13, .23] (Trimble, 1997). A recent update of this meta-analysis corroborated those results across 30 samples,  $r(5,016) = .16$  [.13, .19] (Sedikides & Gebauer, 2010). More important, that meta-analytic update yielded some evidence for the self-centrality principle. The relation between intrinsic religiosity and communal SDR,  $r(1,059) = .31$  [.26, .36], was stronger than the relation between intrinsic religiosity and agentic SDR,  $r(956) = .12$  [.06, .18].

There is an alternative explanation to self-enhancement findings based on SDR. Relevant measures may assess not only self-enhancement, but also valid content (Block, 1965; Hogan & Nicholson, 1988; McCrea & Costa, 1983) including a communal life-orientation (Paulhus, 2002; Paulhus & Trapnell, 2008) or social self-control capacity (Uziel, 2010; Uziel & Baumeister, 2012). If so, the relation between religiosity and SDR may reflect to some extent well-documented links between religiosity and communion (Gebauer, Paulhus,

& Neberich, 2013; Trapnell & Paulhus, 2012) or between religiosity and social self-control (Geyer & Baumeister, 2005; McCullough & Willoughby, 2009). Hence, evidence from complementary measures of trait self-enhancement is needed. Our Study 3 aims to provide such evidence, operationalizing trait self-enhancement as grandiose (agentic and communal) narcissism (Gebauer, Sedikides, Verplanken, & Maio, 2012).

We note that, across studies, we report all measures we collected (Studies 1A-1B) or analyzed (Studies 2A-2H and 3A-3J), all data exclusions, all experimental conditions we used, as well as the way we determined our sample sizes (or, as in Studies 2A-2H and 3A-3J, the way we selected our samples).

### **STUDIES 1A-1B: BETTER-THAN-AVERAGE PERCEPTIONS**

Previous research on Christians' better-than-average perceptions yielded mixed findings. We conducted two large-scale studies that address four ambiguities in this literature. The first two ambiguities concern psychological theory, the second two methodology. We discuss them in turn.

First, the predictions of the two views stand in opposition only in regard to attributes that are more self-central to Christians than non-believers. Therefore, we examined participants' better-than-average perceptions on Christian commandments. These fall into two categories: commandments of faith (e.g., "I am the Lord thy God, though shalt have no other gods before me") and commandments of communion (e.g., "Thou shalt honor thy mother and thy father"). Both categories should be more self-central to Christians than non-believers. However, this self-centrality difference should be more pronounced for commandments of faith. For commandments of communion, the difference should be modest, because non-believers too regard communion as self-central (Nehrlich, Gebauer, Sedikides, & Abele, 2017), albeit less so than believers. Consequently, the SCP-universal view makes predictions that differ for the two commandment categories. Concerning commandments of faith, Christians should manifest much larger better-than-average perceptions than non-believers. Concerning commandments of communion, however, Christians should hold only somewhat larger better-than-average perceptions than non-believers. By contrast, the ego-quieting view

predicts that Christians should hold smaller better-than-average perceptions than non-believers, irrespective of commandment category.

Second, to our knowledge, no research on religious self-enhancement has directly assessed the self-centrality of the content domain. Hence, we assess the self-centrality of commandments of faith and commandments of communion. The SCP-universal view predicts that (1) commandments of faith are much more self-central to Christians than non-believers, (2) commandments of communion are somewhat more self-central to Christians than non-believers, and (3) those self-centrality differences account for why Christians self-enhance more on Christian commandments relative to non-believers. By contrast, the ego-quieting view is mute to the role of self-centrality for self-enhancement.

Third, in typical better-than-average tasks, participants compare themselves with the average person on a combined rating scale (e.g., “much less than the average person” to “much more than the average person”). Participants, though, may have difficulties weighing equally their perception of themselves and the average other. Given the chronic and heightened accessibility of the self-concept (Gebauer, Haddock, Broemer, & von Hecker, 2013; Sedikides & Skowronski, 1993), participants typically weigh their self-perception heavily and their average-other-perception lightly. In essence, participants may describe themselves as above average when they score highly on an attribute, no matter if they regard the average other as scoring just as highly on it (Chambers & Windschitl, 2004; Kruger, 1999; Windschitl et al., 2003). To correct for this potential methodological deficiency, researchers can provide separate rating scales for the two comparison targets and then compute discrepancies in scale ratings (Helweg-Larsen & Shepperd, 2001; Moore & Kim, 2003). We implemented this correction.

Finally, better-than-average tasks typically use rating scales with discrete response options (e.g., 7-point scales; Alicke, 1985). However, such rating scales can produce artificial better-than-average effects (Harris & Hahn, 2011). We will illustrate in a thought experiment in which researchers administer two separate 7-point rating scales to assess better-than-average perceptions: self-perception scale (1 = *not at all descriptive of me*, 7 = *totally descriptive of me*) and average-other-perception scale (1 = *not at all descriptive of the average*

*participant*, 7 = *totally descriptive of the average participant*). Let us assume that researchers (1) examine better-than-average perceptions concerning the Fourth Commandment (“Thou shalt keep the Sabbath holy”), and (2) sample 500 Christians all of whom know that the base rate for Christians working on Sundays is 10%. So, 450 participants adhere to the Fourth Commandment, whereas 50 do not. Assuming accuracy, 450 participants respond with “7” (“completely descriptive of me”) and 50 with “1” (“not at all descriptive of me”). Thus, mean self-perception is  $(450 \times 7 + 50 \times 1) / 500 = 6.40$ . Still assuming accuracy, all participants likely ascribe the average Christian a “6” (“almost completely descriptive of the average participant”). Thus, mean average-other-perception is  $(500 \times 6) / 500 = 6.00$ . In this case, a *t*-test would yield a strong, but erroneous, better-than-average effect,  $t(499) = 4.96, p < .001$ . In all, the use of rating scales with discrete response options (here: 7-point rating scales) can sometimes produce results that look like self-enhancement but are not. To address this problem, Harris and Hahn (2011) recommend response lines on which participants can place a cross at any point they see fit. That way, accurate participants in our thought experiment would place a cross at 6.40 on a response line assessing average-other-perceptions, and no better-than-average effect would emerge:  $t(499) = 0.00, p = 1.00$ . As far as we know, Studies 1A-1B are the first better-than-average studies to implement Harris and Hahn’s recommendation, using response lines.

### Study 1A

Study 1A represented our foray into Christian self-enhancement, and in particular better-than-average perceptions.

#### Method

The ethics committee at the Humboldt-University of Berlin’s Institute of Psychology, approved the research described in this article (title of ethics application: Self-enhancement and Religiosity; protocol number: 2012-44).

**Participants.** We sampled participants via Amazon’s Mechanical Turk (MTurk; Buhrmester, Kwang, & Gosling, 2011) and paid them \$0.40. We specified three requirements: (1) Participants’ location had to be the US; (2) Previous MTurk requesters (e.g., scientists posting studies) needed to be satisfied with at least 95% of participants’ work; (3) participants

needed to have at least 100 MTurk tasks completed, assuring that the second requirement rests on a sufficiently large task-completion number. These requirements conduce to high-quality data, rendering attention checks unnecessary (Peer, Vosgerau, & Acquisti, 2014). We analyzed data from 967 participants. Table 1 presents their demographics.<sup>5</sup>

**Procedure and Measures.** Participants completed a better-than-average task (BTAT), a self-centrality scale, and three religiosity scales. We randomized the order of the BTAT and the self-centrality scale. We presented the religiosity scales together on a single page, either prior to the BTAT and the self-centrality scale or after them (at random).

**Better-than-average task.** We randomly assigned participants to one of the better-than-average conditions (between-subjects design): Christian or control.

The BTAT contained two separate scales. The BTAT-Self Scale instructed participants to “describe the degree to which *you* live up to central Christian commandments.” The BTAT-Other Scale instructed participants to “describe the degree to which *the average Christian MTurker from the U.S.* lives up to central Christian commandments.” We randomized scale order. Three items from both scales pertained to Christian commandments of faith: “I am the Lord thy God, thou shalt have no other gods before me,” “Thou shalt not take the name of the Lord thy God in vain,” “Thou shalt keep the Sabbath holy.” For each commandment, participants were asked “To what degree do *you / does the average Christian MTurker from the U.S.* live up to the 1st / 2nd / 3rd Commandment?”. Participants answered on, what appeared to be, 606 pixels long response lines, ranging from “0%” to “100%.” In actuality, those response lines consisted of 101 rectangles with a width of 6 pixels (Gebauer, Broemer, Haddock, & von Hecker, 2008). Hence, each rectangle represented one percentile (Harris & Hahn, 2011). Internal consistencies were good for the BTAT-Self Scale ( $\alpha = .77$ ) and the BTAT-Other Scale ( $\alpha = .78$ ). Another three items from both scales pertained to commandments of communion: “Thou shalt honor thy mother and thy father,” “Thou shalt not covet thy neighbor’s wife,” “Thou shalt not covet thy neighbor’s goods.” For each commandment, participants were asked “To what degree do *you / does the average Christian MTurker from the U.S.* live up to the 4th / 9th / 10th Commandment?”. Again, participants

answered on response lines (same type as above). Internal consistencies were high for the BTAT-Self Scale ( $\alpha = .79$ ) and the BTAT-Other Scale ( $\alpha = .85$ ).<sup>6</sup>

There was only one, albeit crucial, difference between the Christian and control conditions: In the control condition, participants compared themselves to the average MTurker from the US. That is, the BTAT-Other Scale instructed participants to “describe the degree to which *the average MTurker from the U.S.* lives up to central Christian commandments.” Consequently, for each commandment, participants were asked “To what degree does the *average MTurker from the U.S.* live up to the 1st / 2nd / 3rd / 4th / 9th / 10th Commandment?”. Internal consistencies were high for the BTAT-Self Scale (commandments of faith:  $\alpha = .87$ , commandments of communion:  $\alpha = .79$ ) and the BTAT-Other Scale (commandments of faith:  $\alpha = .82$ , commandments of communion:  $\alpha = .84$ ).

**Self-centrality scale.** Participants were instructed that “the following 6 questions assess how *important* it is for *you* to live up to central Christian commandments.” They were shown the same six commandments as in the BTAT (in the same order), but this time they were asked to indicate for each commandment: “How important is it for you to live up to the 1st / 2nd / 3rd / 4th / 9th / 10th Commandment?”. Participants answered on response lines ranging from “very unimportant” to “very important.” Internal consistencies were high for the three commandments of faith ( $\alpha = .93$ ) and the three of communion ( $\alpha = .88$ ).

**Religiosity scales.** We assessed religiosity with three scales, the 1-item Gallup Scale (Diener et al., 2011), the 4-item Global Religiosity Measure (Gebauer & Maio, 2012), and the 6-item version of the Intrinsic Religiosity Scale (US and UK samples: Maltby, 1999; German samples: Zwingmann, Hellmeister, & Ochsmann, 1994). The Gallup Scale concerns the importance of religiosity in people’s daily life: “Is religion an important part of your daily life?” (1 = *yes*, 0 = *no*). The Global Religiosity Measure captures religiosity at its broadest level, assessing religious belief (religious self-identification, belief in God; Norenzayan & Hansen, 2006) and practice (frequency of church attendance, habits of prayer; Rohrbaugh & Jessor, 1975) ( $\alpha = .77$ ). The Intrinsic Religiosity Scale dates back to Allport and Ross (1967). They defined intrinsic Christians as people who “find their master motive in religion. Other needs...are regarded as of less ultimate significance, and they are...brought into harmony



with the religious beliefs and prescriptions” (p. 434). Example items are: “I try hard to live all my life according to my religious beliefs,” “My whole approach to life is based on my religion” ( $\alpha = .96$ ). Inter-correlations between the three scales were high,  $.76 \leq r \leq .87$ , and so we averaged their standardized scores into a single religiosity index.

## Results

**Commandments of faith.** Commandments of faith were much more self-central for religious than non-religious people,  $r(967) = .85$ ,  $p < .001$ , and were rated as more self-central in the Christian than control condition,  $F(1, 965) = 114.94$ ,  $p < .001$ ,  $\eta_p^2 = .11$ . Thus, these commandments were well-suited for competitive testing of the two views.

The SCP-universal view predicts a larger better-than-average effect in the Christian condition (i.e., Christian participants comparing themselves with other Christian participants), than the control condition (i.e., participants irrespective of religious denomination comparing themselves with other participants irrespective of religious denomination). In contrast, the ego-quieting view predicts a smaller better-than-average effect in the Christian than control condition. We conducted a mixed-design ANOVA, comparing scores on the BTAT-Self versus the BTAT-Other Scales (within-subjects factor), while testing for differences between the Christian versus control conditions (between-subjects factor). Results revealed a main effect of the within-subjects factor (i.e., a better-than-average effect): Participants reported that they live up to the commandments of faith more strongly than the average other,  $F(1, 962) = 25.61$ ,  $p < .001$ ,  $\eta_p^2 = .03$ . This better-than-average effect was moderated by the between-subjects factor: The effect was larger in the Christian than control condition,  $F(1, 962) = 13.74$ ,  $p < .001$ ,  $\eta_p^2 = .01$ . Table 1 includes the means (and confidence intervals) of each ANOVA condition, and Figure 1 provides a graphic display of those means.

The SCP-universal view predicts that differences in self-centrality between the Christian and control condition account for the just-described differences in the better-than-average effect. We used PROCESS (Hayes, 2013) and tested for an indirect effect of condition (effect coding: Christian = 1, control = -1) through self-centrality on the better-than-average effect (BTAT-Self scores – BTAT-Other scores). As anticipated, we found such an indirect effect,  $B = 8.53$  [7.06, 10.12] (bias-corrected bootstrap confidence interval with

10,000 bootstrap samples), percent mediated: 100%. Taken together, the results were consistent with the SCP-universal view.

**Commandments of communion.** Commandments of communion were more self-central for religious than non-religious people,  $r(967) = .53, p < .001$ . Also, commandments of communion were more self-central in the Christian than control condition,  $F(1, 965) = 31.30, p < .001, \eta_p^2 = .03$ . Descriptively, participants from these two conditions differed less in self-centrality concerning commandments of communion ( $\eta_p^2 = .03$ ) relative to self-centrality concerning commandments of faith ( $\eta_p^2 = .11$ ). A mixed-design ANOVA (within-subjects factor: commandments of communion vs. faith; between-subjects factor: Christian vs. control) indicated that this descriptive pattern was significant,  $F(1, 965) = 55.94, p < .001, \eta_p^2 = .06$ . The SCP-universal view makes the following predictions concerning commandments of communion: There should be a larger better-than-average effect in the Christian than control condition, but the ensuing between-conditions difference should be smaller than the corresponding difference found earlier for commandments of faith.

We proceeded with a mixed-design ANOVA, similar to the one we conducted for commandments of faith (within-subjects factor: BTAT-Self vs. BTAT-Other Scales; between-subjects factor: Christian vs. control). As before, we obtained a main effect of the within-subjects factor (i.e., better-than-average effect): Participants reported that they live up to commandments of communion more strongly than the average other,  $F(1, 963) = 445.89, p < .001, \eta_p^2 = .32$ . Unlike before, however, that effect was not moderated by the between-subjects factor: The better-than-average effect was equally large in the Christian and control conditions,  $F(1, 963) = 0.24, p = .63, \eta_p^2 = .0002$  (Table 1, Figure 1). Lack of moderation (which renders additional mediation analyses unnecessary) was unexpected: It is at odds with the results concerning commandments of faith.<sup>7</sup>

## Discussion

Concerning commandments of faith, the findings supported the SCP-universal view over the ego-quieting view. We expected a similar results pattern concerning commandments of communion, albeit with smaller differences in better-than-average perceptions between the two conditions (given that self-centrality regarding commandments of communion also

differed less between the two conditions). Contrary to our expectations, better-than-average differences between the two conditions were not only smaller, but absent altogether. A lack of statistical power is not a likely explanation, as our sample was large for a mixed-design ANOVA ( $N = 967$  with at least 296 participants per cell).

Perhaps, then, Christianity limits self-enhancement, albeit in a much more circumscribed way than the ego-quieting view would predict: For commandments of communion, not commandments of faith. However, before entertaining further such a selective version of the ego-quieting view — a version that lacks parsimony and theoretical rationale — we considered it prudent to explore explanations that the SCP-universal view could accommodate. After all, this view fared well in accounting for results concerning commandments of faith and overall was supported better by the results. In Study 1B, we develop and test two such explanations.

### **Study 1B**

It is self-profitable for people to be part of social groups in which members are highly prosocial, because oneself is a likely beneficiary of others' prosociality (Abele & Wojciszke, 2007, 2014; Nehrlich, Gebauer, Sedikides, & Abele, 2017; Peeters, 2008). At the same time, God-abidingness promotes prosociality (Shariff & Norenzayan, 2007, 2011) and so does communion (Gebauer, Sedikides, Lüdtkke, & Neberich, 2014; Nehrlich, Gebauer, Sedikides, & Schoel, 2017). Taken together, it is self-profitable to have God-abiding and communal ingroup members. Hence, positively biasing the God-abidingness and communion of ingroup members should soothe the self, offering self-protection benefits (i.e., a prevention oriented form of self-enhancement; Elliot & Mapes, 2005; Sedikides, 2012; Sedikides, Gaertner, & Cai, 2015). From that vantage point, participants in Study 1A's Christian condition may have positively biased the average Christian's God-abidingness (commandments of faith) and communion (commandments of communion) in a self-protective maneuver. Consequently, the better-than-average effect would have been diminished in the Christian condition. Crucially, such a diminished effect would have been a manifestation not of weakened, but of amplified, self-enhancement. To test this possibility, Study 1B examines the self-protective function of positively biasing the extent to which comparison others adhere to Christian commandments.

We expected that participants in the Christian condition would feel particularly safe, supported, and protected, if participants made themselves believe that average others adhered to the Christian commandments fully and firmly.<sup>8</sup> Hence, controlling for the self-protective function of average others' God-abidingness and communion should increase better-than-average effects in the Christian relative to control condition. De-biasing the BTAT-Other Scale from contamination by self-protection processes should yield more consistent evidence for the SCP-universal view.

People can include others in their self-representations (Aron, Aron, & Smollan, 1992; Manzi, Parise, Iafrate, Sedikides, & Vignoles, 2015; That is, people can feel at one with others, possessing "a sense of shared, merged, or interconnected personal identities" (Cialdini, Brown, Lewis, Luce, & Neuberg, 1997; p. 483). This feeling of oneness invites the possibility that people self-enhance indirectly by overestimating others with whom they feel at one. After all, if others are part of a person's identity, enhancing those others should by necessity enhance (part of) oneself. From that angle, it appears well possible that participants in Study 1A's Christian condition felt at one with average others (i.e., average Christians). Consequently, these participants may have had a good reason to positively bias the degree to which average others adhere to Christian commandments: Such positive bias represents an indirect way of self-enhancing.<sup>9</sup> Thus, the better-than-average effect would have been diminished in the Christian condition. Crucially, again, such a diminished effect would have been a display not of weakened, but of amplified, self-enhancement. To address this possibility, Study 1B tested whether participants in the Christian (relative to control) condition felt more at one with their average others. If so, controlling for oneness — and, thus, for indirect self-enhancement — should increase better-than-average effects in the Christian (relative to control) condition. De-biasing the BTAT-Other Scale from confounding by indirect self-enhancement should yield evidence more consistent with the SCP-universal view.

## **Method**

**Participants.** As in Study 1A, we recruited MTurkers, specified the same three participation requirements, and paid them \$0.70. We analyzed data from 1,151 participants. Table 1 presents their demographics.<sup>10</sup>

**Procedure and Measures.** To begin with, participants completed the same measures, and in the same order, as in Study 1A. All internal consistencies were high (BTAT-Self Scale:  $\alpha_{\text{faith}} = .86$ ,  $\alpha_{\text{communion}} = .82$ ; BTAT-Other Scale:  $\alpha_{\text{faith}} = .83$ ,  $\alpha_{\text{communion}} = .86$ ; Self-Centrality Scale:  $\alpha_{\text{faith}} = .93$ ,  $\alpha_{\text{communion}} = .88$ ; Global Religiosity Measure:  $\alpha = .85$ ; Intrinsic Religiosity Scale:  $\alpha = .97$ ; inter-correlation of all religiosity scales:  $.79 \leq r \leq .90$ ). Next, participants completed two measures unique to Study 1B: one assessing the degree to which high scores on the BTAT-Other Scale reflect a self-protective function (henceforth, the Self-Protection Index) and one assessing the degree to which high scores on the BTAT-Other Scale reflect indirect self-enhancement via oneness (henceforth, the Indirect Self-Enhancement Index).

**Self-Protection Index.** Participants were instructed to “imagine for a moment that the average [Christian] MTurker from the U.S. would *fully and firmly* live up to the six central Christian commandments. How would this *make you feel*?”. Next, the six Christian commandments were listed and, beneath each commandment, participants were asked: “How would you feel, if the average [Christian] MTurker from the U.S. fully and firmly lived up to the 1st / 2nd / 3rd / 4th / 9th / 10th Commandment?”. Participants responded to each of those six questions using three response lines, ranging from 0% to 100% (see Study 1A’s Method section): “I would feel *safe*,” “I would feel *supported*,” “I would feel *protected*.” Internal consistencies were excellent for the nine items pertaining to commandments of faith (three items per commandment;  $\alpha = .98$ ) and the nine items pertaining to commandments of communion (three items per commandment;  $\alpha = .97$ ).

**Indirect Self-Enhancement Index.** Oneness is typically measured with a 2-item index (Cialdini et al., 1997). The first item is the Inclusion of Other in the Self Scale (Aron et al., 1992). That scale displays seven pairs of circles. One circle in each pair represents the self (here: labeled “Self”), whereas the other circle represents another entity (here: labeled “Average [Christian] MTurker”). The circles in each pair increasingly overlap from the first pair (no overlap at all) to the seventh pair (almost complete overlap). Participants were

instructed to “please choose the picture below which best describes your relationship with the average [Christian] MTurker from the U.S..” The second item, following Cialdini et al. (1997), asked: “To what extent would you use the term ‘we’ to describe your relationship with the average [Christian] MTurker from the U.S.?”. Batson (1997) has pointed to potential ambiguities in the latter item. To ameliorate those ambiguities, we constructed two additional items. We aimed for maximal content validity and, thus, based the items on Cialdini et al.’s (1997) description of oneness. One additional item asked: “To what extent do you feel ‘at one’ with the average [Christian] MTurker from the U.S.? In other words, to what extent do you feel a sense of shared identity with the average [Christian] MTurker from the U.S.?”. The accompanying response line ranged from “not at all at one” to “strongly at one.” The other additional item asked: “To what extent do you experience a sense of ‘oneness’ with the average [Christian] MTurker from the U.S.? In other words, to what extent do you feel that your identity is merged with the identity of the average [Christian] MTurker from the U.S.?”. The accompanying response line ranged from “no sense of oneness at all” to “strong sense of oneness.” We standardized all four items and averaged them into a single index. The internal consistency of that index was high ( $\alpha = .91$ ), as were item-total correlations ( $.71 \leq r \leq .87$ ) and inter-item correlations ( $.65 \leq r \leq .89$ ).

## Results

**Direct replication of Study 1A.** We conducted the same analyses as in Study 1A, and so we report them in abbreviated form.

**Commandments of faith.** Concerning self-centrality, commandments of faith were much more self-central for religious than non-religious people,  $r(1,149) = .86, p < .001$ . Those commandments were also more self-central in the Christian than control condition,  $F(1, 1147) = 137.39, p < .001, \eta_p^2 = .11$ . Concerning the better-than-average effect, participants reported that they adhere to commandments of faith more strongly than the average other,  $F(1, 1146) = 42.34, p < .001, \eta_p^2 = .04$ , and this effect was larger in the Christian than control condition,  $F(1, 1146) = 11.03, p = .001, \eta_p^2 = .01$ . Concerning mediation, we found an indirect effect of condition through self-centrality on the better-than-average effect,  $B = 7.46 [6.22, 8.76]$ , percent mediated: 100%. As in Study 1A, the results supported the SCP-universal view.

**Commandments of communion.** Concerning self-centrality, commandments of communion were more self-central for religious than non-religious people,  $r(1,150) = .55, p < .001$ . Also, those commandments were more self-central in the Christian than control condition,  $F(1, 1148) = 57.46, p < .001, \eta_p^2 = .05$ . Concerning the better-than-average effect, participants reported that they adhere to commandments of communion more strongly than the average other,  $F(1, 1145) = 437.60, p < .001, \eta_p^2 = .28$ . Again, however, the better-than-average effect did not differ between the Christian and control condition,  $F(1, 1145) = 0.01, p = .93, \eta_p^2 = .00001$ . In all, Study 1A's results were replicated (Table 1, Figure 1), including the apparent lack of self-enhancement differences. Hence, we next tested whether the results change when using a de-biased BTAT-Other Scale.

**De-Biasing the BTAT-Other Scale.** We tested first whether participants in the Christian (relative to control) condition had reason to positively bias their perception of the average other. We conducted a MANOVA with condition as the independent variable and the following three dependent variables: (DV1) Self-Protection Index—Commandments of Faith subscale, (DV2) Self-Protection Index—Commandments of Communion subscale, (DV3) Indirect Self-Enhancement Index. Participants in the Christian (vs. control) condition scored higher on all three measures,  $F(1, 1146) = 101.23, p < .001, \eta_p^2 = .08$  (DV1),  $F(1, 1146) = 31.47, p < .001, \eta_p^2 = .03$  (DV2), and  $F(1, 1146) = 58.08, p < .001, \eta_p^2 = .05$  (DV3). Thus, participants in the Christian condition had reasons to positively bias their perception of the average other, rendering it necessary to de-bias the scores of the BTAT-Other Scale. Next, we describe our de-biasing method.

The *residuation method* is most appropriate for de-biasing the score of one construct from the influence of contaminating constructs (Dufner, Reitz, & Zander, 2015; John & Robins, 1994; Paulhus, 1998; Plomin, Lichtenstein, Pedersen, McClearn, & Nesselroade, 1990). We de-biased the BTAT-Other Scale's Commandments of Faith subscale by simultaneously regressing scores of that subscale on the Self-Protection Index—Commandments of Faith subscale and on the Indirect Self-Enhancement Index. Providing further evidence for bias, both indices emerged as simultaneous predictors of the BTAT-Other Scale's Commandments of Faith subscale,  $\beta = .31, t(1,147) = 10.63, p < .001$

(self-protection),  $\beta = .23$ ,  $t(1,147) = 7.90$ ,  $p < .001$  (indirect self-enhancement). We saved the unstandardized residual score as the de-biased version of the BTAT-Other Scale's Commandments of Faith subscale.<sup>11</sup>

Next, we de-biased the BTAT-Other Scale's Commandments of Communion subscale. We simultaneously regressed scores of that subscale on the Self-Protection Index—Commandments of Communion subscale and on the Indirect Self-Enhancement index. Providing further evidence for bias, both indices emerged as simultaneous predictors of the BTAT-Other Scale's Commandments of Communion subscale,  $\beta = .19$ ,  $t(1,147) = 6.23$ ,  $p < .001$  (self-protection),  $\beta = .19$ ,  $t(1,147) = 6.51$ ,  $p < .001$  (indirect self-enhancement). We saved the unstandardized residual score as the de-biased version of the BTAT-Other Scale's Commandments of Communion subscale (footnote 11). Next, we conducted the same analyses as in Study 1A and in the present study's Direct Replication section. This time, however, we used the de-biased versions of the BTAT-Other Scale's two subscales.

***Commandments of faith.*** Participants once more reported that they adhere to commandments of faith more strongly than the average other,  $F(1, 1144) = 42.70$ ,  $p < .001$ ,  $\eta_p^2 = .04$ , and this better-than-average effect was once again larger in the Christian than control condition,  $F(1, 1144) = 35.55$ ,  $p < .001$ ,  $\eta_p^2 = .03$ . Concerning mediation, there was an indirect path from condition through self-centrality to the better-than-average effect,  $B = 9.89$  [8.31, 11.53], percent mediated: 100%. Those results were consistent with the SCP-universal view. Moreover, comparison of effect sizes between the present results ( $\eta_p^2 = .03$ ) and our earlier results ( $\eta_p^2 = .01$ ) show that using the de-biased version of the BTAT-Other Scale results in even stronger support of the SCP-universal view (Table 1, Figure 1).

***Commandments of communion.*** Participants again reported that they adhere to commandments of communion more strongly than the average other,  $F(1, 1144) = 402.36$ ,  $p < .001$ ,  $\eta_p^2 = .26$ . More important, de-biasing the BTAT-Other Scale had the expected outcome, resulting in a larger better-than-average effect in the Christian than control condition,  $F(1, 1144) = 4.55$ ,  $p = .03$ ,  $\eta_p^2 = .004$ . Concerning mediation, there was an indirect path from condition through self-centrality to the better-than-average effect,  $B = 3.66$  [2.80, 4.60],



percent mediated: 100%. Overall, the results are consistent with the SCP-universal view, but run counter to the ego-quieting view (Table 1, Figure 1).

## Discussion

Study 1B sought to clarify the results of Study 1A. Concerning commandments of faith, Study 1A's results favored the SCP-universal view, and Study 1B provided an exact replication of those results. Both studies evinced a larger better-than-average effect in the Christian than control condition. Concerning commandments of communion, however, Study 1A's results did not favor the SCP-universal view. More precisely, Study 1A did not evince a larger better-than-average effect in the Christian than control condition; instead, the better-than-average effects were equally strong across conditions.

We conducted Study 1B in an effort to understand why the better-than-average effect concerning commandments of communion was not larger in Study 1A's Christian than control condition. We reasoned as follows. Relative to participants in Study 1A's control condition, participants in the Christian condition may have positively biased their perceptions of the average other, and may have done so for self-enhancing reasons. Specifically, participants in the Christian condition may have reaped substantial self-protection benefits (Abele & Wojciszke, 2007; Nehrlich, Gebauer, Sedikides, & Abele, 2017) and substantial indirect self-enhancement benefits (Aaron et al., 1992; Cialdini et al., 1997) from positively biasing their perceptions of the average other.

Study 1B furnished empirical support for the self-protection explanation and the indirect self-enhancement explanation. Evidently, Study 1A's BTAT underestimated the degree of self-enhancement in the Christian relative to control condition. We emphasize that this underestimation is indicative of Christian self-enhancement: Christians' concern with self-protection and indirect self-enhancement in all likelihood drove the weakened better-than-average effects in the Christian condition. Put otherwise, Study 1B suggests that Christian self-enhancement explains Study 1A's puzzling results (i.e., equally strong better-than-average effects concerning commandments of communion in both conditions). Put in yet another way, the only Study 1A result that appeared at odds with the predictions of the SCP-universal view on first sight turned out to be a manifestation of self-enhancement itself. Taken

together, the SCP-universal view can account for all results from Studies 1A-1B, and it can do so parsimoniously. It is hard to reconcile those results with the ego-quieting view.

Crucially, Studies 1A-1B in concert can explain the inconclusiveness of past BTAT-findings on religious self-enhancement (Eriksson & Funcke, 2014; Kurman, 2001; Rowatt et al., 2002). Study 1B found that the BTAT underestimates Christian self-enhancement due to self-protection and indirect self-enhancement. Prior BTAT-research, then, likely underestimated religious self-enhancement, leading to erratic findings (cf. Study 1A).

Studies 1A-1B operationalize self-enhancement with the BTAT, which is the most frequently used measure of self-enhancement (Alicke & Guenther, 2011; Sedikides & Alicke, 2012). Also, our version of the BTAT controlled for methodological deficiencies by using separate ratings for self and average other (Moore, 2007) and by using continuous response lines (Harris & Hahn, 2011). Nonetheless, our conclusions would rest on more solid ground, if other operationalizations of self-enhancement also yielded clear evidence in favor of the SCP-universal view. We conducted Studies 2A-2H with that purpose in mind, using a criterion discrepancy measure to assess self-enhancement.

### **STUDIES 2A-2H: CRITERION DISCREPANCIES**

In Studies 2A-2H, we examined Christian self-enhancement using the latest criterion-discrepancy method, the overclaiming task (Paulhus et al., 2003). In the original task version, participants reported their knowledge on academic topics. The topic “physical sciences,” for example, was accompanied by the items “alloy,” “ultra-lipid,” and “photon.” Participants responded to each item on a rating scale from 0 (*never heard of it*) to 6 (*very familiar with it*). Unbeknownst to participants, some items were fabricated by the researchers (here: ultra-lipid). For those bogus items, participants’ true knowledge is nil: The criterion for these items is zero, and any deviation from zero reflects a criterion-discrepancy. Paulhus et al. (2003) have documented that the overclaiming task is a measure of self-enhancement. For example, overclaiming is related to self-deceptive enhancement, but not to impression management, suggesting that people are unaware of their biased self-perception (Paulhus & John, 1998).

Subsequent work revealed that the overclaiming task can measure domain-specific self-enhancement by incorporating knowledge questions from particular domains (e.g.,

agency and communion; Gebauer, Sedikides, Verplanken, & Maio, 2012; see also Nathanson, Williams, & Paulhus, 2003; Paulhus, 2011). Accordingly, we tested the relation between Christian belief and overclaiming in three domains: agency (example topics: chemistry & physics, international stock market, leading universities), communion (example topics: humanitarian aid organizations, nature and animal protection organizations, international health charities), Christianity (example topics: stories of the New Testament, Christian saints, books of the Bible).

The predictions of the SCP-universal view are as follows. Agency is not any more self-central to Christians than non-believers, and thus there should be no relation between Christian belief and agentic overclaiming. Communion is somewhat more self-central to Christians, and thus there should be a modest, positive relation between Christian belief and communal overclaiming. Finally, Christianity is highly self-central to Christians, and thus there should be a strong positive relation between Christian belief and Christian overclaiming. The predictions from the ego-quieting view differ sharply. Christian belief should predict less overclaiming (compared to non-belief), and this negative relation should occur across all three domains.

Both views anticipate that their predictions will be generalizable across religiously diverse cultures. We tested for generalizability of findings across three cultures, which differ considerably in their religiosity: East Germany (a highly secular culture), the UK (a more Christian culture), the US (an even more Christian culture). Importantly, generalizability does not preclude modest cross-cultural variations in the strength of those effects (Gebauer et al., 2015), a possibility we explored.

## **Method**

### **Participants**

We collected first data on religiosity and overclaiming in 2009. Whenever a suitable opportunity presented itself, we added relevant measures in larger surveys. We were thus able to include data from eight opportunity samples in Studies 2A-2H. For theoretical reasons, we restricted participation to Christians and persons with no religious denomination. This

practice resulted in an overall  $N$  of 1,779 across the eight studies. Table 2 presents demographics for each study.

### Procedure and Measures

Participants completed the studies on computers in their country's official language. The measures were embedded in larger surveys. All eight studies featured at least two relevant measures: religiosity and overclaiming. Table 2 shows which study featured which measure. The measures were presented in random order in Studies 2A-2D<sup>12</sup> and in fixed order in Studies 2E-2H. When presented in fixed order, the religiosity measures preceded the overclaiming measures.

**Individual-level religiosity.** We assessed individual-level religiosity with two scales, the Global Religiosity Measure (Gebauer & Maio, 2012) and the 6-item version of the Intrinsic Religiosity Scale (US and UK samples: Maltby, 1999; German samples: Zwingmann et al., 1994). We describe both scales in Study 1A's Method section. The Global Religiosity Measure's internal consistency was high in all eight studies we summarize ( $.84. \leq \alpha \leq .89$ ), and so was the Intrinsic Religiosity Scale's internal consistency ( $.84. \leq \alpha \leq .96$ ).

**Culture-level religiosity.** We followed Diener et al.'s (2011) procedure in estimating country-level religiosity. For each country, Diener et al. averaged participants' responses to the question "Is religion an important part of your daily life?". Similarly, we averaged participants' responses to the question "How religious are you?" (1 = *not at all*, 7 = *very much*). In line with prior research (Gebauer, Bleidorn, et al., 2014), East German participants were least religious, US participants were most religious, and UK participants fell in between (Table 2).

**Overclaiming.** The agentic overclaiming task asked participants to rate their familiarity (0 = *I never heard of it*, 6 = *I am very familiar with it*) with agentic topics. Instructions varied somewhat across studies. In Study 2D, for example, participants read the instructions: "The following 24 items refer to central topics within the *achievement and success domain*. We want to find out how good your knowledge is regarding these topics. Please indicate your knowledge about each of these 24 core achievement and success topics by rating your familiarity with each item." The items concerned four agentic subdomains<sup>13</sup>

with the subdomain headers being “market principles,” “international stock market,” “chemistry & physics,” and “leading educational institutions.” Depending on study, we presented 3-6 items under each subdomain header. In Study 2D, for example, the items of the subdomain “market principles” were “Nash equilibrium” (real), “free market” (real), “saturated market hub” (foil), “capitalism” (real), “game theory” (real), and “semi-trunked market” (foil).

The communal overclaiming task was parallel to the agentic one. Accordingly, we instructed Study 2D participants to indicate their knowledge for “core social and humanity topics.” The headings of the four communal subdomains (footnote 13) were “international health charities,” “humanitarian aid organizations,” “nature & animal protection organizations,” and “parenting & childcare<sup>14</sup>.” Depending on study, we presented 3-17 items under each subdomain header. For example, in Study 2D, the items of the subdomain “international health charities” were “Asch Aids Aid (AAA)” (foil), “The Stroke Association” (real), “International Children’s Heart Foundation” (real), “Psychological health Trust (PhT)” (foil), “The Wellcome Trust” (real), and “The Bill & Melinda Gates Foundation” (real).

The Christian overclaiming task consisted of central topics from Christianity. Subdomains included “famous biblical verses,” “important Christian saints,” “key stories of the Old Testament,” “key stories of the New Testament,” “core Christian values,” and “books of the Bible.” Depending on study, we presented 3-17 items under each subdomain header.<sup>15</sup> As an example, in Study 2B, the items of the subdomain “key stories of the New Testament” were “Jesus rejects the golden goblet (Luke 9:6-14)” (foil), “the good Samaritan (Luke 10:25-37)” (real), and “John the Baptist exalts Christ (John 3:22-36)” (real).

Following Paulhus et al. (2003), we calculated self-enhancement indices using signal detection analysis (Swets, 1964). This analysis requires dichotomous responses: hits (claiming knowledge of real items) and false-alarms (claiming knowledge of foil items). The overclaiming task, however, uses continuous response scales (0-6). Hence, the continuous responses need to be dichotomized and, therefore, some cutoff needs to be chosen. Paulhus et al. (2003, p. 893) computed self-enhancement scores for all six possible cutoffs and averaged the six resultant self-enhancement scores into one self-enhancement index. We adopted that

approach, using MacMillan and Creelman's (1991) common-sense formula (Paulhus, 2011).<sup>16</sup> We sought to estimate the reliabilities of our three overclaiming tasks. Hence, in regards to the agentic overclaiming task, we calculated separate self-enhancement indices for each agentic subdomain and found adequate internal consistencies across those subdomains in all studies ( $69. \leq \alpha \leq .82$ ). We followed the same approach for the other two tasks, and found adequate internal consistencies for the communal overclaiming task ( $75. \leq \alpha \leq .90$ ) and the Christian overclaiming task ( $88. \leq \alpha \leq .93$ ) in all studies.

### Results

We used meta-analytic techniques to analyze data across Studies 2A-2H. We treated each study separately and computed all possible zero-order correlations between religiosity (global, intrinsic) and overclaiming (agentic, communal, Christian) for each study, resulting in up to six correlations per study (i.e., 2 [global and intrinsic religiosity]  $\times$  3 [agentic, communal, and Christian overclaiming]; Table 2). On that basis, we first calculated the omnibus effect (i.e., the average of all correlations within studies averaged across all studies). In meta-analysis, there is a widely accepted computational sequence to calculate omnibus effects with maximal precision (Cooper, Hedges, & Valentine, 2009; Lipsey & Wilson, 2001). We followed that sequence. Specifically, we began with transforming all zero-order correlations into Fisher's  $z$ -scores (Rosenthal & Rubin, 1982). Next, we averaged all  $z$ -scores within each study, resulting in a single mean- $z$ -score for each study (Mullen, 1989). Afterwards, we averaged the eight studies' mean- $z$ -scores, while weighting them by their inverse variance weight (i.e., sample size - 3; Hedges & Olkin, 1985). Finally, we back-transformed the resultant omnibus- $z$ -score to a Pearson correlation, which reflects the omnibus effect. That omnibus effect showed a positive relation between religiosity and overclaiming,  $r(1,779) = .32$  [.28, .36]. Those results provide initial support for the SCP-universal view over the ego-quieting view.

Subsequently, we turned to our key question: Will the relation between religiosity and overclaiming vary depending on the overclaiming domain's centrality for the Christian self-concept? Put differently, will this relation become stronger when the domain is highly self-central (vs. decreasingly so) to Christians? The SCP-universal view offers an affirmative

answer, the ego-quieting view a negative answer. We proceeded to summarize meta-analytically the relation between religiosity and overclaiming, separately for each domain (agentic, communal, Christian). Our data-analytic method paralleled the one we used for the omnibus effect, as described in the previous paragraph (i.e.,  $r$ -to- $z$  transformation, inverse variance weighted averaging of  $z$ -scores,  $z$ -to- $r$  back-transformation). The relation between religiosity and agentic overclaiming was small,  $r(1,094) = .09$  [.03, .15] (global religiosity) and  $r(1,403) = .11$  [.06, .16] (intrinsic religiosity). The relation between religiosity and communal overclaiming was substantially larger,  $r(1,094) = .18$  [.12, .24] (global religiosity) and  $r(1,682) = .18$  [.13, .23] (intrinsic religiosity). Finally, the relation between religiosity and Christian overclaiming was by far the largest,  $r(590) = .55$  [.49, .60] (global religiosity) and  $r(869) = .47$  [.42, .52] (intrinsic religiosity). Those results conform to the SCP-universal view at the expense of the ego-quieting view.<sup>17</sup>

Finally, we examined cross-cultural differences in the just-described effects. Homogeneity tests (Hedges & Olkin, 1985) indicated that effect sizes differed across samples. Specifically, we obtained significant or marginal effect-size differences for the following relations: intrinsic religiosity and agentic overclaiming,  $Q(3) = 10.05$ ,  $p = .02$ ; intrinsic religiosity and communal overclaiming,  $Q(6) = 11.35$ ,  $p = .08$ ; global religiosity and Christian overclaiming,  $Q(2) = 8.36$ ,  $p = .02$ . There was no heterogeneity in the relation between global religiosity and agentic overclaiming,  $Q(2) = 3.35$ ,  $p = .19$ , global religiosity and communal overclaiming,  $Q(2) = 2.93$ ,  $p = .23$ , and intrinsic religiosity and Christian overclaiming,  $Q(5) = 8.75$ ,  $p = .11$ . Of particular interest, country-level religiosity explained the significant effect-size differences. In particular, the relation between intrinsic religiosity and agentic overclaiming was accentuated in religious countries,  $B = .25$ ,  $SE = .09$ ,  $p = .004$ , and the same was the case for the relations between intrinsic religiosity and communal overclaiming,  $B = .18$ ,  $SE = .08$ ,  $p = .03$ , and between global religiosity and Christian overclaiming,  $B = .39$ ,  $SE = .14$ ,  $p = .006$ . In fact, after accounting for heterogeneity due to country-level religiosity, effect sizes did not differ across samples,  $0.65 \leq \text{all } Qs \leq 6.63$ , all  $ps > .25$ . Most important, however, those cross-cultural differences were nuanced and left our key results unaltered. Figure 2 shows pancultural evidence for the SCP-universal view over the ego-quieting view.

### Discussion

Studies 2A-2H were the first to examine overclaiming among Christians and non-believers, and they did so across three knowledge domains: agency, communion, Christianity. In total, the eight studies relied on data from 1,779 participants across three religiously diverse countries. As in Studies 1A-1B, the results favored the SCP-universal view at the expense of the ego-quieting view. Overall, Christians overclaimed substantially more than did non-believers. Crucially, there was compelling evidence for the operation of the self-centrality principle among Christians: They overclaimed strongly in domains that were self-central to them. That is, Christians' proclivity to overclaim was small in the agency domain, moderate in the communion domain, and large in the Christianity domain.

These results replicated across three countries with varying degrees of country-level religiosity: East Germany, UK, US. Nuanced differences across countries also emerged. In particular, the relation between religiosity and self-enhancement strengthened with rising country-level religiosity and weakened with falling country-level religiosity. How can those cross-cultural differences be explained? Two established findings provide clues. First, because Christians enjoy higher cultural-fit in Christian cultures, Christians possess particularly high self-esteem in Christian cultures (Gebauer, Sedikides, & Neberich, 2012; Gebauer et al., 2017). Second, high self-esteem people are particularly prone to self-enhancement (Baumeister, 1998; Leary, 2007; Sedikides & Gregg, 2008). Taken together, our findings bode well with literature that Christian self-enhancement (in all three domains) was somewhat stronger in Christian countries (where Christians' self-esteem is high) relative to secular countries (where Christians' self-esteem is low). In fact, Sedikides and Gebauer's (2010) meta-analysis on religiosity and SDR found a comparable cross-cultural result pattern (i.e., higher relation between religiosity and SDR in more religious countries). One goal of Studies 3A-3J was to further gauge the role of country-level religiosity for Christian self-enhancement. Those nuanced cross-cultural differences notwithstanding, evidence for the SCP-universal view was pancultural.

### STUDIES 3A-3J: GRANDIOSE NARCISSISM



In Studies 3A-3J, we operationalized self-enhancement as grandiose narcissism. Grandiose narcissism is the self-enhancer trait (Morf, Horvath, & Torchetti, 2011) and, thus, a well-suited measure for our theoretical purposes. Grandiose narcissism can be split into an agentic form (characterized by self-enhancement on the agency domain; Grijalva & Zhang, 2016) and a communal form (characterized by self-enhancement on the communal domain; Gebauer, Sedikides, Verplanken, & Maio, 2012). A twin study has shown that the two forms of grandiose narcissism are subject to unique genetic and environmental influences (Luo, Cai, Sedikides, & Song, 2014).

There is little accuracy to be found in narcissists' inflated self-views. Agentic narcissists perceive themselves as highly intelligent, but intelligence tests reveal no difference between them and non-narcissists (i.e., those low on the continuum; Gabriel, Critelli, & Ee, 1994). Similarly, agentic narcissists claim to be exceptionally knowledgeable on agentic topics, but knowledge tests do not verify their claims (Paulhus et al., 2003). Communal narcissists see themselves as exceptionally helpful, but behavioral measures and informant reports reveal virtually no differences between communal narcissists and non-narcissists (Nehrlich, Gebauer, Sedikides, & Schoel, 2017). Similarly, communal narcissists claim to be highly knowledgeable on communal topics, but knowledge tests provide no such documentation (Gebauer, Sedikides, Verplanken, & Neberich, 2012). In all, grandiose narcissism reflects high levels of self-enhancement but little substance, and this is why the relation between religiosity and grandiose narcissism is relevant to our theoretical objectives.

The predictions for Studies 3A-3J parallel those for Studies 2A-2H. More precisely, the SCP-universal view predicts no relation between religiosity and agentic narcissism, but a positive relation between religiosity and communal narcissism. In contrast, the ego-quieting view predicts a negative relation between religiosity and grandiose narcissism, and this negative relation should hold for agentic and communal narcissism alike. Once again, we tested for generalizability of the findings across religiously diverse cultures (East Germany, UK, US).

## **Method**

### **Participants**

We collected first data on religiosity and narcissism in 2009. Whenever a suitable opportunity arose, we added relevant measures in larger surveys, a practice that allowed us to include data from 10 opportunity samples.<sup>18</sup> As in Study 2, we restricted participation to Christians and to individuals with no religious denomination, leading to an overall *N* of 1,956. Table 3 presents demographics for each study.

### **Procedure and Measures**

Participants completed the studies on computers in their country's official language. The measures were embedded in larger surveys. All 10 samples included at least two relevant measures, a religiosity and a narcissism one. Table 3 shows which study included which measure. We presented the measures at random in Samples 3A-3E (footnote 12) and in fixed order in Samples 3F-3J. When presented in fixed order, the narcissism measures preceded the religiosity ones.

**Religiosity.** We assessed individual-level religiosity and country-level religiosity (Table 3) with the same measures as in Studies 2A-2H. Internal consistencies of the individual-level religiosity measures were high in each study (global religiosity:  $77. \leq \alpha \leq .90$ , intrinsic religiosity:  $84. \leq \alpha \leq .97$ ).

**Narcissism.** We assessed agentic narcissism with the 40-item Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988) in Study 3C and with its 16-item short-form (Ames, Rose, & Anderson, 2006) in all other studies. Each item consists of two statements, a narcissistic and a non-narcissistic one, and participants choose which statement better describes them. A sample item is: "I am more capable than other people" (narcissistic statement) and "There is a lot I can learn from other people" (non-narcissistic statement). We assessed communal narcissism with the 16-item Communal Narcissism Inventory (CNI; Gebauer, Sedikides, Verplanken, & Maio, 2012). Sample items are: "I am the most helpful person I know," "I will bring freedom to the people," "I have a very positive influence on others" (1 = *disagree strongly*, 7 = *agree strongly*). Internal consistencies of both narcissism measures were acceptable to high in all studies (NPI:  $.65 \leq \alpha \leq .84$ , CNI:  $87. \leq \alpha \leq .94$ ).

### **Results**

We adopted the data analytic strategy from Studies 2A-2H, using meta-analytic techniques across all 10 studies. We treated each study separately, and computed all possible zero-order correlations between religiosity (global and intrinsic) and narcissism (agentic and communal), resulting in up to four correlations per study (Table 3). First, we computed the omnibus effect (i.e.,  $r$ -to- $z$  transformation of individual effects, inverse variance weighted averaging of all  $z$ -scores,  $z$ -to- $r$  back-transformation of that average  $z$ -score), which revealed a positive relation between religiosity and narcissism,  $r(1,956) = .15$  [.11, .19]. The effect aligns better with the SCP-universal than the ego-quieting view.

Next, we addressed the key issue of Studies 3A-3J, namely, whether the strength of the relation between religiosity and narcissism varies with centrality of the narcissism domain for Christians' self-concept. Stated otherwise, is the relation between religiosity and communal narcissism stronger than the relation between religiosity and agentic narcissism? We proceeded to summarize meta-analytically the relation between religiosity and agentic narcissism, and the relation between religiosity and communal narcissism. Our method of analysis paralleled that for the omnibus effect. The relation between religiosity and agentic narcissism was very small and non-significant,  $r(1,080) = .06$  [-.002, .12] (global religiosity) and  $r(1,697) = .04$  [-.01, .09] (intrinsic religiosity). In contrast, the relation between religiosity and communal narcissism was much larger,  $r(1,368) = .20$  [.15, .25] (global religiosity) and  $r(1,956) = .24$  [.20, .28] (intrinsic religiosity). Those results conform tightly to the SCP-universal view while running counter to the ego-quieting view.

Finally, we examined cross-cultural differences in the above effects. Homogeneity tests indicated that effect sizes differed across samples. We found heterogeneity in the relation between global religiosity and communal narcissism,  $Q(5) = 13.11$ ,  $p = .02$ , and in the relation between intrinsic religiosity and communal narcissism,  $Q(9) = 23.28$ ,  $p = .006$ . There was no heterogeneity in the relation between global religiosity and agentic narcissism,  $Q(4) = 0.85$ ,  $p = .93$ , and between intrinsic religiosity and agentic narcissism,  $Q(6) = 1.85$ ,  $p = .93$ . Country-level religiosity explained the heterogeneity. The relation between global religiosity and communal narcissism was amplified in religious countries,  $B = .27$ ,  $SE = .08$ ,  $p < .001$ , and so was the relation between intrinsic religiosity and communal narcissism,  $B = .27$ ,  $SE = .08$ ,  $p <$

.001. Indeed, after accounting for heterogeneity due to country-level religiosity, effect sizes ceased to differ across samples,  $2.16 \leq \text{all } Qs \leq 12.00$ , all  $ps > .15$ . The cross-cultural differences are once more in line with the well-established finding that (1) Christians have particularly high self-esteem in Christian countries (Gebauer, Sedikides, & Neberich, 2012; Gebauer et al., 2017) and (2) high self-esteem people (i.e., Christians in Christian countries) self-enhance relatively strongly (Baumeister, 1998; Leary, 2007; Sedikides & Gregg, 2008). Most important, the cross-cultural differences were nuanced and did not alter our key results. As Figure 3 shows, in each of the three countries, there was a small relation between religiosity and agentic narcissism (at best) and a large relation between religiosity and communal narcissism. The evidence for the SCP-universal view among Christians is pancultural.

### Discussion

Study 3 pioneered the examination of relations between religiosity and the two forms of grandiose narcissism: agentic and communal. The study used data from 1,956 participants across three religiously diverse countries. As in our two prior sets of studies, the results favored the SCP-universal view over the ego-quieting view. Christians manifested higher levels of narcissism than did non-believers. More important, we obtained further evidence for the operation of the self-centrality principle among Christians. That is, we found a positive relation between Christian belief and communal narcissism, but we found no relation between Christian belief and agentic narcissism. These results replicated across three countries (East Germany, UK, US) with varying degrees of country-level religiosity.

### GENERAL DISCUSSION

The self-centrality (breeds self-enhancement) principle posits that people self-enhance in self-central domains. This principle figures prominently in many fields of psychology and plays a key role in many psychological theories. Debate, however, surrounds its psychological status. One view describes it as an evolutionarily grounded, inextricable part of human nature and, thus, as universal among well-functioning people (SCP-universal view; Sedikides et al., 2004; Taylor & Brown, 1988; von Hippel & Trivers, 2011). Another view describes self-enhancement (whether in self-central domains or not) as a temptation that can be effectively

curbed by self-effacement norms (ego-quieting view; Leary, 2004; Markus et al., 1996; Pepitone & Triandis, 1987). Christianity is a most potent antidote to self-enhancement, because Christianity prescribes robust self-effacement norms (Baumeister et al., 2003; Greenberg, 2008). We investigated Christian self-enhancement by systematically pitting the two views against each other (Platt, 1964).

### **Review of Evidence**

Studies 1A-1B (total  $N = 2,118$ ) operationalized self-enhancement with the BTAT (Alicke, 1985). Relative to their control counterparts, Christians showed a larger better-than-average effect in domains central to the Christian self-concept—namely, commandments of faith and commandments of communion. Moreover, relative to their control counterparts, Christians evinced a large better-than-average effect regarding commandments of faith (self-centrality: Christians  $\gg$  control-participants) and a more nuanced better-than-average effect regarding commandments of communion (self-centrality: Christians  $>$  control-participants). Additionally, the BTAT appears to be an overly conservative measure of self-enhancement among Christians, because Christians overestimate fellow believers, and they did so for self-enhancing reasons (i.e., self-protection, indirect self-enhancement).

Studies 2A-2H (total  $N = 1,779$ ) operationalized self-enhancement with the overclaiming task (Paulhus et al., 2003). In the Christian domain (self-centrality: Christians  $\gg$  non-believers), Christians overclaimed much more strongly than non-believers. In the communal domain (self-centrality: Christians  $>$  non-believers), Christians overclaimed somewhat more strongly than non-believers. In the agentic domain (self-centrality: Christians  $\approx$  non-believers), Christians overclaimed only slightly more so than non-believers. These results held across three very different cultural contexts: East Germany (a highly secular culture), the UK (a more Christian culture), and the US (an even more Christian culture).

Finally, Studies 3A-3J (total  $N = 1,956$ ) operationalized self-enhancement with measures of agentic and communal narcissism (Gebauer, Sedikides, Verplanken, & Maio, 2012). Relative to non-believers, Christians were more narcissistic in the communal domain (self-centrality: Christians  $>$  non-believers) and were similarly narcissistic in the agentic

domain (self-centrality: Christians  $\approx$  non-believers). Once again, these results held across three religiously diverse cultures (East Germany, UK, US).

Using three operationalizations of self-enhancement, we obtained a consistent pattern of results. If the self-enhancement domain is equally self-central to Christians and non-believers, Christians self-enhance as much as non-believers. If the self-enhancement domain is more self-central to Christians than non-believers, Christians self-enhance more than non-believers. The results conformed to predictions of the SCP-universal view while contradicting the ego-quieting view.

### **Implications**

The findings have implications for social-personality psychology, self psychology, the psychology of religion, and the understanding of human nature's fundamental constituents.

First, the evidence buttresses the universality of the self-centrality principle, suggesting that it is not confined to non-believers: It applies to Christians as well. As such, the evidence also buttresses psychological theories that aspire universal applicability, while building on the self-centrality principle. These are theories in social-personality psychology (e.g., cognitive dissonance theory—Stone & Cooper, 2001; self-discrepancy theory—Higgins, 1987; social identity theory—Tajifel & Turner, 1986), in self psychology (e.g., self-affirmation theory—Steele, 1988; self-efficacy theory—Bandura, 1997; symbolic self-completion theory—Wicklund & Gollwitzer, 1982), and in the psychology of self-enhancement (e.g., positive illusions model—Taylor & Brown, 1988; self-concept enhancement tactician model—Sedikides & Strube, 1997; self-evaluation maintenance model—Tesser, 1988).

Second, a key focus of inquiry about religion concerns its functions (Cohen, 2015; Saroglou, 2011; Sedikides & Gebauer, 2013). Religion can satisfy a broad array of psychological motives, including security (Saroglou et al., 2004), meaning (Park, 2005), control (Kay, Gaucher, McGregor, & Nash, 2010), certainty (Hogg, Adelman, & Blagg, 2010), immortality beliefs (Vail et al., 2010), attachment (Granqvist et al., 2010), belonging (Gebauer & Maio, 2012), and a positive social or collective identity (Ysseldyk et al., 2010). The present research adds self-enhancement (in self-central domains) to the list.

Self-enhancement, however, differs from other psychological motives in a pivotal way. Christianity discourages it, while encouraging the satisfaction of all other motives (Sedikides & Gebauer, 2013). Likewise, Christian lay people explicitly negate that their religion contributes to self-enhancement, but they do not negate that their religion satisfies all the other motives. We obtained evidence for this assertion. In an online-study (advertised at *Psychological Research on the Net*), we asked 66 Christian participants (age:  $M = 27.26$ ,  $SD = 10.77$ ; sex: 76% women; country: 82% US) whether religiosity satisfies the following motives ( $-3 = absolutely\ wrong$ ,  $+3 = absolutely\ right$ ): “safety and security,” “meaning in life,” “control over my life,” “certainty about matters of life,” “calmness about death,” “attachment to God,” “belongingness to God,” “worth and value as a person,” “superiority over fellow believers,” and “superiority over non-believers.” Participants claimed that their religiosity satisfies all motives ( $0.72 \leq Ms \leq 1.77$ ), except self-enhancement (superiority over non-believers:  $M = -1.71$ ,  $SD = 1.84$ ,  $p < .001$ ; superiority over fellow believers:  $M = -2.10$ ,  $SD = 1.45$ ,  $p < .001$ ). Thus, Christians self-enhance on self-central domains, while being unaware of doing so. Such a “bias blindspot” is not uncommon (Pronin, Gilovich, & Ross, 2004; Sedikides, Meek, Alicke, & Taylor, 2014) and it may protect Christians from dissonant feelings, which would otherwise arise from their inability to meet the Christian modesty commandment (Gregg, Gebauer, & Sedikides, 2017).

Finally, an overarching objective of social-personality psychology is to identify the fundamental constituents of human nature (Buss, 1984; Hogan, 2005; Van Zomeren & Dovidio, in press). We argue that the self-centrality principle is a prime contender for such a venture. Christianity is a potent force, able to constrain temptation (e.g., materialism, drug use, pornography consumption). Evidently, though, Christianity cannot constrain self-enhancement in self-central domains. We posit that this is so, because the self-centrality principle represents not a temptation, but an inextricable part of human nature deeply rooted in the evolution of our species (Sedikides et al., 2004; Taylor & Brown, 1988; von Hippel & Trivers, 2011). Indeed self-enhancement and temptation entail distinct psychological correlates. Self-enhancement is linked to better physical health (Segerstrom & Roach, 2008; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000; Taylor, Lerner, Sherman, Sage, &

McDowell, 2003a) and better psychological health (Dufner et al., 2012; Marshall & Brown, 2008; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004), whereas giving in to temptations is linked to worse physical and psychological health (materialism—Kasser & Ryan, 1993; drug use—Adams, Blanken, Ferguson, & Kopstein, 1990; drug use—Ybarra & Mitchell, 2005).<sup>19</sup>

### **Limitations and Empirical Prospects**

The results concerning overclaiming (Studies 2A-2H) and narcissism (Studies 3A-3J) are novel, and it is reassuring that they generalize across three religiously diverse countries. Moreover, the nuanced cross-cultural differences fit well with prior research on self-esteem and self-enhancement (Gebauer, Sedikides, & Neberich, 2012; Gebauer et al., 2017; Sedikides & Gebauer, 2010). Yet, those cross-cultural differences did not emerge as consistently as other results. Those inconsistencies are likely due to the relatively small number of countries in Studies 2-3. Future research should seek to replicate our findings in a larger number of countries.

The self-centrality principle assumes the following linear sequence: Group-membership comes first (here: religious group-membership), self-centrality of ingroup norms follows suit (here: Christian values and communion), and self-enhancement emanates from self-centrality. Given our design limitations, however, we cannot rule out the possibility that self-enhancement is an antecedent of religiosity. For example, individuals high on self-enhancement motivation may be drawn to religiosity in contexts where religiosity carries self-enhancement potential (i.e., in religious countries; Sedikides & Gebauer, 2010). Nevertheless, we maintain that the processes evoked by the self-centrality principle offer a substantially more parsimonious account of our results. Still, future research would do well to focus on (1) micro-longitudinal relations between religious belief and self-enhancement among persons who recently converted to Christianity, and (2) experiments that manipulate religiosity's self-centrality and measure corresponding increases in religious self-enhancement.

There is convergent, multi-methodological evidence that self-centrality breeds self-enhancement (present Studies 1-3; Brown, 2012; Gebauer, Wagner, Sedikides, & Neberich, 2013; Sedikides & Gregg, 2008). Evidence for the determinants of self-centrality, however, is



sparse. Prevailing group norms are often described as a prominent such determinant (Pyszczynski et al., 2004; Terry & Hogg, 1996). According to the standard social science model (Tooby & Cosmides, 1992; see also Pinker, 2002), people have an inclination to internalize the norms of their social groups, rendering those norms self-central. Familiarity may be a related determinant of self-centrality. For example, frequent exposure to Christianity, will increase familiarity with Christianity. Higher familiarity, in turn, will provide most people with the feeling that Christianity is part of their social identity and, thus, central to their self-concepts, especially when exposure to Christianity is linked to one's self-defining attributes or memories (cf. Sedikides, Wildschut, Routledge, Arndt, et al., 2015). Future research should address those (and other) potential determinants of self-centrality.

### **Concluding Remarks**

The idea that people self-enhance in self-central domains, the self-centrality (breeds self-enhancement) principle, has been a topic of scholarly debate. The SCP-universal view posits that the tendency to self-enhance in self-central domains is evolutionarily grounded and an inextricable part of human nature—that is, a universal tendency among well-functioning people. In contrast, the ego-quieting view considers self-enhancement (whether in self-central domains or not) a temptation that can be curbed by self-effacement norms. Proponents of the latter view have regarded Christianity as an effective antidote to self-enhancement, because Christianity prescribes robust self-effacement norms. In an attempt to settle the debate, we tested for Christian self-enhancement in three large-scale and methodologically diverse sets of studies. All studies capitalized on the key mechanism underlying self-enhancement—the self-centrality principle. The results consistently favored the SCP-universal view over the ego-quieting view. Christians self-enhanced in self-central domains, just as the self-centrality principle predicts. Specifically, Christians: (1) overestimated the degree to which they adhered to Christian commandments (Studies 1A-1B, total  $N = 2,118$ ); (2) overclaimed their knowledge in communal and Christian domains (Studies 2A-2H, total  $N = 1,779$ ); and (3) were particularly narcissistic in the communal domain (Studies 3A-3J, total  $N = 1,956$ ).

We conclude that the self-centrality principle is a universal phenomenon, applicable to Christians and non-believers alike. These conclusions reinforce the validity and

generalizability of many psychological theories that rest on this principle. The conclusions also have implications for scholarly understanding of human nature. Evidently, the self-centrality principle is so deeply ingrained in human nature that even the mighty force of religion may not succeed in keeping it in check.

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**Table 1.** Demographics and BTAT means for Studies 1A-1B

study	condition	<i>N</i>	country	age		sex (%)		relig denom (%)			commandments of faith									commandments of communion								
											self			other			other de-biased			self			other			other de-biased		
				<i>M</i>	<i>SD</i>	♂	♀	Chr	other	none	<i>M</i>	↓CI	↑CI	<i>M</i>	↓CI	↑CI	<i>M</i>	↓CI	↑CI	<i>M</i>	↓CI	↑CI	<i>M</i>	↓CI	↑CI	<i>M</i>	↓CI	↑CI
1A	Christian	296	US	35.75	11.51	37.5	61.5	100	0.0	0.0	60.5	56.8	64.2	51.1	48.7	53.5	–	–	–	79.7	76.9	82.6	59.9	57.4	62.5	–	–	–
1A	control	671	US	34.99	11.46	41.3	58.7	48.7	10.6	40.7	37.2	34.8	39.7	35.8	34.2	37.4	–	–	–	73.5	71.6	75.4	54.5	52.8	56.2	–	–	–
1A	total	967	US	35.23	11.47	40.2	59.8	64.4	7.4	28.2	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1B	Christian	374	US	36.30	11.72	37.8	62.2	100	0.0	0.0	61.6	58.3	64.9	52.9	50.6	55.1	48.2	46.2	50.3	79.3	76.6	82.0	62.8	60.5	65.1	60.4	58.2	62.6
1B	control	777	US	35.93	11.68	40.7	59.3	50.6	10.1	39.3	39.4	37.1	41.7	36.5	34.9	38.0	38.7	37.2	40.1	72.1	70.2	74.0	55.5	53.9	57.1	56.7	55.1	58.2
1B	total	1151	US	36.05	11.69	39.7	60.3	66.7	6.8	26.5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

**Note.** ♂ = male, ♀ = female, relig denom = religious denomination, Chr = Christian, self = score on the BTAT-Self Scale, other = score on the BTAT-Other Scale, other de-biased = score on the residualized version of the BTAT-Other Scale.

**Table 2.** Demographics, country-level religiosity, and effect sizes for Studies 2A-2H

study	assessment	<i>N</i>	country	age		sex (%)		cnt-rel	measures					effect sizes ( <i>r</i> )					
									rel		oc			agy oc		com oc		Chr oc	
				<i>M</i>	<i>SD</i>	♂	♀		glo	int	agy	com	Chr	glo rel	int rel	glo rel	int rel	glo rel	int rel
2A	laboratory	309	DE	23.84	4.16	36.7	63.3	2.01	✗	✓	✓	✓	✗		.05		.16		
2B	laboratory	312	DE	25.44	4.20	35.2	64.8	2.01	✓	✓	✓	✓	✓	.01	-.01	.12	.07	.47	.42
2C	soton-online	181	UK	20.09	2.57	14.4	85.6	2.57	✓	✓	✓	✓	✓	.17	.24	.27	.30	.60	.64
2D	Mturk	601	US	33.61	10.39	54.6	45.4	2.64	✓	✓	✓	✓	✗	.11	.16	.18	.25		
2E	PRotN	75	US	26.76	10.86	21.3	78.7	2.64	✗	✓	✗	✓	✓				.23		.47
2F	PRotN	106	US	25.43	9.88	17.9	82.1	2.64	✗	✓	✗	✓	✓				.11		.46
2G	PRotN	98	US	22.89	9.10	45.8	54.2	2.64	✗	✓	✗	✓	✓				.08		.51
2H	PRotN	97	US	26.08	10.53	26.8	73.2	2.64	✓	✓	✗	✗	✓					.67	.59

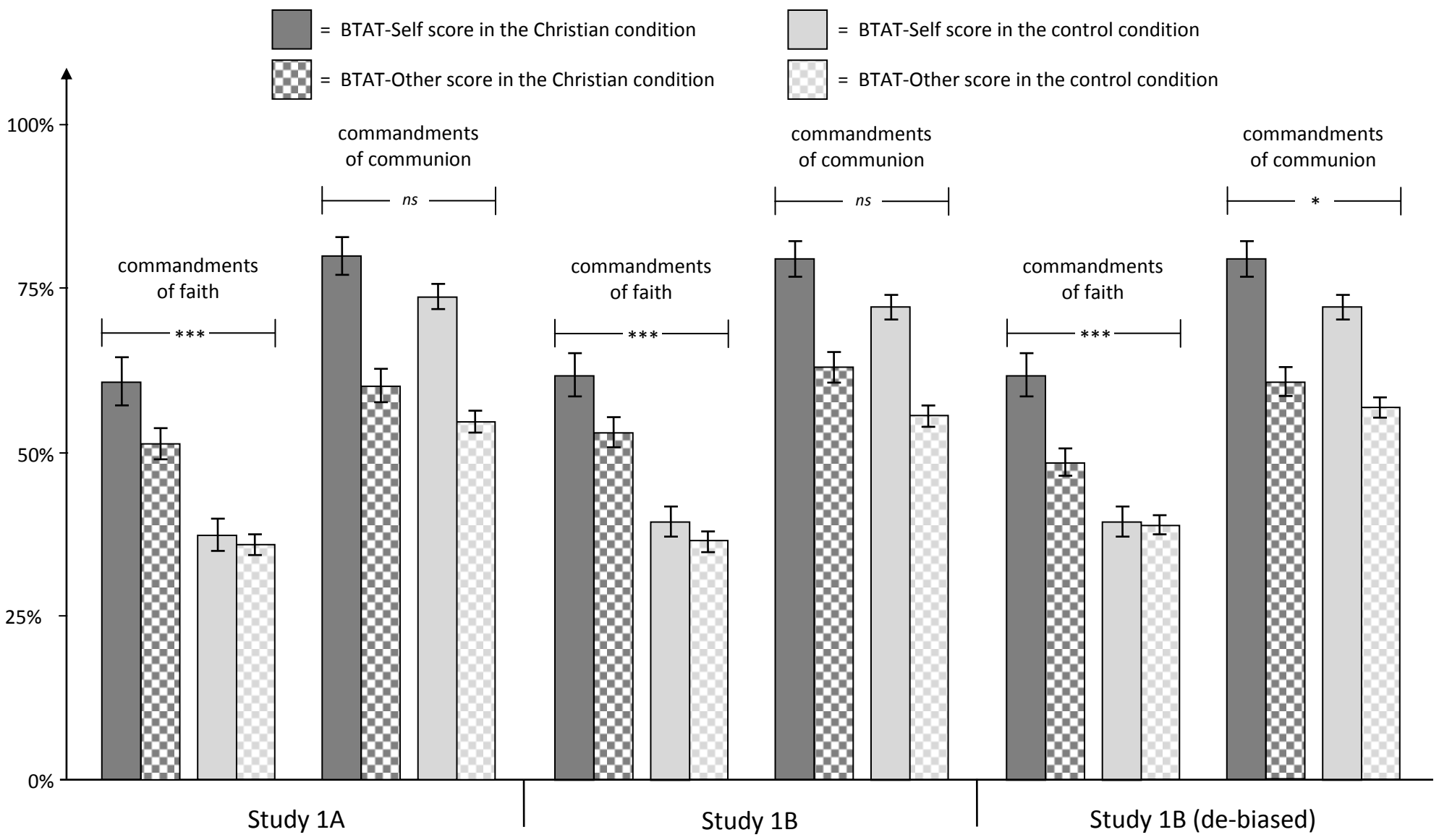
**Note.** ♂ = male, ♀ = female, rel = religiosity, oc = overclaiming, glo = global, int = intrinsic, agy = agency, com = communion, Chr = Christian, soton-online = online-study of psychology students from the University of Southampton, Mturk = Mechanical Turk, PRotN = Psychological Research on the Net website.

**Table 3.** Demographics, country-level religiosity, and effect sizes for Studies 3A-3J

study	assessment	<i>N</i>	country	age		sex (%)		cnt- rel	measures				effect sizes ( <i>r</i> )			
				<i>M</i>	<i>SD</i>	♂	♀		rel		nar		agy nar		com nar	
									glo	int	agy	com	glo rel	int rel	glo rel	int rel
3A	laboratory	309	DE	23.84	4.16	36.7	63.3	2.01	✗	✓	✓	✓		.00		.18
3B	laboratory	312	DE	25.44	4.20	35.2	64.8	2.01	✓	✓	✓	✓	.09	.07	.08	.08
3C	soton-online	233	UK	19.81	3.50	16.3	83.7	2.56	✓	✓	✓	✓	.01	.01	.12	.11
3D	soton-online	73	UK	20.55	2.53	17.8	82.2	2.56	✓	✓	✓	✓	.01	.02	.13	.20
3E	Mturk	601	US	33.61	10.39	54.6	45.4	2.83	✓	✓	✓	✓	.09	.11	.31	.37
3F	PRotN	75	US	26.76	10.86	21.3	78.7	2.83	✗	✓	✓	✓		.11		.57
3G	PRotN	106	US	25.43	9.88	17.9	82.1	2.83	✗	✓	✗	✓				.29
3H	PRotN	98	US	22.89	9.10	45.8	54.2	2.83	✗	✓	✗	✓				.20
3I	PRotN	55	US	20.71	6.91	23.6	76.4	2.83	✓	✓	✗	✓			.20	.34
3J	PRotN	94	US	23.72	10.05	15.1	84.9	2.83	✓	✓	✓	✓	.03	.01	.26	.33

**Note.** ♂ = male, ♀ = female, rel = religiosity, nar = narcissism, glo = global, int = intrinsic, agy = agency, com = communion, soton-online = online-study of psychology students from the University of Southampton, Mturk = Mechanical Turk, PRotN = Psychological Research on the Net website.

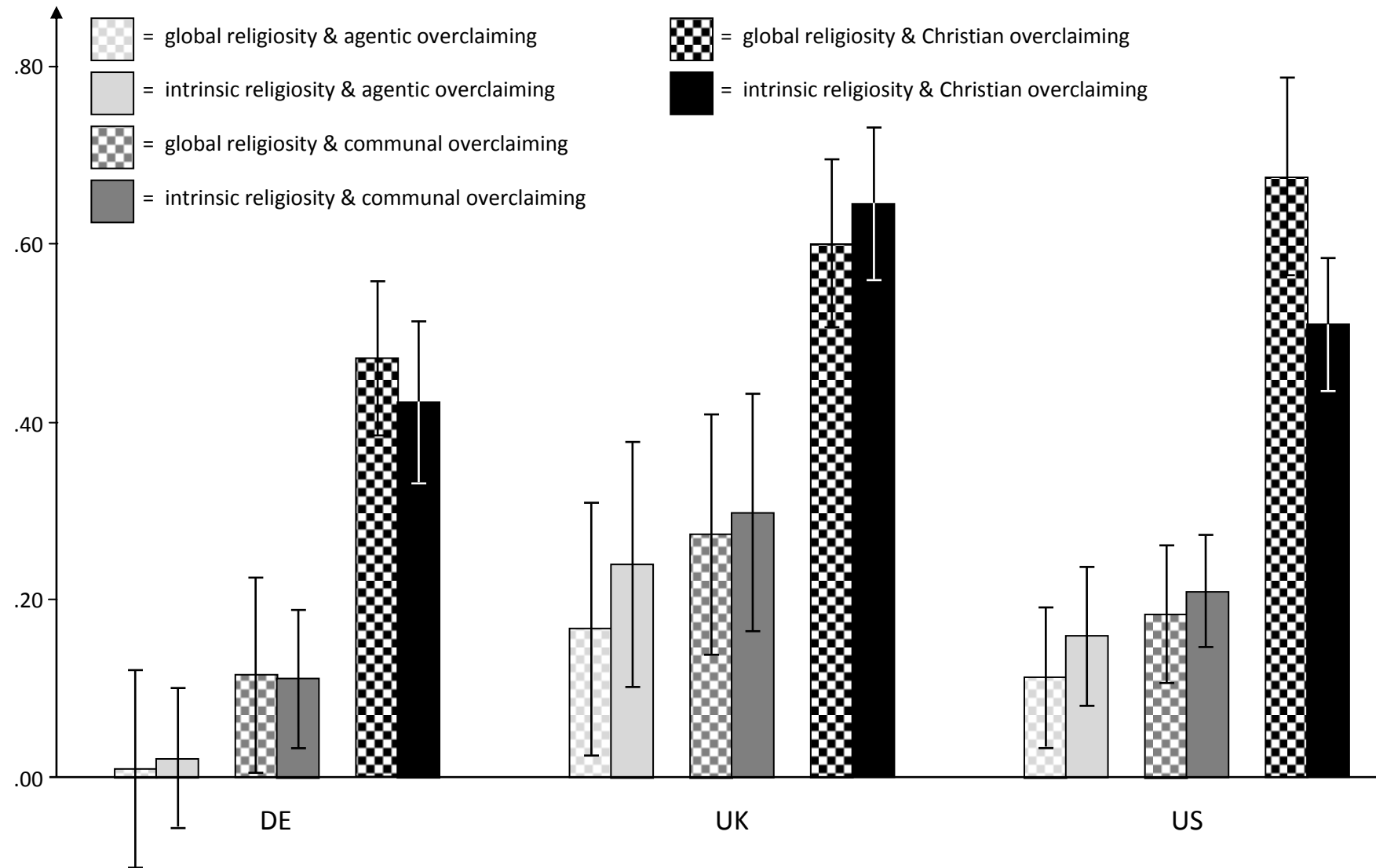
**Figure 1.** Better-than-average effects in Studies 1A-1B (including 95% confidence intervals)



**Note.** \*\*\*  $\Leftrightarrow$  conditions differ significantly in their better-than-average effects at  $p < .001$ , \*  $\Leftrightarrow$  conditions differ significantly in their better-than-average effects at  $p < .05$ , ns  $\Leftrightarrow$  conditions do not differ significantly in their better-than-average effects.

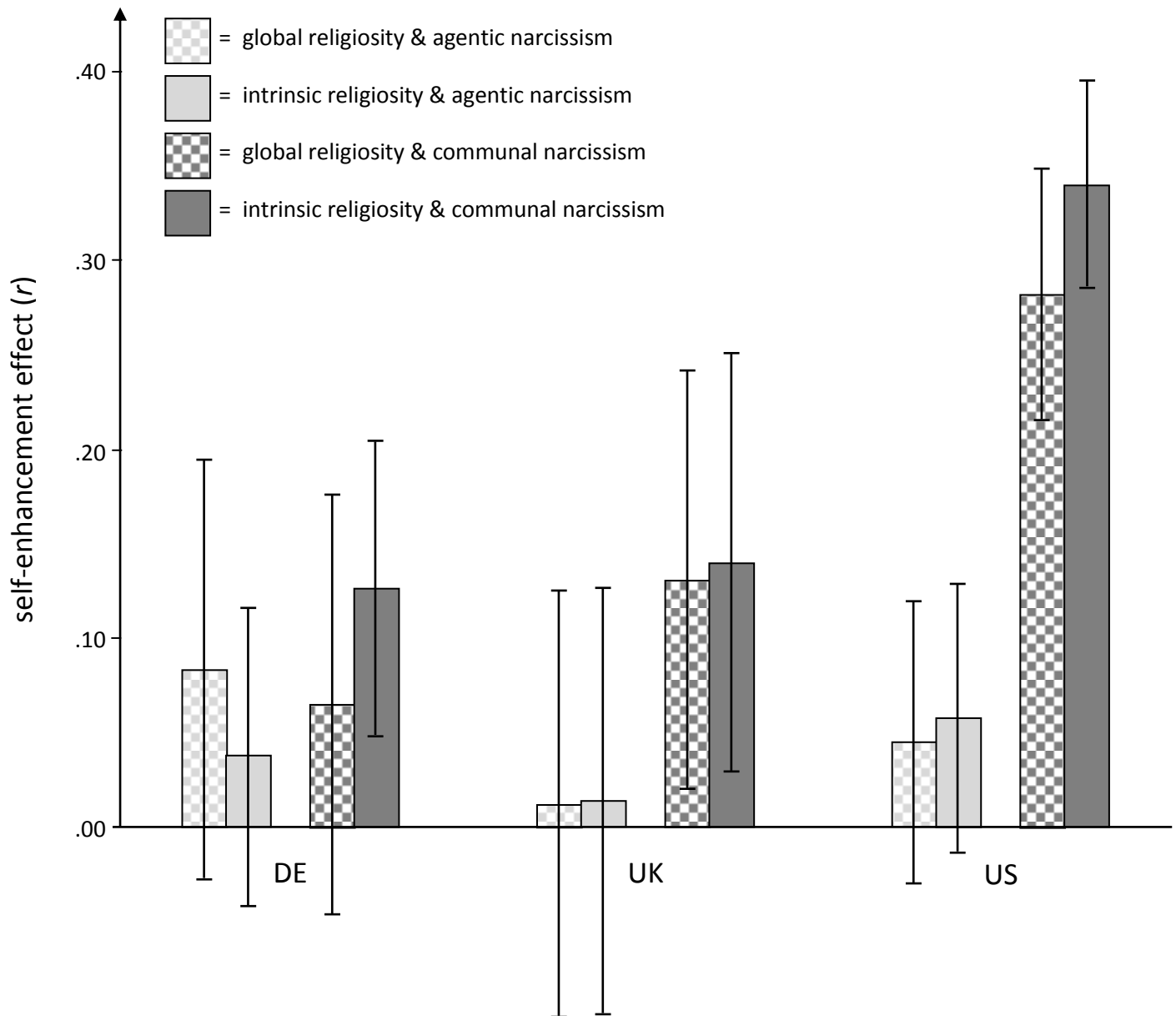


**Figure 2.** Correlations between religiosity (global and intrinsic) and overclaiming (agentic, communal, and Christian) per country in Studies 2A-2H (including 95% confidence intervals)



**Note.** DE = East Germany, UK = United Kingdom, US = United States.

**Figure 3.** Study 3's correlations between religiosity (global and intrinsic) and narcissism (agentic and communal) per country (including 95% confidence intervals)



**Note.** DE = East Germany, UK = United Kingdom, US = United States.

### FOOTNOTES

- 1 Although self-enhancement on central domains (i.e., the self-centrality principle) is prevalent, self-enhancement on peripheral domains is not. If a difficult domain (e.g., juggling) is peripheral to the self-concept, then people may underestimate their performance relative to the average other (Kruger, 1999). Also, people may underestimate their performance relative to objective criteria on easy tasks (Moore & Healy, 2008; for reviews see Moore, 2007; Windschitl, Kruger, & Simms, 2003).
- 2 It is theoretically possible for the vast majority of people to be better than average (Moore, 2007). Imagine, for example, a class of 20 students, in which 19 received an A and one received a D on an exam. All 19 A-students would be better than the class average. This alternative explanation, however, can be ruled out, if (1) participants use separate scales to report on themselves and on the average other, and (2) those scales consist of continuous response lines on which participants can place a cross where they see fit (Harris & Hahn, 2011). Our better-than-average studies (Studies 1A-1B) implemented these corrections.
- 3 Rowatt et al. (2002) reported another study in which Christian students rated themselves and unspecified “others” on the degree to which they live up to Christian commandments. It is possible, however, that Christian students indeed adhere to Christian commandments more so than unspecified “others” (i.e., non-Christians and non-students). Thus, the results of this study are ambiguous, and we do not consider them further.
- 4 Eriksson and Funcke (2014) reported a third study in which religious and non-religious MTurkers compared themselves with the “average person.” Relative to non-religious MTurkers, religious MTurkers showed a pronounced better-than-average effect on communion/warmth, but not on agency/competence. As in Rowatt et al.’s (2002) additional study (footnote 3), those results do not preclude the possibility that religious MTurkers are more communal/warm than the “average person,” a reference group that does not correspond fully to participants’ (i.e., no representative sampling was involved).
- 5 We requested in MTurk that 1,600 individuals complete this study. We sought sufficient power to detect small effects and estimate effect sizes with high precision. Also, the study design required us to exclude a large portion of non-eligible participants (see below). We

opted for a final-*N* of over 1,000, because we intended roughly to match the *N*s of Studies 2-3. The actual initial-*N* was 1,586. Some participants completed the study multiple times (11 persons twice, three 3 times, one 258 times). We retained data only from first participations, resulting in an *N* of 1,312. We randomly assigned participants to conditions. In the Christian condition, they compared themselves to “the average Christian MTurker from the U.S.” (*N* = 639). Here, all 639 participants described themselves as residing in the US (“What is your country of residence?”) and 296 described themselves as Christian (“What is your religious denomination?”). To be a marker of self-enhancement, a better-than-average task needs to rely on participants from the relevant reference group(s). Thus, participants in the Christian condition needed to be residing in the US and also be Christian. Hence, we only included the 296 Christian MTurkers from the US. In the control condition, participants compared themselves to “the average MTurker from the U.S.” (*N* = 671). All participants described themselves as residing in the US, and hence all were included.

6 We administered six of the Ten Commandments (three of faith, three of communion). We decided against administering the remaining four commandments (all of communion). Those commandments pertain to issues with legal consequences (e.g., Thou shalt not steal”), and hence it is doubtful that participants would provide honest answers (Tourangeau & Smith, 1996). In addition, a pretest revealed extreme ceiling effects and excessive skew for those four legally consequential commandments (but not for the six commandments used in the study). Internal consistencies of the two sets of three commandments that we used were high (all  $\alpha$ s > .75), indicating that the number of items for each set was sufficient.

7 Participants received the three religiosity measures either prior to or after all other measures (at random). We wondered whether position of these measures influenced the results, and so we tested whether the effect of condition (Christian vs. control) on better-than-average perceptions was moderated by the measures’ position. We conducted a MANOVA with condition (Christian vs. control) and position (religiosity-first vs. religiosity last) as independent variables. Better-than-average perceptions (BTAT-Self scores – BTAT-Other scores) concerning commandments of faith and commandments of communion served as the dependent variables. There was no main effect of position on better-than-average perceptions

concerning commandments of faith,  $F(1, 960) = 1.06, p = .31, \eta_p^2 = .001$ , or commandments of communion,  $F(1, 960) = 1.63, p = .20, \eta_p^2 = .002$ . Likewise, there was no interaction between condition and position on better-than-average perceptions concerning commandments of faith,  $F(1, 960) = 1.02, p = .31, \eta_p^2 = .001$ , or commandments of communion,  $F(1, 960) = 3.42, p = .07, \eta_p^2 = .004$ . We repeated these analyses in Study 1B and obtained the same results pattern: We found no main effect of position on better-than-average perceptions concerning commandments of faith,  $F(1, 1143) = 0.01, p = .93, \eta_p^2 = .000007$ , or commandments of communion,  $F(1, 1143) = 0.003, p = .96, \eta_p^2 = .000002$ . Likewise, we found no interaction between condition and position on better-than-average perceptions concerning commandments of faith,  $F(1, 1143) = 0.20, p = .65, \eta_p^2 = .0002$ , or commandments of communion,  $F(1, 1143) = 0.24, p = .62, \eta_p^2 = .0002$ . Position of religiosity measures did not influence the results.

8 A similar rationale may apply to control participants in Study 1A. However, overestimating the average other should entail lower self-protection among them (vs. Christian participants). The average MTurker is not a highly representative member, whereas the average Christian MTurker is a highly representative member, of the ingroup with whom participants interact personally (Gervais, 2013; Graham & Haidt, 2010). Personal interaction is a key prerequisite for reaping the self-serving benefits of others' God-abidingness and communion (Abele & Wojciszke, 2015; Nehrlich, Gebauer, Sedikides, & Abele, 2016).

9 A similar rationale may apply to control participants in Study 1A. Yet, shared Christianity elicits strong similarity (Gervais, 2013), identity (Ysseldyk et al., 2010), and ingroupness (Graham & Haidt, 2010). As such, MTurkers in the Christian condition should experience more oneness than those in the control condition (Cialdini et al., 1997).

10 We requested 1,600 participants from MTurk, as we wanted to keep Study 1B as similar as possible to Study 1A. The initial  $N$  was 1,597. Some participants completed the study multiple times (three participants twice; four participants 3, 6, 17, and 33 times, respectively). We retained data only from first participations, resulting in an  $N$  of 1,538. The logic behind the BTAT required us to assure that all participants in the Christian condition were Christians residing in the US (footnote 5). We excluded 379 additional participants from the Christian

condition, because they described themselves as non-Christian and/or non-residing in the US. Likewise, the BTAT logic required us to assure that all participants in the control condition resided in the US. We excluded eight additional participants, because they described themselves as non-residing in the US.

11 The alternative is to save standardized residual scores instead of unstandardized ones. There is one difference between these options. The standard deviation of standardized residual scores is transformed to  $SD = 1$ , whereas the standard deviation of unstandardized residual scores is not transformed. We did not transform scores of the BTAT-Self Scale, and so the most appropriate choice for our analyses was to use unstandardized residual scores. In the residuation method, the residual scores (both unstandardized and standardized) are centered (i.e.,  $M = 0$ ). This, however, is inconsequential for the analyses, because mean differences between the Christian and control conditions are preserved. Nevertheless, centering makes it difficult to compare visually the results of Studies 1A and 1B in Figure 1. Therefore, we re-centered the residual score of the BTAT-Other Scale's Commandments of Faith subscale to the original mean of this subscale ( $M = 41.78$ ). Likewise, we re-centered the residual score of the BTAT-Other Scale's Commandments of Communion subscale the original mean of that subscale ( $M = 57.88$ ). Again, this re-centering approach does not affect the results.

12 Sometimes, two measures were combined into a single questionnaire, and so they were presented one after the other. Specifically, global religiosity preceded intrinsic religiosity in Studies 2C-2D and Studies 3C-3E. Agentic overclaiming preceded communal overclaiming in Study 2D.

13 Some studies included additional subdomains. To maximize comparability of the overclaiming task across studies, we restricted our analyses to the four subdomains that were identical across studies.

14 The subdomain "support organizations for disabled people" was administered in Studies 2A-2B in lieu of the subdomain "parenting & childcare."

15 Studies 2C and 2E-2G had no subdomain headers, but their 17 items were derived from those subdomains.

16 We calculated two alternative overclaiming indices. The “residuation index” is the residuum of the classic overclaiming index (as reported in the main text) with scores of Paulhus et al.’s (2003) accuracy index being partialled out. The “foils only index” is the mean score of responses to all foil items. We present results involving these two alternative indices in the Online Supplement (Table S1, Figures S1-S2). The supplementary results also support the SCP-universal view over the ego-quieting view.

17 In the main text, we compared different correlations with each other and found a pattern consistent with the SCP-universal view. Independent of those correlations’ relative size, however, one can also compare the means of the three overclaiming scores (agentic, communal, Christian) among religious people. Specifically, are Christians’ overclaiming scores lowest in the agentic domain, higher in the communal domain, and highest in the Christian domain? The self-centrality principle would anticipate so, but only if overclaiming scores were comparable across domains (e.g., if agentic and communal overclaiming scores of 0.50 reflected the same amount of self-enhancement). Unfortunately, no existent overclaiming task (including ours) has been constructed and validated for such cross-domain comparisons. Hence, it may be the case that foils in the agentic domain appear more credible than foils in the communal domain. In this case, participants’ overclaiming scores would be spuriously higher in the agentic than communal domain. Concerns about comparability of overclaiming means across domains would be ameliorated, if the expected mean differences emerged for people high in religiosity (here: participants with scores  $\geq 5$  on the 7-point intrinsic religiosity scale), but less so for people low in religiosity (here: participants with scores  $\leq 3$  on the intrinsic religiosity scale). Next, we report the results of three mixed-design ANOVAs. Each ANOVA compared two overclaiming scores (within-subjects factor) for people high versus low in religiosity (between-subjects factor). Additionally, we controlled for differences between studies (Studies 2A-2H) by entering relevant dummy variables as covariates. First, we compared agentic overclaiming with communal overclaiming, and found that communal overclaiming was more pronounced,  $F(1, 1173) = 167.67, p < .001, \eta_p^2 = .13$ . More important, that general difference was moderated by religiosity,  $F(1, 1173) = 12.31, p < .001, \eta_p^2 = .01$ . The difference between agentic and communal overclaiming was larger for people high (than

low) in religiosity. Second, we compared agentic overclaiming with Christian overclaiming, and found that Christian overclaiming was generally more pronounced,  $F(1, 412) = 113.65$ ,  $p < .001$ ,  $\eta_p^2 = .22$ . Crucially, that general difference was also moderated by religiosity,  $F(1, 412) = 69.47$ ,  $p < .001$ ,  $\eta_p^2 = .14$ : The difference between agentic and Christian overclaiming was particularly large for people high in religiosity. Finally, we compared communal overclaiming with Christian overclaiming, and found that Christian overclaiming was generally more pronounced,  $F(1, 610) = 69.02$ ,  $p < .001$ ,  $\eta_p^2 = .10$ . That general difference was again moderated by religiosity,  $F(1, 610) = 96.80$ ,  $p < .001$ ,  $\eta_p^2 = .14$ : The difference between communal and Christian overclaiming was particularly large for people high in religiosity. In all, the results were consistent with the SCP-universal view as well.

18 Some samples from Studies 3A-3J are also part of Studies 2A-2H: Studies 3A-3B  $\Leftrightarrow$  Studies 2A-2B, Studies 3E-3H  $\Leftrightarrow$  Studies 2D-2G, Studies 3C-3D overlap partially with Study 2C. We do not regard that partial data overlap as problematic, because each set of studies is conclusive on its own based on their large samples (Studies 2A-2H:  $N = 1,779$ , Studies 3A-3J:  $N = 1,956$ ).

19 As described in the text, most research on self-enhancement's costs and benefits found that self-enhancement is linked to better psychological and physical health. But this is not to say that self-enhancement comes without costs. These costs may be apparent in the interpersonal domain. For example, compared to low self-enhancers, high self-enhancers are liked less by well-acquainted peers (Paulhus, 1998). Similarly, people who overestimate their status in a group are liked little by the other group members (Anderson, Ames, & Gosling, 2008) (but see Dufner et al., 2013; Taylor, Lerner, Sherman, Sage, & McDowell, 2003a).