

The “Empty Vessel” Physician: Physicians’ Instrumentality Makes Them Seem Personally Empty

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Abstract

Although much research examines how physicians perceive their patients, here we study how patients perceive physicians. We propose patients consider their physicians like personally emotionless “empty vessels”: The higher is individuals’ need for care, the less they value physicians’ traits related to their personal lives (e.g., self-focused emotions), but the more they value physicians’ traits related to patients (e.g., patient-focused emotions). In an initial study, participants recalled fewer personal facts (e.g., marital status) about physicians who seemed more important to their health. In subsequent experiments, participants in higher need for care believed physicians have less personal emotions. Although higher need individuals, such as patients in a clinic, perceived their physicians to be personally emotionless, they wanted the clinic to hire physicians who displayed patient-focused emotion. We discuss implications of perceiving physicians as empty vessels for health care.

Keywords

instrumentality, health goals, person perception, emotion, empathy

Physicians are highly instrumental to their patients’ health goals and predominantly valued for their ability to provide health care (Mercado, Mercado, Myers, Hewit, & Haller, 2012). Here we suggest that physicians’ instrumentality affects individuals’ perceptions of, and preferences for, them. We propose that, because physicians are highly instrumental, they are considered like “empty vessels”: seeming personally empty (e.g., perceived to lack self-focused emotions and personal lives) but filled with patient-relevant characteristics (e.g., preferred to have patient-focused emotions).

Our proposal extends from the notion that people tend to use and perceive instrumental others as tools to fulfill their goals (Gruenfeld, Inesi, Magee, & Galinsky, 2008). Typically, perceiving an instrumental person as a tool is conceptualized as objectification, whereby a person is perceived more like an object than like a fully developed human (Cikara, Eberhardt, & Fiske, 2011; Fredrickson & Roberts, 1997; Galinsky, Magee, Inesi, & Gruenfeld, 2006; Gervais, Vescio, Forster, Maass, & Suitner, 2012; Gray, Knobe, Sheskin, Bloom, & Barrett, 2011; Guinote, Willis, & Martellotta, 2010). In particular, perceiving someone to have less mental capacity (agency and experience; Epley & Waytz, 2010) defines objectification (Gray et al., 2011). However, these prior studies tested perceptions of low-status or low-power people. Here, we test perceptions of physicians who are instrumental yet of high status. We propose that physicians’ instrumentality does not cause objectification insofar that physicians are perceived to lack all agentic or experiential

capacity. Instead, patients perceive physicians *only* to lack characteristics that seem less relevant for patients’ needs (e.g., self-focused emotions and experiential behavior) but prefer them to have characteristics that seem relevant for their needs (e.g., patient-focused emotions and agency).

Beliefs about physicians’ emotions provide a particularly good test between our empty vessel account and objectification theory. If greater instrumentality causes the perception that physicians lack all experiential (emotional) capacity, this would be consistent with objectification, but if instrumentality causes the perception that physicians only lack personal emotions (i.e., self-focused but not patient-focused emotions), this supports the empty vessel account.

Our empty vessel hypothesis addresses both how people perceive their physicians and their preferences for physicians. Instrumentality should influence perceptions of physicians’ self-focused emotion, such that they seem more empty, while also increasing preference for physicians who are patient focused and attend to patients’ emotions. Consistent with this prediction, patients notice how caring their physicians are to

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them (Epstein, 2006; Mercado et al., 2012), respond more favorably to physicians who express affect toward patients (Beck, Daughtridge, & Sloane, 2002), derogate physicians who use impersonal decision aids (Arkes, Shaffer, & Medow, 2007; Shaffer, Probst, Merkle, Arkes, & Medow, 2012), and trust physicians based on their patient-focused affective characteristics (Sims, Tsai, Koopman-Holm, Thomas, & Goldstein, 2014). Specifically with respect to different types of emotions, we predict that when physicians are more instrumental, people will *perceive* them to have less self-focused (but not patient-focused) emotions and will prefer physicians who have more patient-focused (but not self-focused) emotions.

Importantly, because instrumentality causes these effects on perception and preference, we expect the need for medical help to moderate the effects. In the absence of immediate need for medical help, people will attend to their health care providers' emotions and experiences. It is when people need care and providers become instrumental that we expect people to overlook health-care providers' personal lives and their self-focused emotions—both positive and negative—because these aspects seem inconsequential to patients' goals.

We provide evidence for our empty vessel hypothesis in six studies (Table 1). All studies test how instrumentality influences perceptions of physicians. Study 3 further tests an alternative reason why people perceive physicians to have less emotion: Perceptions of agency and emotionality could be inversely related (Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). We predict instrumentality, not agency, drives the belief that physicians have less personal emotion. Finally, Studies 5–6 additionally examine physician preferences.

Study 1: Memory of Personal Experiences

If physicians are perceived like empty vessels that lack personal experiences, patients will be less likely to attend to (e.g., ask for and remember) personal, nonmedical details about physicians who seem more instrumental for their health. In contrast, patients should be *more* likely to share personal, nonmedical details of their own lives with their more instrumental physicians.

Method

Participants

We predetermined a sample size of 100 participants assuming a medium effect size based on prior studies manipulating instrumentality (e.g., Gray et al., 2011). We excluded one participant who skipped items. Ninety-nine MTurk workers ($M_{\text{age}} = 34.2$, 41 males) participated for US\$0.40 each.

Procedure

We asked participants to report the physician with whom they last interacted (e.g., dentist and endocrinologist) from a list of 12 physician specialties. To measure instrumentality, we asked participants to rate how important it is for their health to see the

Table 1. Summary of Findings.

Study 1	Patients were <i>less</i> likely to recall personal (nonmedical) facts about physicians who seem more instrumental for their health but <i>more</i> likely to believe their instrumental physicians know more personal (nonmedical) facts about them
Study 2	More (vs. less) instrumental physician specialties (e.g., cardiologists) seemed to have less self-focused emotion but more agency
Study 3	Participants in greater need for care perceived less self-focused emotion in dentists. Dentists' agency had no effect on perceived emotion
Study 4	Participants in greater need for care reported greater surprise at seeing one's physician engaging in experiential activities (both high- and low-status activities)
Study 5	Participants in greater need for care perceived physicians have less self-focused (but not patient-focused) emotions, and preferred physicians who have more patient-focused (but not self-focused) emotions
Study 6	Patients (vs. participants) perceived physicians have less self-focused (but not patient-focused) emotions, and preferred physicians who have more patient-focused (but not self-focused) emotions

physician (1 = *not at all important* and 7 = *very important*). Participants listed “every personal fact that you know about the physician’s life (excluding the fact that they practice medicine).” They also listed “every personal fact that this physician knows about your life (excluding the fact that you have a medical problem)” in counterbalanced order. As an additional assessment of participants’ beliefs about their knowledge of their physician and physician’s knowledge of them, we asked participants to rate (1) how well participants personally knew their physician overall and (2) how well participants believed the physician personally knew them overall (1 = *not at all well* and 7 = *very well*; counterbalanced order). Finally, participants reported the total number of times they had seen the physician before.

Results and Discussion

A research assistant removed any medical facts or facts that would be immediately apparent upon an in-person meeting (e.g., a person’s gender). This left an average of 2.08 ($SD = 1.50$) facts listed about the physician (e.g., marital status) and 2.34 ($SD = 1.77$) facts listed about participants (e.g., hobbies). In a multiple linear regression that controlled for (1) total visits and (2) the number of facts that participants believed their physician knew about them, the physician’s instrumentality predicted *fewer* number of personal facts known about the physician, $\beta = -0.25$, $p = .015$.

In a second regression that controlled for (1) total visits and (2) the number of facts known about the physician, participants who rated their physician as more instrumental reported their physician knew *more* personal facts about them, $\beta = .40$, $p < .001$. These associations were robust even without controlling for total visits, $\beta_s = -.25$ and $.40$, $ps < .016$ and $.001$, respectively.

When physicians are more instrumental for patients' health, patients know less about their physicians' personal lives, presumably either failing to ask them about their lives or not bothering to remember such details. However, patients believe more instrumental physicians know *more* personal information about their own lives. Patients seem to overlook physicians' personal experiences, yet believe physicians are attentive to the personal details of their patients' lives.

Study 2: Instrumentality Reduces Perceived Emotions

To determine whether physicians' jobs create the empty vessel perception, we ran an experiment that manipulated physicians' instrumentality for patients' health using 12 physician specialties with varying levels of perceived instrumentality (e.g., high: cardiologists and low: cosmeticians). To comprehensively measure beliefs about physicians, we subsequently asked participants not only about physicians' personal emotions but also about their agency, thereby measuring both dimensions of mental capacity (Gray, Gray, & Wegner, 2007). We predicted participants would perceive more instrumental physicians as having less self-focused emotion (but more agency).

Method

Participants

We predetermined a sample size of 100 participants, using the same power calculation as Study 1. We excluded six participants who skipped items. Ninety-four Mturk workers ($M_{age} = 33.3$, 57 males) answered all items for US\$0.35 each.

Procedure

To manipulate instrumentality, participants completed a survey of 12 physician specialties (ordered here from most to least perceived instrumentality): cardiologist, primary care doctor, gynecologist, dentist, ophthalmologist, endocrinologist, dermatologist, rheumatologist, chiropractor, otolaryngologist, podiatrist, and cosmetic surgeon. As a manipulation check to measure instrumentality, participants rated how important for well-being each physician was regardless of whether they personally had the physician (1 = *not at all* and 7 = *very*).

To measure self-focused emotions and agency, participants imagined interacting with the physicians outside of their offices. Participants completed eight scenario questions (see Supplemental Material), four measuring emotionality (e.g., pleasure from a funny movie) and four measuring agency (e.g., recalling a grocery store list). We selected these items because they had the highest factor loadings on the factors of experience (e.g., emotions) and agency in Gray, Gray, and Wegner (2007). All scenarios were situated outside of the health domain. Participants responded on scales comparing each trait to the self in order to provide a

reference point (1 = *much less/worse than I* and 7 = *much more/better than I*).

Results and Discussion

For each physician, we computed the average score for self-focused emotions ($\alpha = .59$)¹ and agency ($\alpha = .82$). A repeated measures analysis of variance (ANOVA) showed an effect of instrumentality (physician specialties), $F(11, 93) = 5.57$, $p < .01$, $\eta_p^2 = .06$, an effect of perception (agency vs. emotion), $F(1, 93) = 57.04$, $p < .01$, $\eta_p^2 = .38$, and, most important for our hypothesis, an Instrumentality \times Perception interaction, $F(1, 93) = 8.54$, $p < .01$, $\eta_p^2 = .08$. Decomposing the interaction, we found the predicted linear contrast of instrumentality on self-focused emotions, $F(1, 93) = 5.15$, $p = .03$, $\eta_p^2 = .05$, such that participants attributed *less* emotion to more instrumental physicians. There was also an effect of instrumentality on agency, $F(1, 93) = 26.54$, $p < .01$, $\eta_p^2 = .22$, such that participants attributed *greater* agency to more instrumental physicians (Figure 1). See Supplemental Material for an alternative hierarchical model analysis.

Consistent with the empty vessel model, participants perceived physicians who were most instrumental to their well-being as personally emotionless. Instrumental physicians also seemed more agentic, presumably because agency is diagnostic for physicians' jobs. Participants may normatively infer that more important health tasks require greater agency from physicians even in domains outside the medical context. This inference is nonnormative with emotions because emotions outside the medical context should not undermine performance. Perceptions of agency and emotionality were positively correlated for each of the 12 physician types, $r_s = .14-.46$, $p_s = .19-.01$, indicating that perceived agency is unlikely to account for the effect of instrumentality on emotionality. We test the causal impact of instrumentality and agency on emotions in Study 3.

Study 3: Dentists' Shallow Emotions

This experiment provides another test for our prediction that physicians' instrumentality prompts individuals to consider them as emotionless empty vessels. It also separates the effects of instrumentality and agency. An alternative explanation for the belief that physicians have less personal emotions is that perceived agency and emotionality may be inversely related (e.g., compensation effect, Judd et al., 2005; moral typecasting, Gray & Wegner, 2009). To test between this account and our prediction that instrumentality (not agency) drives perception of emotionality, we orthogonally manipulated instrumentality and agency. To reduce noise associated with using different physician specialties, we manipulated participants' need for care for just one physician specialty: dentist. We expected greater instrumentality would reduce dentists' perceived personal emotions but greater agency would not. Instead, we expected agency and emotionality would be positively correlated (halo effect, Nisbett & Wilson, 1977), consistent with the correlations we reported in Study 2.

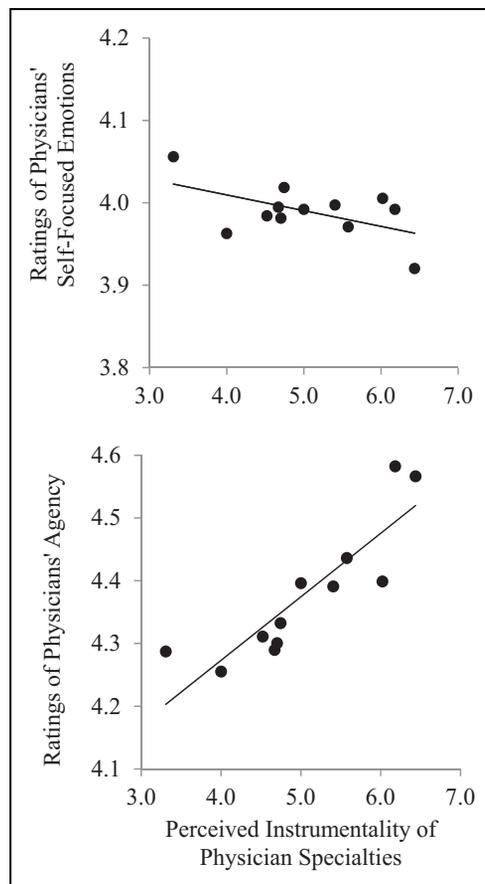


Figure 1. Correlation between physician instrumentality and perceived self-focused emotions (upper panel) and agency traits (lower panel) in Study 2. Greater physician instrumentality is associated with perceptions of less self-focused emotion but more agency.

Method

Participants

We predetermined a sample size of 50 participants per condition (200 participants in total, assuming a medium-sized effect). Two hundred and five MTurk workers who had a dentist participated for US\$0.50 each, but 14 failed our attention check, leaving a final sample of 191 ($M_{\text{age}} = 22.5$, 56 males).

Procedure

We used an Instrumentality (high vs. low) \times Agency (high vs. low) between-participants design. We manipulated instrumentality by making participants feel more or less in need of dental care. Specifically, participants either considered their completed or missing actions toward maintaining dental health to make them feel high or low need, respectively (Koo & Fishbach, 2010). Participants in the high-instrumental condition wrote about what they did *not* like about their teeth and considered ways to improve their teeth, whereas participants in the low-instrumental condition wrote what they liked about their teeth and considered ways they have already improved their teeth. As a manipulation check, we asked participants, “How

much do you feel like you need to see your dentist right now?” (1 = *not at all* and 7 = *a lot*).

Because education length can be a metric for agentic abilities such as self-control, we manipulated perceived agency by using different comparison points (other professions vs. other physicians) and different dental specialties (surgeon vs. hygienist), making dentists’ education seem longer or shorter, respectively. In the high-agency condition, participants read that “becoming a dentist requires a relatively high amount of education compared to other professions” and also learned that becoming a dental surgeon can “require up to 11 years of higher education” (4 years undergraduate degree, 4 years dental school, and 3 years residency). In the low-agency condition, participants read that “becoming a dentist requires a relatively low amount of education compared to other physicians” and learned that becoming a dental hygienist is possible with only “2–3 years of training beyond a high school degree.” As a manipulation check, we measured agency on the same four dimensions in Study 2 but using evaluative items instead of scenario-based items (e.g., “Overall, how much self-control does a dentist have?”) on 1–7 scales. These items formed an index of agency ($\alpha = .84$).

Next, participants rated their dentist’s emotions in four scenarios using the same items from Study 2 on 1–9 scales. Responses on the four emotion scenarios ($\alpha = .66$) loaded onto one factor in an exploratory factor analysis. Although reliability was modest, each emotion item showed the same direction of effect.

Results and Discussion

In support of the manipulation, an Instrumentality \times Agency ANOVA on perceived need yielded an effect of instrumentality, $F(1, 187) = 6.15$, $p = .01$, $\eta_p^2 = .03$, and no other effect or interaction ($F_s < 1$). Participants in the high-instrumental condition felt in greater need of their dentist ($M = 4.05$, $SD = 2.02$) than participants in the low-instrumental condition ($M = 3.36$, $SD = 1.85$). An ANOVA on perceived agency revealed an effect of the agency manipulation, $F(1, 187) = 9.99$, $p < .01$, $\eta_p^2 = .05$, and no other effect or interaction ($F_s < 1.50$). Participants in the high-agency condition believed their dentist had greater agency ($M = 5.86$, $SD = 0.73$) than participants in the low-agency condition ($M = 5.48$, $SD = 0.88$).

Critical for our hypothesis, an ANOVA on perceived emotions revealed an effect of instrumentality, $F(1, 187) = 4.14$, $p = .04$, $\eta_p^2 = .02$, but not of agency or an interaction, $F_s < 1$ (Figure 2). Participants in the high-instrumental condition believed their dentist would feel less personal emotion ($M = 6.06$, $SD = 1.03$) than participants in the low-instrumental condition ($M = 6.35$, $SD = 1.02$).

Individuals in need of dental care perceived their dentist to feel less self-focused emotion, but individuals who perceived their dentist as more educated and hence as more agentic did not perceive their dentists’ emotions differently. Consistent with Study 2, we again found that participants’ ratings of agency and emotionality were positively correlated, $r = .30$, $p < .01$. These data indicate that participants’ needs, not their beliefs about agency, dictate their perceptions of physicians as empty vessels.

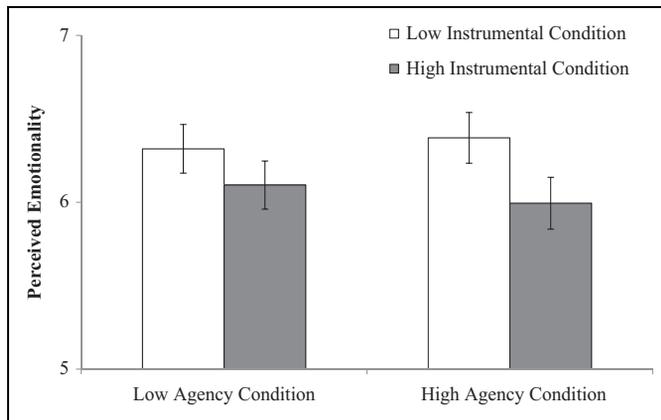


Figure 2. Perceived dentist emotionality in high- versus low-instrumentality conditions and high- versus low-agency conditions in Study 3. Greater instrumentality (but not greater agency) reduces dentists' perceived personal emotions. Errors bars represent the standard error around the mean.

Study 4: Surprised by Dentists' Experiential Activities

Because individuals perceive less self-focused emotion in their instrumental physicians, they should also have less reason to expect physicians to engage in experiential activities associated with emotional depth, such as going to a concert. We test this corollary of the empty vessel model in Study 4. Because increasing need could potentially make participants more surprised to see their dentist engaging in low-status activities, we tested our hypothesis across low- and high-status activities (e.g., Laundromat vs. fancy restaurant).

Method

Participants

We predetermined a sample size of 70 participants per condition (140 participants in total, based again on a medium effect size and 80% power). One hundred and forty-three Mturk workers ($M_{\text{age}} = 29.3$, 89 males) who had a dentist participated for US\$0.30 each. We did not ask an attention check question and therefore had no exclusions.

Procedure

The study design was Instrumentality (high vs. low; between-participants) \times Activity Status (high vs. low; within-participants). To manipulate instrumentality, participants in the high-instrumental condition rated their own teeth compared to a picture of a model's teeth on 4 separate items: how white, even, healthy, and clean their teeth were (1 = *much less* and 7 = *much more*). Low-instrumental condition participants answered the same questions but compared their teeth to a picture of a smoker's unappealing teeth. Participants who compare their teeth to the model's (vs. smoker's) would come to the conclusion that their teeth were not as healthy as the model's and therefore feel more in need of dental

care. As a manipulation check, participants rated how much they needed their dentist (7-point scale; see Supplemental Material). Next, participants rated on six questions how surprised (1 = *not surprised at all* and 7 = *very surprised*) they would be if they ran into their dentist at the neighborhood grocery store, the Laundromat (two low-status locations), a fancy five-star restaurant, the city's best museum, a gym, and on the campus of a respected university (four high-status locations).

Results and Discussion

We collapsed the surprise ratings for high-status ($\alpha = .81$) and low-status ($r = .29$, $p < .001$) activities. An Instrumentality \times Activity status ANOVA on surprise yielded the predicted effect of instrumentality, $F(1, 141) = 4.09$, $p = .045$, $\eta_p^2 = .03$. Participants in the high-instrumental condition reported more surprise ($M = 3.74$, $SD = 1.17$) than participants in the low-instrumental condition ($M = 3.35$, $SD = 1.10$). There was also an effect of status, $F(1, 141) = 83.63$, $p < .001$, $\eta_p^2 = .37$, such that participants reported more surprise seeing their dentist at low-status locations ($M = 4.01$, $SD = 1.29$) than at high-status locations ($M = 3.09$, $SD = 1.29$), but, as predicted, there was no interaction effect, $F(1, 141) = 1.16$, $p = .28$, suggesting a similar pattern for high- and low-status activities (Figure 3).

Consistent with perceiving less self-focused emotionality in instrumental physicians, participants who felt like they needed their dentists more reported that they would be more surprised to see them engaging in experiential activities and not just at low-status locations. Next, we test the full empty vessel hypothesis.

Study 5: Wanting Emotionless Endocrinologists to Feel Patients' Emotions

Our empty vessel model makes two specific predictions that individuals higher in need for care: (1) would *perceive* physicians as personally emotionless (2) but would *want* empathic physicians who feel patients' emotions. Thus far, we have tested the former prediction. In Study 5, we test our full model by manipulating need for care *and* emotional focus (physicians' self-focused vs. patient-focused emotion).

Method

Participants

We predetermined a sample size of 40 participants per condition (160 participants total, because we expected a larger effect of instrumentality on wanting patient-focused emotions consistent with prior research). One hundred and fifty-seven university students ($M_{\text{age}} = 23.1$, 71 males) who had a primary care physician participated for candy bars.

Procedure

The study design was 2 (instrumentality: high vs. low) \times 2 (emotional focus: self-focused vs. patient focused) between

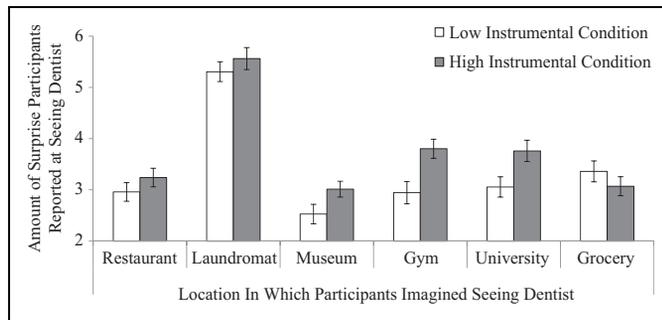


Figure 3. Surprise at seeing one's dentist at different locations in high-versus low-instrumentality conditions in Study 4. Participants report greater surprise when seeing more (vs. less) instrumental dentists engaging in personal experiences. Errors bars represent the standard error around the mean.

participants, with two dependent variables: perceiving physicians' emotions and wanting an emotional physician. To manipulate instrumentality, participants completed a medical survey in which they reported whether or not they had completed 11 standard medical tests (e.g., blood count test) administered by a primary care physician. Participants in the high-instrumental condition reported whether they had completed the tests in a shorter time frame (6 months) than participants in the low-instrumental condition (6 years), making it less likely for them to have done all the tests. To make the high-instrumental condition, participants feel more in need of their physician, those participants then read, "You did not check all of the boxes You should see a primary care doctor soon to get these tests done." Whereas in the low-instrumental condition, participants read, "You checked enough of the boxes You don't need to visit your primary care doctor any time soon."

Each participant next completed a survey reporting both their perceptions of physicians' emotions and wanting for emotional physicians in one of two conditions (self-focused vs. patient-focused emotion). The first question measured perceptions of physicians' emotions. It read, "People have certain expectations from those who pursue a career as a doctor. We are interested in your expectations from doctors and what kind of people you think they are." It then asked participants how deeply they expected physicians to experience "their own emotions" (self-focused condition) or "their patients' emotions" (patient-focused condition) on four negative emotions (pain, hunger, tiredness, and anxiety) and three positive emotions (happiness, relief, and hope; 1 = *not at all deeply* and 7 = *very deeply*).

The second question measured wanting for physicians. It read, "We are interested in how much you want doctors who are connected to their [their patients'] emotions. Imagine the Student Care Center at this University is considering hiring some doctors." It then asked participants how much they wanted the center to hire physicians who deeply experience their own emotions (self-focused condition) or their patients' emotions (patient-focused condition) on the same four negative

and three positive emotions (1 = *do not at all want* and 7 = *very much want*).

Results and Discussion

We collapsed the 7 emotion items for perceptions ($\alpha = .85$) and want ($\alpha = .81$). For perceiving emotion, there was no effect of instrumentality, $F < 1$, an effect of emotional focus, $F(1, 153) = 8.60, p < .01, \eta_p^2 = .07$, such that participants expected physicians to feel their own emotions ($M = 4.61, SD = 1.28$) more than patients' emotions ($M = 4.06, SD = 1.02$) and the predicted Instrumentality \times Emotional Focus interaction, $F(1, 153) = 10.72, p < .01, \eta_p^2 = .07$ (Figure 4). Participants expected physicians to feel their own emotions *less* in the high-instrumentality ($M = 4.34, SD = 1.33$) compared to low-instrumentality conditions ($M = 4.90, SD = 1.18$), $t(76) = -1.95, p = .05$, 95% confidence interval (CI) = $[-1.12, 0.01]$, $d = 0.45$, conceptually replicating Studies 1–3. But participants expected physicians to feel their patients' emotions *more* in the high-instrumentality ($M = 4.38, SD = 1.05$) compared to low-instrumentality conditions ($M = 3.76, SD = 0.91$), $t(77) = 2.85, p = .01$, 95% CI = $[0.19, 1.07]$, $d = 0.65$. This latter result is consistent with the expected pattern for the wanting variable (below) and potentially reflects motivated perception of physicians as highly empathic in the instrumental condition.

For wanting emotion, there were no main effects, $F_s < 2.33, p_s > .13$, but we found a marginal Instrumentality \times Emotional Focus interaction, $F(1, 153) = 3.29, p = .07, \eta_p^2 = .02$. As predicted, participants wanted physicians who feel their patients' emotions more in the high-instrumentality ($M = 5.36, SD = 0.93$) compared to low-instrumentality conditions ($M = 4.89, SD = 0.82$), $t(77) = 2.41, p = .02$, 95% CI = $[0.08, 0.87]$, $d = 0.55$. Participants in both conditions similarly wanted physicians who feel physicians' (i.e., their own) emotions, $t(76) < 1$.

These effects did not depend on emotional valence (positive vs. negative) because there were no three-way interactions of instrumentality, emotional focus, and emotional valence, $F_s < 1$. This study represents the first complete experimental test of both propositions in the empty vessel model. Participants high in need for care perceived physicians to not feel their *own* emotions as deeply but wanted physicians who feel *patients'* emotions deeply.

Study 6: Field Study With Patients

People's actual judgments when in need for care might vary from their responses in a cold state, when the need is not immediate (Loewenstein, 2005). Hence, in a final study, we tested our empty vessel model by comparing patients (sitting in the waiting room of a university medical center) to nonpatients (sitting in the same university's dining hall). We predicted patients would perceive physicians to have less self-focused emotion but would want the center to hire physicians who have more patient-focused emotions compared to nonpatients.

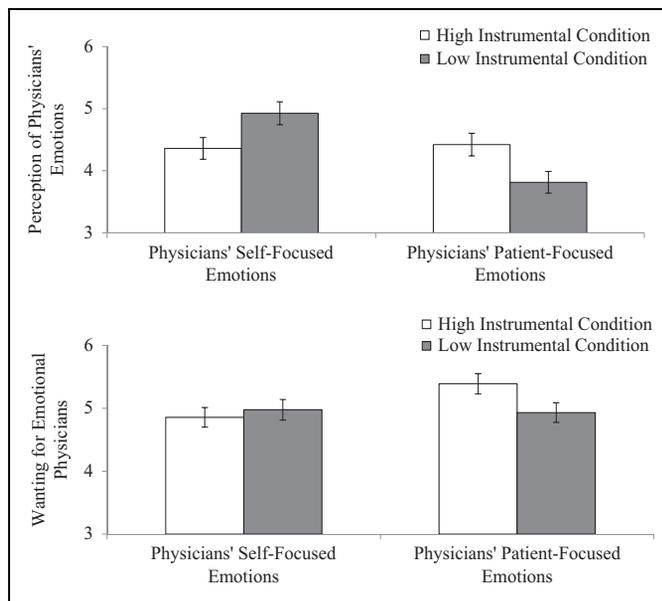


Figure 4. Perceptions of physicians' emotions (upper panel) and wanting for emotional physicians (lower panel) as a function of instrumentality condition and emotional focus in Study 5. More instrumental physicians are perceived to have less self-focused emotion and more patient-focused emotion. Participants want more instrumental physicians to show more patient-focused emotion. Error bars represent the standard error around the mean.

Method

Participants

We predetermined a sample size of at least 35 participants per emotional focus (self-focused vs. patient focused) condition (140 participants in total). As such, 70 patients ($M_{\text{age}} = 23.8$, 32 males) waiting to see a physician at a university medical center for various health problems participated in exchange for lollipops. Eighty nonpatients² ($M_{\text{age}} = 22.3$, 40 males) at the dining hall of the same university participated also for lollipops.

Procedure

We assigned participants (patients vs. nonpatients) to either complete the self-focused or patient-focused survey measuring two dependent variables: perception of physicians' emotions and wanting for emotional physicians. To test whether patients indeed felt more need for a physician than nonpatients, participants first reported how much they needed to see a physician (1 = *not at all* and 7 = *very much*). To measure perceptions of emotions, participants reported how deeply they believed the medical center physicians experienced their own emotions (self-focused condition) or their patients' emotions (patient-focused condition) on four negative emotions (pain, hunger, tiredness, and anxiety) and three positive emotions (happiness, relief, and hope; 1 = *not at all deeply* and 7 = *very deeply*). Next, to measure wanting of physicians, these participants reported how much they wanted the medical center to hire physicians who deeply experience their own emotions (self-

focused condition) or their patients' emotions (patient-focused condition) on the same four negative and three positive emotions (1 = *do not at all want* and 7 = *very much want*).

Results and Discussion

We collapsed the 7 emotion items for perceptions ($\alpha = .90$) and want ($\alpha = .86$). For perceiving emotions, there was no effect of instrumentality, $F < 1$, an effect of emotional focus, $F(1, 146) = 7.06, p = .01, \eta_p^2 = .05$, such that participants expected physicians to feel their own emotions ($M = 4.54, SD = 1.16$) more than patients' emotions ($M = 4.01, SD = 1.20$) and the predicted Instrumentality \times Emotional Focus interaction, $F(1, 146) = 6.26, p = .01, \eta_p^2 = .04$ (Figure 5). Patients expected physicians to feel their own emotions less ($M = 4.25, SD = 1.31$) than nonpatients ($M = 4.81, SD = 0.95$), $t(70) = -2.05, p = .04, 95\% \text{ CI} = [-1.08, -0.02], d = 0.49$, but expected physicians to feel their patients' emotions the same in both patient and nonpatient samples, $t(76) = 1.39$.

For wanting of physicians, there was no effect of emotional focus, $F < 2.31, p > .13$, an effect of instrumentality, $F(1, 146) = 6.06, p = .02, \eta_p^2 = 0.04$, such that participants wanted more emotional physicians when in higher need ($M = 5.23, SD = 1.10$) versus lower need ($M = 4.80, SD = 1.09$), and a marginal Instrumentality \times Emotional Focus interaction, $F(1, 146) = 2.99, p = .09, \eta_p^2 = .02$. As predicted, patients wanted physicians who deeply feel their patients' emotions ($M = 5.54, SD = 1.03$) more than nonpatients ($M = 4.81, SD = 1.13$), $t(76) = 2.97, p < .01, 95\% \text{ CI} = [0.24, 1.22], d = 0.68$. Participants wanted physicians who deeply feel their own emotions the same in both patient and nonpatient samples, $t(70) < 1$.

As in Study 5, we found no three-way interactions of Emotion Valence \times Instrumentality \times Emotional focus, $F_s < 1$. These data reveal that clinic patients, who have greater need for health care, perceive physicians to have less self-focused emotion yet prefer physicians who have more patient-focused emotion compared to nonpatients who have less need. Therefore, the empty vessel physician seems to exist regardless of whether individuals are in a hot state (in current, immediate need of a physician, Study 6) or a relatively colder state (manipulated need, Study 5).

General Discussion

Our research suggests patients believe physicians are like empty vessels. In experiments and field studies in health clinics, online, and in the laboratory, we provide evidence that when in greater need of health care, individuals perceive physicians as lacking personal attributes and not having personal lives but want physicians who have patient-focused attributes.

We distinguish our empty vessel theory from two alternative accounts. First, although instrumentality is linked to objectification for low-status or low-power targets (Cikara et al., 2011; Galinsky et al., 2006; Gervais et al., 2012; Gray et al., 2011), we suggest people do not fully objectify instrumental but high-status physicians. Objectification implies people always perceive less experiential capacity in physicians.

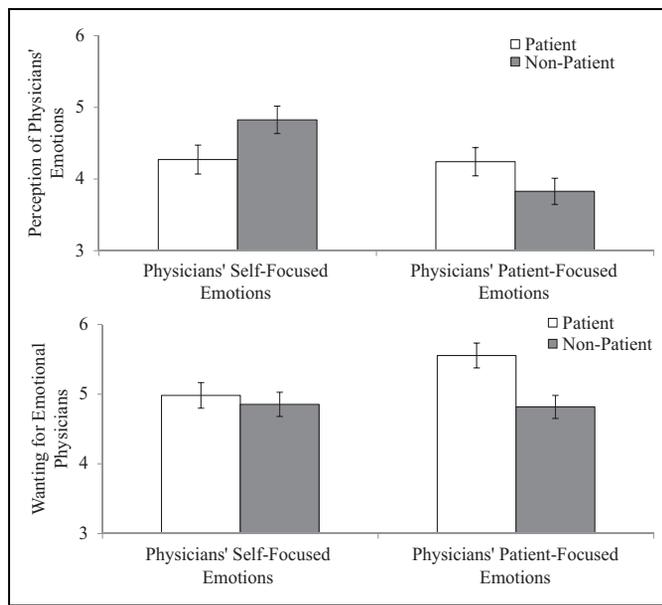


Figure 5. Perceptions of physicians' emotions (upper panel) and wanting for emotional physicians (lower panel) as a function of participant (patient or non-patient) and emotional focus in Study 6. Patients (vs. non-patients) perceive physicians to have less self-focused emotion and more patient-focused emotion. Patients (vs. non-patients) want physicians who show more patient-focused emotion. Error bars represent the standard error around the mean.

Instead, we show patients only perceive less self-focused emotion in their instrumental physicians (but want more patient-focused emotion, Studies 5–6). Second, if instrumentality increases perceived agency, another alternative account is that agency and emotionality are inversely related (Gray & Wegner, 2009; Judd et al., 2005). In Study 3, we manipulate agency and show it does not affect perceived self-focused emotions—but instrumentality does. In Studies 2 and 3, perceptions of agency and emotions were positively correlated, which is more consistent with a halo effect explanation (Nisbett & Wilson, 1977).

Implications of Our Findings for Patients and Physicians

An important remaining question is whether physicians' emotions are meaningful for health care. We documented a discrepancy between *perceived* self-focused versus patient-focused emotions, but this discrepancy might not exist when measuring *actual* emotional responsiveness. Indeed, because one's own emotions activates the same neural networks as responding to others' emotions (Ochsner et al., 2004), we suspect that physicians' actual self-focused and patient-focused emotions are highly interrelated.

Emotionally responsive physicians may provide benefits for patients' health outcomes (Decety, 2012; Di Blasi, Harkness, Ernst, Georgiou, & Kleijnen, 2001). For example, physician empathy (i.e., "emotional attunement"; Halpern, 2003) is associated with reduced patient anxiety (Butow, Maclean, Dunn, Tattersall, & Boyer, 1997; Rietveld & Prins, 1998), improved coping with bad news (Girgis & Sanson-Fisher, 1995), and

increased compliance with medication regimens (Roter et al., 1997). The current article demonstrates that patients in greater need perceive less self-focused emotion; this could be problematic if it restricts patients from detecting variance in physicians' emotional responsiveness. Patients who overlook physicians' emotions may fail to choose an emotionally responsive physician.

Patients' perceptions may also affect physicians. On the one hand, being instrumental should have interpersonal benefits for physicians. As we demonstrate in Study 2, instrumentality creates the perception of higher agency, which may increase respect and overall value for physicians. Further, when people are in high need of someone, they are more likely to approach the person and express appreciation (Converse & Fishbach, 2012; Fitzsimons & Shah, 2008). Conversely, negative consequences may result when patients overlook physicians' personal characteristics the patient does not need (e.g., self-focused emotions). For instance, failing to acknowledge others' mental states has been shown to make people feel objectified or dehumanized (Anteby & Chan, 2015; Haque & Waytz, 2012), which might contribute to physician burnout. Indeed, 46% of a recent nationally representative sample of U.S. physicians report experiencing at least one symptom of burnout and physicians in specialties at the front line of care access seem to be at greatest risk (Shanafelt et al., 2012). Not only does burnout have adverse personal consequences for physicians (e.g., broken relationships; Oreskovich et al., 2012; Shanafelt, Sloan, & Habermann, 2003), it also reduces the quality of care for patients (e.g., medical errors; Dyrbye et al., 2010; Shanafelt et al., 2012). This suggests—ironically—that patients' own perceptions of their physicians as empty vessels could, at least partly, ultimately reduce their quality of care. Practitioners and policy makers considering how to improve health care quality may therefore want to target patients' attitudes toward their physicians, not just physicians' attitudes toward patients.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Supplemental Material

The online data supplements are available at <http://spps.sagepub.com/supplemental>.

Notes

1. This modest reliability is consistent with past research (Gray et al., 2011).
2. We obtained a larger sample of healthy participants because they were faster to recruit.

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