YOGA AND MEDITATION BOOST SELF-ENHANCEMENT

ONLINE SUPPLEMENT

S1. We assessed agentic narcissism with the Narcissistic Personality Inventory (Raskin & Terry, 1988), the most widely used measure of agentic narcissism (Gebauer, Sedikides, Verplanken, & Holland, 2012). We administered a 4-item short-form, analogous to our assessment of communal narcissism (see Experiment 1’s Method section in the main text). We selected items with a good item-total correlation, adequate content-breadth, and high face-validity. The four items were: “I like having authority over people,” “I am more capable than other people,” “I think I am a special person,” and “I like to be the center of attention” (1=does not apply at all, 7=applies completely) (.63≤αs≤.77, α=.71). We intermixed items assessing agentic and communal narcissism.

The SCP-universal hypothesis predicts a null-effect of yoga (vs. control) on agentic narcissism, because agency is not a mind-body relevant domain, and yoga-practice should only curtail self-enhancement in mind-body relevant domains (see Introduction section in the main text). In contrast, the ego-quieting hypothesis predicts that yoga (vs. control) reduces all forms of self-enhancement, including agentic self-enhancement and thus agentic narcissism (see Introduction section in the main text).

To examine the effect of yoga (vs. control) on agentic narcissism we conducted a multi-level analysis (see Experiment 1’s Statistical Modeling section in the main text). We controlled for communal narcissism in that analysis, because agentic and communal narcissism are positively related (Gebauer et al., 2012). In line with the SCP-universal hypothesis, the multi-level analysis revealed no significant effect of yoga on agentic self-enhancement, $B=.01$, 95% CI [-.06, .09], $SE=.04$, $t=0.29$, and Bayesian analyses revealed “substantial” evidence (Jeffreys, 1961) for the null hypothesis: BF$_{0+}=9$. In contrast, when swapping agentic and communal narcissism in the multi-level analysis (communal narcissism as criterion and agentic narcissism as covariate), we found a positive effect of yoga (vs. control) on communal narcissism, $B=.13$, 95% CI [.05, .21], $SE=.04$, $t=3.01$, and Bayesian analyses favored the SCP-universal hypothesis (i.e., positive effect of yoga) over the ego-quieting hypothesis (i.e., negative effect of yoga) by factor BF$_{+/-}=684$—“extreme” evidence for the SCP-universal hypothesis. Together, then, the predictions of the SCP-universal
hypothesis regarding narcissism (agentic and communal) were met fully and firmly, whereas
the predictions of the ego-quieting hypothesis were unmet.

**S2.** In Experiment 1, we assessed self-centrality and self-enhancement with the
following items. **Self-centrality:** “Executing correctly the asanas (yoga positions) that we were
taught is...,” “Focusing mindfully on the exercises across the whole yoga class is...,” “Holding
the asanas (yoga positions) as long as we were taught is...,” and “Integrating the content
taught in the yoga class into my everyday life is...” (1=not at all central to me, 11=central to
me). **Better-than-average:** “In comparison to the average participant of my yoga class, my
ability to execute correctly the asanas (yoga positions) that we were taught is...,” “In
comparison to the average participant of my yoga class, my ability to focus mindfully on the
exercises across the whole yoga class is...,” “In comparison to the average participant of my
yoga class, my ability to hold the asanas (yoga positions) as long as we were taught is...,” and
“In comparison to the average participant of my yoga class, my ability to integrate the content
taught in the yoga class into my everyday life is...” The rating-scale ranged from 1 (well
below average) via 6 (average) to 11 (well above average). **Communal narcissism:** “I have a
very positive influence on others,” “I will be well known for the good deeds I will have
done,” “I am the most caring person in my social surrounding,” and “I am going to bring
peace and justice to the world” (1=does not apply at all, 7=applies completely). **Self-esteem:
“At the moment, I have high self-esteem” (1=does not apply at all, 7=applies completely).

**S3.** Complete R syntax for Experiment 1 (including a web-link to access the data):

```r
#install packages
install.packages(c("psych","lme4","car","mediation","lavaan","BayesFactor","coda")
)

#load packages
library(psych)
library(lme4)
library(car)
library(mediation)
library(lavaan)
library(BayesFactor)
library(coda)

#read data
dat <- read.csv(url("http://www.psy.de/mindbody/yoga.csv"), header = T, sep = ",")

#descriptives: N and n
dat.mzp <- aggregate(mzp ~ vpn, dat, mean)
dat.yoga <- subset(dat, cond == 1)
```
dat.cont <- subset(dat, cond == 0)
nrow(dat)
nrow(dat.mzp)
nrow(dat) / nrow(dat.mzp)
nrow(dat.yoga)
nrow(dat.cont)
remove(dat.mzp,dat.yoga,dat.cont)

#descriptives: age
dat.age <- aggregate(age ~ vpn, dat, mean)
mean(dat.age$age)
sd(dat.age$age)
remove(dat.age)

#descriptives: sex
dat.sex <- aggregate(sex ~ vpn, dat, mean)
100*prop.table(table(dat.sex$sex))
remove(dat.sex)

#descriptives: yoga expertise (in months)
dat.pra <- aggregate(pra ~ vpn, dat, mean)
dat.pra$exp <- dat.pra$pra/12
mean(dat.pra$exp)
sd(dat.pra$exp)
remove(dat.pra)

#compute means
dat$imp <- rowMeans(dat[,c("imp01","imp02","imp03","imp04")], na.rm = T)
dat$bta <- rowMeans(dat[,c("bta01","bta02","bta03","bta04")], na.rm = T)
dat$cni <- rowMeans(dat[,c("cni01","cni02","cni03","cni04")], na.rm = T)
dat$npi <- rowMeans(dat[,c("npi01","npi02","npi03","npi04")], na.rm = T)

#preparation for alpha computation per assessment
mzp.1 <- subset(dat, subset = mzp == 1)
mzp.2 <- subset(dat, subset = mzp == 2)
mzp.3 <- subset(dat, subset = mzp == 3)
mzp.4 <- subset(dat, subset = mzp == 4)
mzp.5 <- subset(dat, subset = mzp == 5)
mzp.6 <- subset(dat, subset = mzp == 6)
mzp.7 <- subset(dat, subset = mzp == 7)
mzp.8 <- subset(dat, subset = mzp == 8)

#alpha: self-centrality (average: .81)
alpha(data.frame(mzp.1[,c("imp01","imp02","imp03","imp04")])) #.62
alpha(data.frame(mzp.2[,c("imp01","imp02","imp03","imp04")])) #.76
alpha(data.frame(mzp.3[,c("imp01","imp02","imp03","imp04")])) #.78
alpha(data.frame(mzp.4[,c("imp01","imp02","imp03","imp04")])) #.83
alpha(data.frame(mzp.5[,c("imp01","imp02","imp03","imp04")])) #.82
alpha(data.frame(mzp.6[,c("imp01","imp02","imp03","imp04")])) #.87
alpha(data.frame(mzp.7[,c("imp01","imp02","imp03","imp04")])) #.85
alpha(data.frame(mzp.8[,c("imp01","imp02","imp03","imp04")])) #.93

#alpha: better-than-average (average: .85)
alpha(data.frame(mzp.1[,c("bta01","bta02","bta03","bta04")])) #.82
alpha(data.frame(mzp.2[,c("bta01","bta02","bta03","bta04")])) #.84
alpha(data.frame(mzp.3[,c("bta01","bta02","bta03","bta04")])) #.82
alpha(data.frame(mzp.4[,c("bta01","bta02","bta03","bta04")])) #.85
alpha(data.frame(mzp.5[,c("bta01","bta02","bta03","bta04")])) #.78
alpha(data.frame(mzp.6[,c("bta01","bta02","bta03","bta04")])) #.86
alpha(data.frame(mzp.7[,c("bta01","bta02","bta03","bta04")])) #.90
alpha(data.frame(mzp.8[,c("bta01","bta02","bta03","bta04")])) #.87
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#alpha: communal narcissism (average: .71)
alpha(data.frame(mzp.1[c("cni01","cni02","cni03","cni04")])) #.61
alpha(data.frame(mzp.2[c("cni01","cni02","cni03","cni04")])) #.69
alpha(data.frame(mzp.3[c("cni01","cni02","cni03","cni04")])) #.72
alpha(data.frame(mzp.4[c("cni01","cni02","cni03","cni04")])) #.73
alpha(data.frame(mzp.5[c("cni01","cni02","cni03","cni04")])) #.69
alpha(data.frame(mzp.6[c("cni01","cni02","cni03","cni04")])) #.78
alpha(data.frame(mzp.7[c("cni01","cni02","cni03","cni04")])) #.74
alpha(data.frame(mzp.8[c("cni01","cni02","cni03","cni04")])) #.68

#alpha: agentic narcissism (average: .71)
alpha(data.frame(mzp.1[c("npi01","npi02","npi03","npi04")])) #.73
alpha(data.frame(mzp.2[c("npi01","npi02","npi03","npi04")])) #.74
alpha(data.frame(mzp.3[c("npi01","npi02","npi03","npi04")])) #.76
alpha(data.frame(mzp.4[c("npi01","npi02","npi03","npi04")])) #.71
alpha(data.frame(mzp.5[c("npi01","npi02","npi03","npi04")])) #.77
alpha(data.frame(mzp.6[c("npi01","npi02","npi03","npi04")])) #.68
alpha(data.frame(mzp.7[c("npi01","npi02","npi03","npi04")])) #.69
alpha(data.frame(mzp.8[c("npi01","npi02","npi03","npi04")])) #.63

remove(mzp.1,mzp.2,mzp.3,mzp.4,mzp.5,mzp.6,mzp.7,mzp.8)

#t-test bta
dat.contr <- subset(dat, subset = cond == 0)
dat.vpn <- aggregate(bta ~ vpn, dat.contr, mean)
t.test(dat.vpn$bta,mu=6)
remove(dat.contr,dat.vpn)

#standardize variables
dat$z.imp <- scale(dat$imp)
dat$z.bta <- scale(dat$bta)
dat$z.cni <- scale(dat$cni)
dat$z.npi <- scale(dat$npi)
dat$z.se <- scale(dat$se)

#beginners vs. advanced
dat.b <- aggregate(pra ~ vpn, dat, mean)
mean(dat.b$pra, na.rm = T)
sd(dat.b$pra, na.rm = T)
dat.b$z.pra <- scale(dat.b$pra)
dat.b$pra <-NULL
dat <- merge(dat, dat.b, by = "vpn", all = T)
remove(dat.b)

#self-enhancement g-factor
mod <- 'z.g =~ z.bta + z.cni + z.se'
fit <- cfa(mod, data=dat, missing = "FIML")
summary(fit, fit.measures=T, standardized=T)
z.g <- scale(predict(fit, newdata = dat))
dat <- data.frame(dat,z.g)
remove(fit,z.g,mod)

#self-enhancement g-factor for well-being analysis (without self-esteem)
mod <- 'z.g2 =~ 1*z.bta + 1*z.cni'
fit <- cfa(mod, data=dat, missing = "FIML")
summary(fit, fit.measures=T, standardized=T)
z.g2 <- scale(predict(fit, newdata = dat))
dat <- data.frame(dat,z.g2)
remove(fit,z.g2,mod)
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# group-mean center variables
dat$z.imp.grp <- dat$z.imp - (ave(dat$z.imp, dat$vpn))
dat$z.g2.grp <- dat$z.g2 - (ave(dat$z.g2, dat$vpn))

# define vpn and cond as factors
dat$vpn <- as.factor(dat$vpn)
dat$cond <- as.factor(dat$cond)

# write output to file
sink(file="yoga.txt", append = T, type = c("output", "message"))

it <- 3e5 # error, if more iterations ("cannot allocate vector of size XXX Mb")

# self-centrality
imp.mlm <- lmer(z.imp ~ cond + (1 | vpn), data=dat, verbose=2)
imp.ci <- confint(imp.mlm, method = "boot", nsim = 10000)
imp.bf <- lmBF(z.imp ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
imp.post <- posterior(imp.bf, iterations = it)
imp.pos <- sum(as.mcmc(imp.post)[,"cond-1"] > 0)
imp.neg <- sum(as.mcmc(imp.post)[,"cond-1"] <= 0)
imp.posneg <- imp.pos / imp.neg
summary(imp.mlm)
print(imp.ci)
print("cond > 0:")
imp.pos
print("cond < 0:")
imp.neg
print("BF:")
imp.posneg
remove(imp.mlm,imp.ci,imp.bf,imp.post,imp.pos,imp.neg,imp.posneg)

# factor

# better-than-average
bta.mlml <- lmer(z.bta ~ cond + (1 | vpn), data=dat, verbose=2)
bta.ci <- confint(bta.mlml, method = "boot", nsim = 10000)
bta.bf <- lmBF(z.bta ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
bta.post <- posterior(bta.bf, iterations = it)
bta.pos <- sum(as.mcmc(bta.post)[,"cond-1"] > 0)
bta.neg <- sum(as.mcmc(bta.post)[,"cond-1"] <= 0)
bta.posneg <- bta.pos / bta.neg
summary(bta.mlml)
print(bta.ci)
print("cond > 0:")
bta.pos
print("cond < 0:")
bta.neg
print("BF:")
bta.posneg
remove(bta.mlml,bta.ci,bta.bf,bta.post,bta.pos,bta.neg,bta.posneg)
summary(bta.mlm)
print(bta.ci)
print("cond > 0")
bta.pos
print("cond < 0")
bta.neg
print("BF")
bta.posneg
remove(dat2)
remove(bta.mlm,bta.ci,bta.bf,bta.post,bta.pos,bta.neg,bta.posneg)

# communal narcissism
cni.mlm <- lmer(z.cni ~ cond + (1 | vpn), data=dat, verbose=2)
cni.ci <- confint(cni.mlm, method = "boot", nsim = 10000)
cni.bf <- lmBF(z.cni ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
cni.post <- posterior(cni.bf, iterations = it)
cni.pos <- sum(as.mcmc(cni.post)[,"cond-1"] > 0)
cni.neg <- sum(as.mcmc(cni.post)[,"cond-1"] <= 0)
cni.posneg <- cni.pos / cni.neg
summary(cni.mlm)
print(cni.ci)
print("cond > 0")
cni.pos
print("cond < 0")
cni.neg
print("BF")
cni.posneg
remove(cni.mlm,cni.ci,cni.bf,cni.post,cni.pos,cni.neg,cni.posneg)

# self-esteem
se.mlm <- lmer(z.se ~ cond + (1 | vpn), data=dat, verbose=2)
se.ci <- confint(se.mlm, method = "boot", nsim = 10000)
se.bf <- lmBF(z.se ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
se.post <- posterior(se.bf, iterations = it)
se.pos <- sum(as.mcmc(se.post)[,"cond-1"] > 0)
se.neg <- sum(as.mcmc(se.post)[,"cond-1"] <= 0)
se.posneg <- se.pos / se.neg
summary(se.mlm)
print(se.ci)
print("cond > 0")
se.pos
print("cond < 0")
se.neg
print("BF")
se.posneg
remove(se.mlm,se.ci,se.bf,se.post,se.pos,se.neg,se.posneg)

# agentic narcissism (controlling for communal narcissism)
npi.mlm <- lmer(z.npi ~ cond + z.cni + (1 | vpn), data=dat, verbose=2)
npi.ci <- confint(npi.mlm, method = "boot", nsim = 10000)
npi.bf <- lmBF(z.npi ~ cond + z.cni + vpn, data = dat, whichRandom = "vpn", iterations = it)
npi.bf.null <- lmBF(z.npi ~ z.cni + vpn, data = dat, whichRandom = "vpn", iterations = it)
npi.posnull <- npi.bf / npi.bf.null
summary(npi.mlm)
print(npi.ci)
print(npi.bf)
summary(npi.bf.null)
npi.posnull
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remove(npi.mlm,npi.ci,npi.bf,npi.posnull)

# communal narcissism (controlling for agentic narcissism)
cni2.mlm <- lmer(z.cni ~ cond + z.npi + (1 | vpn), data=dat, verbose=2)
cni2.ci <- confint(cni2.mlm, method = "boot", nsim = 10000)
cni2.bf <- lmBF(z.cni ~ cond + z.npi + vpn, data = dat, whichRandom = "vpn", iterations = it)
cni2.post <- posterior(cni2.bf, iterations = it)
cni2.pos <- sum(as.mcmc(cni2.post)[,"cond-1"] > 0)
cni2.neg <- sum(as.mcmc(cni2.post)[,"cond-1"] <= 0)
cni2.posneg <- cni2.pos / cni2.neg
summary(cni2.mlm)
print(cni2.ci)
print("cond > 0:")
print("cond < 0:")
cni2.posneg

# self-centrality x expertise
imp.exp.mlm <- lmer(z.imp ~ cond * z.pra + (1 | vpn), data=dat, verbose=2)
imp.exp.ci <- confint(imp.exp.mlm, method = "boot", nsim = 10000)
summary(imp.exp.mlm)
print(imp.exp.ci)

# g-factor x expertise
g.exp.mlm <- lmer(z.g ~ cond * z.pra + (1 | vpn), data=dat, verbose=2)
g.exp.ci <- confint(g.exp.mlm, method = "boot", nsim = 10000)
summary(g.exp.mlm)
print(g.exp.ci)

# multi-level mediation: yoga -> self-centrality -> s-enh
med1 <- lmer(z.g ~ cond + z.imp.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.imp ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.imp.grp")
summary(med3)
remove(med1,med2,med3)

# multi-level mediation: yoga -> s-enh -> well-being
med1 <- lmer(z.se ~ cond + z.g2.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.g2 ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.g2.grp")
summary(med3)
remove(med1,med2,med3)

S4. The effect of yoga on each of the three self-enhancement measures was as follows.

Better-than-average: Before testing the effect of yoga on better-than-average judgments, it was vital to insure that there was no worse-than-average effect in the control condition. Therefore, we computed each participant’s mean better-than-average judgment across assessments in this condition. Participants indeed judged themselves as better-than-average (i.e., above “6”) regarding their yoga skills, $M=6.95$, 95% CI [6.71, 7.18], $t(92)=8.00$. In other
words, participants in the control condition self-enhanced, and thus a positive effect of yoga on the better-than-average measure indicates that participants in the yoga condition self-enhanced even more than participants in the control condition. Consistent with the SCP-universal hypothesis, we found higher self-enhancement in the yoga condition than in the control condition, $B=.15$, 95% CI [.04, .26], $SE=.06$, $t=2.67$, and Bayesian analyses favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor $BF_+ = 234$—“extreme” evidence for the SCP-universal hypothesis. *Communal narcissism:* Further supporting the SCP-universal hypothesis, we found higher self-enhancement in the yoga condition than in the control condition, $B=.21$, 95% CI [.11, .32], $SE=.05$, $t=3.93$, and Bayesian analyses again favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor $BF_+ = 13,635$—“extreme” evidence for the SCP-universal hypothesis. *Self-esteem:* Once more supporting the SCP-universal hypothesis, we found higher self-enhancement in the yoga condition than in the control condition, $B=.29$, 95% CI [.15, .44], $SE=.07$, $t=4.06$, and Bayesian analyses once more favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor $BF_+ = 27,271$—“extreme” evidence for the SCP-universal hypothesis.

*S5.* An alternative explanation states that the findings are driven by yoga beginners, who may not yet have acquired the necessary experience and skill for yoga to unfold its ego-quieting effect. To test this possibility, we examined the cross-level interactions between yoga (vs. control) $\times$ expertise (i.e., years of practice) on self-centrality and on self-enhancement (g-factor). Expertise neither moderated the yoga effect on self-centrality, $B=.09$, 95% CI [-.01, .19], $SE=.05$, $t=1.71$, nor the yoga effect on self-enhancement, $B=.06$, 95% CI [-.06, .18], $SE=.06$, $t=0.96$. These results favor the SCP-universal hypothesis over its alternative explanation.

*S6.* Experiment 2 included two additional measures, which were intended to assess self-enhancement in mind-body relevant domains. One measure was a newly devised version of the overclaiming task (Paulhus, Harms, Bruce, & Lysy, 2003). Specifically, at each assessment, we showed $2 \times 3$ concepts from mind-body relevant domains and instructed participants to report their familiarity with those concepts ($0=I$ never heard of it, $80=I$ am very
familiar with it). For example, under the header “humanitarian aid organizations,” we showed participants the concepts “red cross international,” “international well-being fund,” and “doctors without borders;” under the header “forms of meditation,” we showed participants the concepts “vipannana meditation,” “zen meditation,” and “metta meditation.” What participants did not know was that one concept under each header was made up and thus does not exist in reality (here: “international well-being fund” and “vipannana meditation”). For those made-up concepts we know participants’ true knowledge; it has to be zero—it is impossible that participants have heard of it. Thus, any knowledge-claim higher than zero on those non-existent concepts are an instantiation of overclaiming and thus reflect self-enhancement (Paulhus et al., 2003). At each assessment, we presented a different set of 2 × 3 concepts from mind-body relevant domains. We used Paulhus et al.’s (2003) common sense formulae to calculate an overclaiming index and an actual knowledge index. The two indices were positively related. Thus, following Gebauer, Sedikides, and Schrade (2017), we controlled for actual knowledge in our overclaiming analyses and we did so via the residuation method (John & Robins, 1994). The overclaiming indices’ internal consistencies were low (.08≤α≤.52, $\bar{\alpha}=.35$). Also, the overclaiming task has not been used as a measure of state self-enhancement before. Hence, it is unclear whether this task is a suitable measure of state self-enhancement and thus whether one can expect effects of our manipulation on overclaiming. Together, it is perhaps unsurprising that the results from the overclaiming task diverged from all other results of Experiments 1-2. Specifically, a multi-level analysis revealed no significant effect of meditation on overclaiming, $B=-.05 \ [-.20, .09]$, $SE=.07$, $t=-0.72$, and Bayesian analyses revealed evidence “barely worth mentioning” (Jeffreys, 1961) for the ego-quieting hypothesis over the SCP-universal hypothesis, BF+$=3$.

The other additional measure was a newly devised criterion discrepancy measure (Paulhus, Lysy, & Yik, 1998). Criterion discrepancy measures operationalize self-enhancement as the discrepancy between actual performance in a domain of interest and self-perceived performance in that domain. We focused on the domain of emotional intelligence, because we assumed that emotional intelligence is a mind-body relevant domain. (We did not validate our assumption.) To measure emotional intelligence (i.e., actual performance), each
assessment included two items from the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002). The first item showed a portrait photo and asked participants to indicate the degree to which the face on the photo expresses each of five emotions (e.g., “happiness,” “fear,” “surprise,” “disgust,” and “excitement;” 1=not at all, 81=extremely strong). The second item showed a picture (e.g., a photo from a rocky coast) and asked participants to indicate the degree to which that picture expresses each of five emotions (e.g., “happiness,” “sadness,” “fear,” “anger,” and “disgust;” 1=not at all, 81=extremely strong). To assess emotional intelligence self-perceptions (i.e., self-perceived performance) we asked the following question directly after each MSCEIT item: “We are interested in how you evaluate your performance on this emotional intelligence item: How accurately did you detect the feelings expressed by the face/photo” (1=totally inaccurately, 81=totally accurately). We calculated a criterion-discrepancy index for each assessment using the residuation method (John & Robins, 1994). The criterion-discrepancy indices’ internal consistencies were modest (.53≤as≤.70, ɑ=.62). Also, the validity of emotional intelligence measures—including the MSCEIT—is controversial (Maul, 2012). Together, the results of this criterion-discrepancy measure should be interpreted with caution. Specifically, a multilevel analysis revealed no significant effect of meditation on emotional intelligence criterion discrepancies, $B=.06 \ [-.06, .18]$, $SE=.06$, $t=1.02$, but Bayesian analyses revealed “substantial” evidence for the SCP-universal hypothesis over the ego-quieting hypothesis ($BF_+=5$). If anything, then, the overall result across those two additional measures tends to support slightly the SCP-universal hypothesis. Irrespectively, when computing the self-enhancement g-factor on the basis of all self-enhancement measures (the three validated ones from the main text and the two non-validated ones) the main-text results replicated: Supporting the SCP-universal hypothesis, we found higher self-enhancement in the meditation condition than in the control condition, $B=.12$, 95% CI [.04, .21], $SE=.05$, $t=2.77$, and Bayesian analyses favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor $BF_+=287$—“extreme” evidence for the SCP-universal hypothesis. That evidence should be considered together with three additional pieces of evidence: Experiment 1’s self-centrality results, Experiment 1’s self-enhancement results, and Experiment 2’s self-centrality results.
All four pieces of evidence lead to the same conclusion and together furnish decisive support for the SCP-universal hypothesis at the expense of the ego-quieting hypothesis.

**S7.** In Experiment 2, we assessed self-centrality, self-enhancement, and well-being with the following items. *Self-centrality:* The items started with the stem “How central is it for you...” and continued as follows: “...to be a loving person?,” “...to be free from hatred?,” “...to be a kindhearted person?,” “...to be free from greed?,” “...to be a caring person?,” “...to be free from bias?,” “...to be an understanding person?,” “...to be free from envy?,” “...to be a helpful person?,” “...to be free from egotism?” (1=not at all central to me, 81=very central to me). *Better-than-average:* The items started with the stem “In comparison to the average participant of this study,...” and continued as follows: “...I am a loving person,” “...I am free from hatred,” “...I am a kindhearted person,” “...I am free from greed,” “...I am a caring person,” “...I am free from bias,” “...I am an understanding person,” “...I am free from envy,” “...I am a helpful person,” “...I am free from egotism” (1=very much below average, 81=very much above average). *Communal narcissism:* We used the full 16-item Communal Narcissism Inventory, which can be found in Gebauer et al. (2012). *Self-esteem:* We used the full 10-item Self-Esteem Scale, which can be found in Rosenberg (1965). *Hedonic well-being:* We used the following nine items to assess hedonic well-being’s affective component. “I am happy,” “I am anxious” (reverse-coded), “I feel satisfied,” “I am depressed” (reverse-coded), “I feel positive,” “I am frustrated” (reverse-coded), “I am cheerful,” “I am upset” (reverse-coded), and “I feel blue” (reverse-coded). We used the full 5-item Satisfaction with Life Scale to assess hedonic well-being’s cognitive component (1=absolutely wrong, 81=absolutely right), and the items of that scale can be found in Diener, Emmons, Larsen, and Griffin (1985). *Eudemonic well-being:* “I judge myself by what I think is important, not by the values of what others think is important,” “The demands of everyday life often get me down,” “For me, life has been a continuous process of learning, changing, and growth,” “Maintaining close relationships has been difficult and frustrating for me,” “Some people wander aimlessly through life, but I am not one of them,” “In many ways, I feel disappointed about my achievements in life,” “I tend to be influenced by people with strong opinions,” “In general, I feel I am in charge of the situation in which I live,” “I gave up trying to make big
improvements or changes in my life a long time ago,” “People would describe me as a giving
person, willing to share my time with others,” “I sometimes feel as if I’ve done all there is to
do in life,” “I like most aspects of my personality” (1=absolutely wrong, 81=absolutely right).

Experiment 2 contained two additional dependent variables. We included them for a
different project, and they are irrelevant to the present article (i.e., they did not tap into self-
centrality, self-enhancement, or well-being). One measure was Neff’s (2003) Self-
Compassion Scale in its 6-item short-form (Dyllick-Brenzinger, 2010). The other measure
contained 10 vignettes. Each briefly described an ambiguous behavior that can be interpreted
as a display of weakness or strength. For example, one vignette read: “If I am the first to
apologize after a fight with my relationship partner, I display...” (1=weakness, 81=strength).

Experiment 2 was the first study to administer this newly devised measure.

S8. Complete R syntax for Experiment 2 (including a web-link to access the data):

```r
#install packages
install.packages(c("psych","lme4","car","mediation","lavaan","BayesFactor","coda")
)
#load packages
library(foreign, pos=4)
library(psych)
library(lme4)
library(car)
library(mediation)
library(lavaan)
library(BayesFactor)
library(coda)

#read data
dat <- read.csv(url("http://www.psy.de/mindbody/meditation.csv"), header = T, sep = ",")
#descriptives: N and n
dat.mzp <- aggregate(mzp ~ vpn, dat, mean)
dat.yoga <- subset(dat, cond == 1)
dat.cont <- subset(dat, cond == 0)
nrow(dat)
nrow(dat.mzp)
nrow(dat) / nrow(dat.mzp)
nrow(dat.yoga)
nrow(dat.cont)
remove(dat.mzp,dat.yoga,dat.cont)

#descriptives: age
dat.age <- aggregate(age ~ vpn, dat, mean)
mean(dat.age$age)
sd(dat.age$age)
remove(dat.age)
```
#descriptives: sex
dat.sex <- aggregate(sex ~ vpn, dat, mean)
100*prop.table(table(dat.sex$sex))
remove(dat.sex)

#descriptives: yoga expertise (in months)
dat.pra <- aggregate(pra ~ vpn, dat, mean)
dat.pra$exp <- dat.pra$pra/12
mean(dat.pra$exp)
sd(dat.pra$exp)
remove(dat.pra)

#compute means
dat$imp <- rowMeans(dat[c("imp01","imp02","imp03","imp04","imp05","imp06","imp07","imp08","imp09","imp10")], na.rm = T)
dat$bta <- rowMeans(dat[c("bta01","bta02","bta03","bta04","bta05","bta06","bta07","bta08","bta09","bta10")], na.rm = T)
dat$cni <- rowMeans(dat[c("cni01","cni02","cni03","cni04","cni05","cni06","cni07","cni08","cni09","cni10","cni11","cni12","cni13","cni14","cni15","cni16")], na.rm = T)
dat$se <- rowMeans(dat[c("rse01","rse02r","rse03","rse04","rse05r","rse06r","rse07","rse08r","rse09r","rse10r")], na.rm = T)
dat$aff <- rowMeans(dat[c("aff01","aff02","aff03","aff04","aff05r","aff06r","aff07r","aff08r","aff09r")], na.rm = T)
dat$swl <- rowMeans(dat[c("swl01","swl02","swl03","swl04","swl05")], na.rm = T)
dat$hed <- rowMeans(dat[c("aff","swl")], na.rm = T)
dat$eud <- rowMeans(dat[c("eud01","eud02r","eud03r","eud04","eud05","eud06r","eud07r","eud08","eud09","eud10r","eud11r","eud12r")], na.rm = T)
dat$eqe <- rowMeans(dat[c("msca_senh","msce_senh")], na.rm = T)
dat$ocq <- rowMeans(dat[c("ocq_bias_med_mv","ocq_bias_com_mv")], na.rm = T)

#preparation for alpha computation per assessment
mzp.1 <- subset(dat, subset = mzp == 1)
mzp.2 <- subset(dat, subset = mzp == 2)
mzp.3 <- subset(dat, subset = mzp == 3)
mzp.4 <- subset(dat, subset = mzp == 4)

#alpha: self-centrality (average: .90)
alpha(data.frame(mzp.1[c("imp01","imp02","imp03","imp04","imp05","imp06","imp07","imp08","imp09","imp10")]), na.rm = T) #.87
alpha(data.frame(mzp.2[c("imp01","imp02","imp03","imp04","imp05","imp06","imp07","imp08","imp09","imp10")]), na.rm = T) #.91
alpha(data.frame(mzp.3[c("imp01","imp02","imp03","imp04","imp05","imp06","imp07","imp08","imp09","imp10")]), na.rm = T) #.91
alpha(data.frame(mzp.4[c("imp01","imp02","imp03","imp04","imp05","imp06","imp07","imp08","imp09","imp10")]), na.rm = T) #.91

#alpha: better-than-average (average: .93)
alpha(data.frame(mzp.1[c("bta01","bta02","bta03","bta04","bta05","bta06","bta07","bta08","bta09","bta10")]), na.rm = T) #.91
alpha(data.frame(mzp.2[c("bta01","bta02","bta03","bta04","bta05","bta06","bta07","bta08","bta09","bta10")]), na.rm = T) #.91
alpha(data.frame(mzp.3[c("bta01","bta02","bta03","bta04","bta05","bta06","bta07","bta08","bta09","bta10")]), na.rm = T) #.94
alpha(data.frame(mzp.4[c("bta01","bta02","bta03","bta04","bta05","bta06","bta07","bta08","bta09","bta10")]), na.rm = T) #.95
#alpha: communal narcissism (average: .94)
alpha(data.frame(mzp.1[c("cni01", "cni02", "cni03", "cni04", "cni05", "cni06", "cni07",
                     "cni08", "cni09", "cni10", "cni11", "cni12", "cni13", "cni14", "cni15", "cni16")])) #.92
alpha(data.frame(mzp.2[c("cni01", "cni02", "cni03", "cni04", "cni05", "cni06", "cni07",
                     "cni08", "cni09", "cni10", "cni11", "cni12", "cni13", "cni14", "cni15", "cni16")])) #.94
alpha(data.frame(mzp.3[c("cni01", "cni02", "cni03", "cni04", "cni05", "cni06", "cni07",
                     "cni08", "cni09", "cni10", "cni11", "cni12", "cni13", "cni14", "cni15", "cni16")])) #.95
alpha(data.frame(mzp.4[c("cni01", "cni02", "cni03", "cni04", "cni05", "cni06", "cni07",
                     "cni08", "cni09", "cni10", "cni11", "cni12", "cni13", "cni14", "cni15", "cni16")])) #.93

#alpha: self-esteem (average: .94)
alpha(data.frame(mzp.1[c("rse01", "rse02", "rse03", "rse04", "rse05", "rse06", "rse07",
                     "rse08", "rse09", "rse10")])) #.92
alpha(data.frame(mzp.2[c("rse01", "rse02", "rse03", "rse04", "rse05", "rse06", "rse07",
                     "rse08", "rse09", "rse10")])) #.93
alpha(data.frame(mzp.3[c("rse01", "rse02", "rse03", "rse04", "rse05", "rse06", "rse07",
                     "rse08", "rse09", "rse10")])) #.95
alpha(data.frame(mzp.4[c("rse01", "rse02", "rse03", "rse04", "rse05", "rse06", "rse07",
                     "rse08", "rse09", "rse10")])) #.94

#alpha: hedonic well-being - affective component (average: .93)
alpha(data.frame(mzp.1[c("aff01", "aff02", "aff03", "aff04", "aff05", "aff06", "aff07",
                     "aff08", "aff09", "aff10")])) #.91
alpha(data.frame(mzp.2[c("aff01", "aff02", "aff03", "aff04", "aff05", "aff06", "aff07",
                     "aff08", "aff09", "aff10")])) #.95
alpha(data.frame(mzp.3[c("aff01", "aff02", "aff03", "aff04", "aff05", "aff06", "aff07",
                     "aff08", "aff09", "aff10")])) #.92
alpha(data.frame(mzp.4[c("aff01", "aff02", "aff03", "aff04", "aff05", "aff06", "aff07",
                     "aff08", "aff09", "aff10")])) #.94

#alpha: hedonic well-being - cognitive component (average: .88)
alpha(data.frame(mzp.1[c("swl01", "swl02", "swl03", "swl04", "swl05")])) #.88
alpha(data.frame(mzp.2[c("swl01", "swl02", "swl03", "swl04", "swl05")])) #.88
alpha(data.frame(mzp.3[c("swl01", "swl02", "swl03", "swl04", "swl05")])) #.90
alpha(data.frame(mzp.4[c("swl01", "swl02", "swl03", "swl04", "swl05")])) #.87

#correlation: affective and cognitive components of hedonic well-being (average: .72)
lm(scale(mzp.1$aff) ~ scale(mzp.1$swl)) #.73
lm(scale(mzp.2$aff) ~ scale(mzp.2$swl)) #.74
lm(scale(mzp.3$aff) ~ scale(mzp.3$swl)) #.74
lm(scale(mzp.4$aff) ~ scale(mzp.4$swl)) #.68

#alpha: eudemonic well-being (average: .83)
alpha(data.frame(mzp.1[c("eud01", "eud02", "eud03", "eud04", "eud05", "eud06", "eud07",
                     "eud08", "eud09", "eud10", "eud11", "eud12")])) #.82
alpha(data.frame(mzp.2[c("eud01", "eud02", "eud03", "eud04", "eud05", "eud06", "eud07",
                     "eud08", "eud09", "eud10", "eud11", "eud12")])) #.84
alpha(data.frame(mzp.3[c("eud01", "eud02", "eud03", "eud04", "eud05", "eud06", "eud07",
                     "eud08", "eud09", "eud10", "eud11", "eud12")])) #.83
alpha(data.frame(mzp.4[c("eud01", "eud02", "eud03", "eud04", "eud05", "eud06", "eud07",
                     "eud08", "eud09", "eud10", "eud11", "eud12")])) #.83

#alpha: eq-enhancement (average: .62)
alpha(data.frame(mzp.1[c("msca_senh", "msce_senh")])) #.53
alpha(data.frame(mzp.2[c("msca_senh", "msce_senh")])) #.67
alpha(data.frame(mzp.3[c("msca_senh", "msce_senh")])) #.70
alpha(data.frame(mzp.4[c("msca_senh", "msce_senh")])) #.58

#alpha: over-claiming (average: .35)
alpha(data.frame(mzp.1[c("ocq_bias_med_mv","ocq_bias_com_mv")])) #.43
alpha(data.frame(mzp.2[c("ocq_bias_med_mv","ocq_bias_com_mv")])) #.36
alpha(data.frame(mzp.3[c("ocq_bias_med_mv","ocq_bias_com_mv")])) #.52
alpha(data.frame(mzp.4[c("ocq_bias_med_mv","ocq_bias_com_mv")])) #.08
remove(mzp.1,mzp.2,mzp.3,mzp.4)

#t-test bta
dat.contr <- subset(dat, subset = cond == 0)
dat.vpn <- aggregate(bta ~ vpn, dat.contr, mean)
t.test(dat.vpn$bta,mu=41)
remove(dat.contr,dat.vpn)

#standardize variables
dat$z.imp <- scale(dat$imp)
dat$z.bta <- scale(dat$bta)
dat$z.cni <- scale(dat$cni)
dat$z.se <- scale(dat$se)
dat$z.hed <- scale(dat$hed)
dat$z.eud <- scale(dat$eud)
dat$z.eqe <- scale(dat$eqe)
dat$z.ocq <- scale(dat$ocq)

#beginners vs. advanced
dat.b <- aggregate(pra ~ vpn, dat, mean)
mean(dat.b$pra, na.rm = T)
sd(dat.b$pra, na.rm = T)
dat.b$pra <- scale(dat.b$pra)
dat.b$pra.max <- dat.b$pra - 1
dat.b$pra.min <- dat.b$pra + 1
dat$pra <-NULL
dat <- merge(dat, dat.b, by = "vpn", all = T)
remove(dat.b)

#self-enhancement g-factor
mod <- 'z.g =~ z.bta + z.cni + z.se'
fit <- cfa(mod, data=dat, missing = "FIML")
summary(fit, fit.measures=T, standardized=T)
z.g <- scale(predict(fit, newdata = dat))
dat <- data.frame(dat,z.g)
remove(fit,z.g,mod)

#self-enhancement g-factor for well-being analysis (without self-esteem)
mod <- 'z.g2 =~ 1*z.bta + 1*z.cni'
fit <- cfa(mod, data=dat, missing = "FIML")
summary(fit, fit.measures=T, standardized=T)
z.g2 <- scale(predict(fit, newdata = dat))
dat <- data.frame(dat,z.g2)
remove(fit,z.g2,mod)

#self-enhancement g-factor, including additional measures (see online supplement S6)
mod <- 'z.g3 =~ z.bta + z.cni + z.se + z.eqe + z.ocq'
fit <- cfa(mod, data=dat, missing = "FIML")
summary(fit, fit.measures=T, standardized=T)
z.g3 <- scale(predict(fit, newdata = dat))
dat <- data.frame(dat,z.g3)
remove(fit,z.g3,mod)

#group-mean center variables
dat$z.imp.grp <- dat$z.imp - (ave(dat$z.imp, dat$vpn))
```r
# define vpn and cond as factors
dat$vpn <- as.factor(dat$vpn)
dat$cond <- as.factor(dat$cond)

# write output to file
sink(file="D://meditation.txt", append = T, type = c("output", "message"))

it <- 3e5 # error, if more iterations ("cannot allocate vector of size XXX Mb")

# self-centrality
imp.mlm <- lmer(z.imp ~ cond + (1 | vpn), data=dat, verbose=2)
imp.ci <- confint(imp.mlm, method = "boot", nsim = 10000)
imp.bf <- lmBF(z.imp ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
imp.post <- posterior(imp.bf, iterations = it)
imp.pos <- sum(as.mcmc(imp.post)[,"cond-1"] > 0)
imp.neg <- sum(as.mcmc(imp.post)[,"cond-1"] <= 0)
imp.posneg <- imp.pos / imp.neg
summary(imp.mlm)
print(imp.ci)
print("cond > 0: ")
imp.pos
print("cond < 0: ")
imp.neg
print("BF: ")
imp.posneg
remove(imp.mlm,imp.ci,imp.bf,imp.post,imp.pos,imp.neg,imp.posneg)

# g-factor

# better-than-average
```
print(bta.ci)
print("cond > 0:")
bta.pos
print("cond < 0:")
bta.neg
print("BF:")
bta.posneg
remove(dat2)
remove(bta.mlm,bta.ci,bta.bf,bta.post,bta.pos,bta.neg,bta.posneg)

#communal narcissism
cni.mlm <- lmer(z.cni ~ cond + (1 | vpn), data=dat, verbose=2)
cni.ci <- confint(cni.mlm, method = "boot", nsim = 10000)
cni.bf <- lmBF(z.cni ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
cni.post <- posterior(cni.bf, iterations = it)
cni.pos <- sum(as.mcmc(cni.post)[,"cond-1"] > 0)
cni.neg <- sum(as.mcmc(cni.post)[,"cond-1"] <= 0)
cni.posneg <- cni.pos / cni.neg
summary(cni.mlm)
print(cni.ci)
print("cond > 0:")
cni.pos
print("cond < 0:")
cni.neg
print("BF:")
cni.posneg
remove(cni.mlm,cni.ci,cni.bf,cni.post,cni.pos,cni.neg,cni.posneg)

#self-esteem
se.mlm <- lmer(z.se ~ cond + (1 | vpn), data=dat, verbose=2)
se.ci <- confint(se.mlm, method = "boot", nsim = 10000)
se.bf <- lmBF(z.se ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
se.post <- posterior(se.bf, iterations = it)
se.pos <- sum(as.mcmc(se.post)[,"cond-1"] > 0)
se.neg <- sum(as.mcmc(se.post)[,"cond-1"] <= 0)
se.posneg <- se.pos / se.neg
summary(se.mlm)
print(se.ci)
print("cond > 0:")
se.pos
print("cond < 0:")
se.neg
print("BF:")
se.posneg
remove(se.mlm,se.ci,se.bf,se.post,se.pos,se.neg,se.posneg)

#hedonic well-being
hed.mlm <- lmer(z.hed ~ cond + (1 | vpn), data=dat, verbose=2)
hed.ci <- confint(hed.mlm, method = "boot", nsim = 10000, level = 0.90)
hed.bf <- lmBF(z.hed ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
hed.post <- posterior(hed.bf, iterations = it)
hed.pos <- sum(as.mcmc(hed.post)[,"cond-1"] > 0)
hed.neg <- sum(as.mcmc(hed.post)[,"cond-1"] <= 0)
hed.posneg <- hed.pos / hed.neg
summary(hed.mlm)
print(hed.ci)
print("cond > 0:")
hed.pos
print("cond < 0:"
hed.neg
print("BF:")

hed.posneg
remove(hed.mlm,hed.ci,hed bf,hed.post,hed.neg,hed.pos,hed.posneg)

#eudemonic well-being

eud.mlm <- lmer(z.eud ~ cond + (1 | vpn), data=dat, verbose=2)
eud.ci <- confint(eud.mlm, method = "boot", nsim = 10000)
eud.bf <- lmBF(z.eud ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
eud.post <- posterior(eud.bf, iterations = it)
eud.pos <- sum(as.mcmc(eud.post)[,"cond-1"] > 0)
eud.neg <- sum(as.mcmc(eud.post)[,"cond-1"] <= 0)
eud.posneg <- eud.pos / eud.neg
summary(eud.mlm)
print(eud.ci)
print("cond > 0:")
eud.pos
print("cond < 0:")
eud.neg
print("BF:")
eud.posneg
remove(eud.mlm,eud.ci,eud bf,eud.post,eud.pos,eud.neg,eud.posneg)

#over-claiming

ocq.mlm <- lmer(z.ocq ~ cond + (1 | vpn), data=dat, verbose=2)
ocq.ci <- confint(ocq.mlm, method = "boot", nsim = 10000)
ocq.bf <- lmBF(z.ocq ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
ocq.post <- posterior(ocq.bf, iterations = it)
ocq.pos <- sum(as.mcmc(ocq.post)[,"cond-1"] > 0)
ocq.neg <- sum(as.mcmc(ocq.post)[,"cond-1"] <= 0)
ocq.posneg <- ocq.pos / ocq.neg
summary(ocq.mlm)
print(ocq.ci)
print("cond > 0:")
ocq.pos
print("cond < 0:")
ocq.neg
print("BF:")
ocq.posneg
remove(ocq.mlm,ocq.ci,ocq bf,ocq.post,ocq.pos,ocq.neg,ocq.posneg)

#eq-enhancement

eqe.mlm <- lmer(z.eqe ~ cond + (1 | vpn), data=dat, verbose=2)
eqe.ci <- confint(eqe.mlm, method = "boot", nsim = 10000)
eqe.bf <- lmBF(z.eqe ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
eqe.post <- posterior(eqe.bf, iterations = it)
eqe.pos <- sum(as.mcmc(eqe.post)[,"cond-1"] > 0)
eqe.neg <- sum(as.mcmc(eqe.post)[,"cond-1"] <= 0)
eqe.posneg <- eqe.pos / eqe.neg
summary(eqe.mlm)
print(eqe.ci)
print("cond > 0:")
eqe.pos
print("cond < 0:")
eqe.neg
print("BF:")
eqe.posneg
remove(eqe.mlm,eqe ci,eqe bf,eqe.post,eqe.pos,eqe.neg,eqe.posneg)
YOGA AND MEDITATION BOOST SELF-ENHANCEMENT

# g-factor (5 measures)
g3.mlm <- lmer(z.g3 ~ cond + (1 | vpn), data=dat, verbose=2)
g3.ci <- confint(g3.mlm, method = "boot", nsim = 10000)
g3.bf <- lMBF(z.g3 ~ cond + vpn, data = dat, whichRandom = "vpn", iterations = it)
g3.post <- posterior(g3.bf, iterations = it)
g3.pos <- sum(as.mcmc(g3.post)[,"cond-1"] > 0)
g3.neg <- sum(as.mcmc(g3.post)[,"cond-1"] <= 0)
g3.posneg <- g3.pos / g3.neg
summary(g3.mlm)
print(g3.ci)
print("cond > 0:")
g3.pos
print("cond < 0:")
g3.neg
print("BF:")
g3.posneg
remove(g3.mlm,g3.ci,g3.bf,g3.post,g3.pos,g3.neg,g3.posneg)

# self-centrality x expertise
imp.exp.mlm <- lmer(z.imp ~ cond * z.pra + (1 | vpn), data=dat, verbose=2)
imp.exp.ci <- confint(imp.exp.mlm, method = "boot", nsim = 10000)
summary(imp.exp.mlm)
print(imp.exp.ci)

# g-factor x expertise
g.exp.mlm <- lmer(z.g ~ cond * z.pra + (1 | vpn), data=dat, verbose=2)
g.exp.ci <- confint(g.exp.mlm, method = "boot", nsim = 10000)
summary(g.exp.mlm)
print(g.exp.ci)

# multi-level mediation: yoga -> self-centrality -> s-enh
med1 <- lmer(z.g ~ cond + z.imp.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.imp ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.imp.grp")
summary(med3)
remove(med1,med2,med3)

# multi-level mediation: yoga -> s-enh -> hedonic well-being
med1 <- lmer(z.hed ~ cond + z.g.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.g ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.g.grp")
summary(med3)
remove(med1,med2,med3)

# multi-level mediation: yoga -> s-enh -> eudemonic well-being
med1 <- lmer(z.eud ~ cond + z.g.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.g ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.g.grp")
summary(med3)
remove(med1,med2,med3)

# multi-level mediation: yoga -> s-enh -> self-esteem
med1 <- lmer(z.se ~ cond + z.g2.grp + (1 | vpn), data=dat, verbose=2)
med2 <- lmer(z.g2 ~ cond + (1 | vpn), data=dat, verbose=2)
med3 <- mediate(med2, med1, treat = "cond", mediator = "z.g2.grp")
summary(med3)
remove(med1,med2,med3)
S9. The effect of meditation on each self-enhancement measure was as follows. *Better-than-average:* Before testing the effect of meditation on better-than-average judgments, it is vital to insure that there was no worse-than-average effect in the control condition. Therefore, we computed each participant’s mean better-than-average judgment across assessments in this condition. Participants indeed judged themselves as better-than-average (i.e., above “41”) regarding their meditation skills, $M=51.39$, 95% CI [49.70, 53.07], $t(159)=12.17$. In other words, participants in the control condition self-enhanced, and thus, a positive effect of meditation on the better-than-average measure indicates that participants in the meditation condition self-enhanced even more than participants in the control condition.

Supporting the SCP-universal hypothesis, we found higher self-enhancement in the meditation condition than in the control condition, $B=.13$, 95% CI [.03, .23], $SE=.05$, $t=2.67$, and Bayesian analyses favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor BF$_{+}=.233$—“extreme” evidence for the SCP-universal hypothesis. *Communal narcissism:* We found descriptively higher self-enhancement in the meditation condition than in the control condition, $B=.04$, 95% CI [-.04, .12], $SE=.04$, $t=1.10$. Importantly, Bayesian analyses favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor BF$_{+}=.6$—“substantial” evidence for the SCP-universal hypothesis. *Self-esteem:* Once more supporting the SCP-universal hypothesis, we found higher self-enhancement in the meditation condition than in the control condition, $B=.07$, 95% CI [.007, .14], $SE=.03$, $t=2.10$, and Bayesian analyses favored the SCP-universal hypothesis over the ego-quieting hypothesis by factor BF$_{+}=.50$—“very strong” evidence for the SCP-universal hypothesis (Jeffreys, 1961).

S10. Parallel to Experiment 1 (see S5), we tested the alternative explanation that the findings are driven by meditation beginners, who may have not yet acquired the necessary experience and skill for meditation to unfold its ego-quieting effect. Hence, we examined the cross-level interactions between meditation (vs. control) $\times$ expertise (i.e., years of practice) on self-centrality and on self-enhancement (g-factor). Expertise neither moderated the meditation effect on self-centrality, $B=-.05$, 95% CI [-.16, .05], $SE=.05$, $t=-1.00$, nor the meditation effect on self-enhancement, $B=.001$, 95% CI [-.09, .09], $SE=.05$, $t=0.03$. Once again, the results clearly favor the SCP-universal hypothesis over its alternative explanation.
SUPPLEMENT REFERENCES


