Electronic Supplementary Material for

Aengenheister, J. S., Urban, R., & Halbeisen, G. (2021). Cures That (Make You) Work: How a Treatment's Social Role Affects Health-Related Behavioral Intentions. *Zeitschrift für Psychologie*. https://doi.org/10.1027/2151-2604/a000449

Sample Compositions

In Experiment 1, the four groups were partner/low (24 women, 6 men, M_{age} = 22.1; age range: 19 to 34 years), partner/high (22 women, 6 men, M_{age} = 23.9; age range: 19 to 40 years), servant/low (18 women, 8 men, M_{age} = 24.1; age range: 19 to 48 years), and servant/high (26 women, 7 men, 1 transgender, M_{age} = 24.7; age range: 17 to 55 years).

In Experiment 2, the two groups were partner (50 women, 18 men, M_{age} = 23.43; age range: 18 to 57 years) and servant (59 women, 11 men, M_{age} = 25.09; age range: 17 to 57 years). Note that six participants completed Experiment 2 more than once. These additional runs were excluded from analyses. Moreover, all of these participants' diary data were excluded from analyses given that they could not be assigned to a specific experimental condition.

Supplementary Analysis 1

To control for the similarity of the experimental conditions in Experiment 1, participants rated their headache experiences after receiving the excerpt on tension headaches, but prior to advancing to the social role manipulation. Specifically, participants rated how frequently they suffered from headaches on a 5-point scale ('never', 'once a month', 'more than once a month', 'once a week', 'more than once a week', ranging from 0 to 4), how accurate their headaches resembled tension headaches on a 4-point scale ('not at all', 'partially', 'mainly', 'completely', ranging from 0 to 3), if they had been diagnosed with chronic headaches such as migraines ('yes', 'no', coded as 0 1, respectively), and how much stress they experience daily on a 4-point scale ('not at all', 'partially', 'mainly', 'completely', ranging from 0 to 3). In what follows, we compare these ratings between social role

conditions, and explored whether differences in ratings qualify the social role conditions' effect on behavioral intention (for intention scales, see Table E1).

Comparisons of ratings. On average, participants in the servant condition suffered from fewer headaches ($M_{partner}$ = 1.73, SD = 0.89 vs. $M_{servant}$ = 1.59, SD = 1.08), reported fewer tension headaches ($M_{partner}$ = 1.55, SD = 0.82 vs. $M_{servant}$ = 1.50, SD = 0.77), were more often not diagnosed with migraines ($M_{partner}$ = .86, SD = .35 vs. $M_{servant}$ = .88, SD = .32), and experienced more stress ($M_{partner}$ = 1.16, SD = 0.49 vs. $M_{servant}$ = 1.37, SD = 0.61). However, according to a one-way MANOVA, these differences were not significant, $F(4, 104) = 1.16$, $p = .33$, Wilk's $\Lambda = 0.96$.

Re-analyses of social role effects. The 2 (role: partner vs. servant) x 2 (anthropomorphizing: low vs. high) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) ANOVA with intention as repeated-measures factor in the primary analysis showed an effect for the role manipulation across intention types, $F(1, 114) = 5.08$, $p = .026$, $\eta^2 = .043$. As predicted, averaged across types of intentions, participants were more inclined to engage in headache-reducing behavior in the partner as opposed to the servant condition (M = 15.14, SD = 25.37 vs. M = 4.45, SD = 26.14). In order to explore whether differences in headache-related ratings qualified this effect, we conducted a series of four analysis of covariance (ANCOVA) that each included one of the ratings as covariate. Thus, the following analyses estimate the social role conditions' effect on behavioral intentions controlled for differences in headache-related experiences.

Frequency of headaches. A 2 (role: partner vs. servant) x 2 (anthropomorphizing: low vs. high) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) ANCOVA with ratings of headache frequency as covariate showed a reduced but consistent effect for the role manipulation across intention types, $F(1, 104) = 3.62$, $p = .06$, $\eta^2 = .034$. Note, however, that nine participants gave no frequency ratings, suggesting that a reduction in

effect size is likely due to a loss in power. Indeed, there was no effect of headache frequency on intentions, $F(1, 104) = 0.10$, $p = .75$.

Tension headaches. A 2 (role: partner vs. servant) x 2 (anthropomorphizing: low vs. high) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) ANCOVA with ratings of tension headaches as covariate showed the predicted effect of the role manipulation across intention types, $F(1, 113) = 5.04$, $p = .027$, $\eta^2 = .043$. Tensions headaches and intention ratings were unrelated, $F(1, 113) = 0.01$, $p = .93$.

Chronic headaches. A 2 (role: partner vs. servant) x 2 (anthropomorphizing: low vs. high) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) ANCOVA with ratings of chronic headaches as covariate showed the predicted effect of the role manipulation across intention types, $F(1, 113) = 4.83$, $p = .03$, $\eta^2 = .041$. Chronic headaches and intention ratings were unrelated, $F(1, 113) = 1.37$, $p = .24$.

Daily stress. A 2 (role: partner vs. servant) x 2 (anthropomorphizing: low vs. high) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) ANCOVA with ratings of daily stress as covariate showed the predicted effect of the role manipulation across intention types, $F(1, 113) = 5.74$, $p = .018$, $\eta^2 = .048$. Daily stress and intention ratings were unrelated, $F(1, 113) = 0.87$, $p = .35$.

To summarize, differences in headache-related experiences were not found to qualify the effect observed in the primary analysis.

Supplementary Analysis 2

Because we noticed a high prevalence of individuals suffering from migraines in Experiment 1 (12.7 %), we created a second excerpt for Experiment 2 that informed about the prevalence, symptoms, causes, and behavioral treatment of migraines. Thus, individuals indicating that they suffered from migraines (23.2 %, *n*s = 17 and 15, for the partner and servant conditions, respectively) were displayed information about migraines instead of tension headaches, in order to provide participants with more useful information. Afterwards,

participants also rated how frequently they suffered from headaches on a 5-point scale (‘none’, ‘on 1-2 days’, ‘on 3-4 days’, ‘on 5-6 days’, ‘on 7 days’, ranging from 0 to 4) prior to advancing to the social role manipulation. In what follows, we compare frequency ratings between social role conditions, and explore the role of migraines as a quasi-experimental factor for social role effects on behavioral intentions and diary behavior.

Comparisons of ratings. On average, participants in the servant condition suffered from fewer headaches ($M_{\text{partner}} = 1.24$, $SD = 0.96$ vs. $M_{\text{servant}} = 1.40$, $SD = 1.03$). According to a 2 (role: partner vs. servant) x 2 (migraine status: yes vs. no) ANOVA, the difference was not significant, $F(1, 134) = 1.67$, $p = .19$. As expected, however, the analysis further revealed that participants suffering from migraines experienced headaches more frequently than participants not suffering from migraines ($M_{\text{migraines}} = 2.03$, $SD = 1.12$ vs. $M_{\text{no migraines}} = 1.10$, $SD = 0.85$), $F(1, 134) = 25.62$, $p < .001$, $\eta^2 = .16$. The interaction was not significant, $F(1, 134) = 0.18$, $p = .68$.

Re-analyses of social role effects. The 2 (description of painkiller: partner vs. servant) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) mixed-measures ANOVA of the averaged intention ratings as the primary analysis revealed a significant two-way interaction, $F(2, 272) = 3.08$, $p = .04$, $\eta^2 = .022$, showing that participants in the partner condition were more inclined to avoid strain and to rest than participants in the servant condition ($M = 33.84$, $SD = 30.60$ vs. $M = 22.97$, $SD = 29.39$, $p = .04$, and $M = 21.74$, $SD = 36.81$ vs. $M = 7.68$, $SD = 36.97$, $p = .03$, respectively), whereas preventive intentions did not differ between partner and servant conditions ($M = 2.20$, $SD = 32.50$ vs. $M = 2.10$, $SD = 34.90$), $p = .99$. In order to explore whether migraine status qualified this effect, we conducted an additional analysis with migraine condition as a quasi-experimental factor (we did not conduct an additional ANCOVA exploring the role of the frequency of headaches, given that migraines and the frequency of headaches, as shown above, were highly confounded).

Different from the main analysis, this 2 (migraines: yes vs. no) x 2 (description of painkiller: partner vs. servant) x 3 (type of intention: straining [reverse-coded] vs. resting vs. prevention) mixed-measures ANOVA revealed the predicted main effect for social role, $F(1, 134) = 4.34$, $p < .001$, $\eta^2 = .031$. However, the interaction between social role and type of intention remained significant, $F(2, 268) = 2.96$, $p = .05$, $\eta^2 = .022$, with the pattern of pairwise comparisons unchanged. Participants in the partner condition were more inclined to avoid strain and to rest than participants in the servant condition, *ps* = .008 and .028, respectively, whereas preventive intentions did not differ between partner and servant conditions, $p = .83$. No main effects of or interaction with migraines on behavioral intentions were observed, all *F*s < 3.2, all *p*s > .07. In other words, migraine status was not found to qualify the effect observed in the primary analysis.

Re-analyses of diary behavior. Finally, we also explored the role of migraines as a quasi-experimental factor in the online diary. Diary participation and the number of entries (see Table E2) were independent of migraine conditions, χ^2 (1) = 0.35, $p = .85$ and $t(91) = -0.96$, $p = .34$, respectively.

Furthermore, a 2 (migraines: yes vs. no) x 2 (description of painkiller: partner vs. servant) MANOVA on the reported frequency of headaches, the number of consumed painkillers, and headache-reducing behaviors revealed a main effect for migraines, $F(3, 83) = 5.31$, $p = .002$, Wilk's $\Lambda = 0.84$, but neither an effect of social role, $F(3, 83) = 1.37$, $p = .26$, Wilk's $\Lambda = 0.95$, nor an interaction, $F(3, 83) = 0.35$, $p = .79$, Wilk's $\Lambda = 0.99$. Specifically, participants with migraines suffered more often from headaches ($M_{migraines} = 1.19$, $SD = 0.52$ vs. $M_{no\ migraines} = 0.75$, $SD = 0.57$), $p = .002$, and took more painkillers ($M_{migraines} = 1.02$, $SD = 1.87$ vs. $M_{no\ migraines} = 0.24$, $SD = 0.55$), $p = .004$, but there were no differences for headache-reducing activities ($M_{migraines} = 3.30$, $SD = 0.96$ vs. $M_{no\ migraines} = 3.52$, $SD = 0.83$), $p = .32$. Thus, although migraine status affected reported behaviors, behavioral effects of the social role manipulation were still not obtained.

Table E1

Original items for the behavioral intention scales used in Experiments 1 and 2.

Experiment 1	Experiment 2
resting	
…Sie sich abends zurückziehen und auf eine Party verzichten, auf die Sie sich schon sehr gefreut hatten?	…Sie sich abends zurückziehen und auf eine Party verzichten, auf die Sie sich schon sehr gefreut hatten?
…Sie abends früh ins Bett gehen?	…Sie abends früh ins Bett gehen?
…Sie den geplanten Freizeitparkbesuch absagen?	…Sie den geplanten Freizeitparkbesuch absagen?
…Sie den Nachmittag im ruhigen Park verbringen?*	…Sie sich zurückziehen und entspannen?
…Sie leise Musik hören und versuchen sich zu entspannen?*	…Sie sich für den Rest des Tages ausruhen?
…Sie laute Orte meiden?	…Sie laute Orte meiden?
prevention	
…Sie regelmäßige Spaziergänge in Ihren Arbeitsalltag integrieren wollen?	…Sie regelmäßige Spaziergänge in Ihren Arbeitsalltag integrieren wollen?
…Sie versuchen, den Arbeitsstress langristig zu reduzieren?	…Sie versuchen, den Arbeitsstress langfristig zu reduzieren?
…Sie regelmäßigen Ausdauersport in Betracht ziehen?	…Sie regelmäßigen Ausdauersport in Betracht ziehen?
…Sie regelmäßige Entspannungsmeditation in Betracht ziehen?*	…Sie regelmäßige Entspannungsübungen machen werden?
…Sie regelmäßig Autogenes Training durchführen?*	…Sie auf Ihre Schlafgewohnheiten achten werden?
…Sie zukünftig darauf achten, ausreichend Wasser zu trinken?	…Sie zukünftig darauf achten, ausreichend Wasser zu trinken?
straining	
…Sie Ihren Lieblings - Actionfilm gucken?	…Sie Ihren Lieblings-Actionfilm gucken?
…Sie sich YouTube Videos auf Ihrem Smartphone angucken?*	…Sie später als sonst ins Bett gehen?
…Sie abends ein paar Cocktails trinken gehen?	…Sie abends ein paar Cocktails trinken gehen?
…Sie zur Ablenkung eine Staffel Ihrer Lieblingsserie am Stück schauen?	…Sie zur Ablenkung eine Staffel Ihrer Lieblingsserie am Stück schauen?
…Sie sich den kompletten Abend am Schreibtisch auf die kommenden Klausuren vorbereiten?*	…Sie sich nach einem langen Tag in der Uni noch mit Ihrer Lerngruppe treffen?
…Sie abends mit Ihren Freunden in eine neue Bar gehen?	…Sie abends mit Ihren Freunden in eine neue Bar gehen?

Note. Items were presented individually and preceded by the instruction "Sie haben Kopfschmerzen und nehmen die Tablette. Wie wahrscheinlich ist es, dass..." (You have headaches and take the pill. How likely do you …). Intentions to engage in the various activities were rated on a scale ranging from -100 (*very unlikely*) to +100 (*very likely*). Items for Experiment 1 marked with an asterisk had low selectivity and were thus changed for Experiment 2.

Table E2

Diary entries as a function of social role and migraine conditions in Experiment 2.

social role condition	no. of entries	Ps with migraines	Ps w/o migraines	Total
partner	*0*	5	15	20
	1	2	4	6
	2	0	5	5
	3	1	4	5
	4	9	23	32
servant	*0*	5	20	25
	1	0	6	6
	2	0	1	1
	3	3	4	7
	4	7	24	31