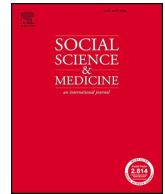




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## Doctors are seen as Godlike: Moral typecasting in medicine

Amelia Goranson\*, Paschal Sheeran, Julia Katz, Kurt Gray

University of North Carolina at Chapel Hill, USA

## A B S T R A C T

**Objective:** Doctors are generally thought of as very intelligent and capable. This perception has upsides—doctors are afforded respect and esteem—but it may also have downsides, such as neglecting the mental and physical health of physicians. Two studies examine how Americans “typecast” doctors as Godlike “thinkers” who help others, rather than as vulnerable “feelers” who might themselves need help.

**Method and results:** Study 1 examines how a representative sample of Americans ( $N = 681$ ) view the mental capacities of doctors compared to other targets (including patients, other workers, and God). Results show that people see physicians as highly capable of the thinking-related capacities of thinking, remembering, self-control, and planning (equal to that of God), but less capable of the feeling-related capacities of experiencing fear, pain, embarrassment, and hunger. Study 2 ( $N = 451$ ) examines whether physician typecasting impacts other domains. People believe that, relative to the average working professional, physicians are better able to ignore physical and mental health issues, and physician job performance is less impacted by bodily and emotional limitations.

**Discussion:** We discuss implications for medical practice, especially the growing epidemic of physician burnout.

## 1. Introduction

By US law, medical residents are legally able to work for twenty-four consecutive hours, whereas truck drivers can work for only fourteen. Both make important decisions that can impact the lives of others, so why are doctors allowed to work so much more—especially when physician fatigue is the “Achilles’ heel of medicine” (Gaba and Howard, 2002) and physician burnout is at crisis levels (Jha et al., 2018)? Are doctors somehow seen as physically invincible and emotionally invulnerable? In this paper, we explore whether one contributor to this epidemic of physician burnout may be *moral typecasting*, the psychological tendency to categorize others into one of two competing roles: “thinking doers” who help others, versus “vulnerable feelers” who themselves need help (K. Gray and Wegner, 2009).

A key social-psychological framework called *mind perception* suggests that people see the minds of others along two broad dimensions (H. M. Gray et al., 2007): agency, the capacity for thought and action (colloquially, “thinking”), and experience, the capacity for feelings like fear or hunger (colloquially, “feeling”). Past studies on mind perception have helped to explain many facets of our lives, including how individuals make moral judgments in business organizations (Tang and Gray, 2018), how individuals react to emerging technologies like robots or artificial intelligence (Bigman et al., 2019; Bigman and Gray, 2018), and, in medicine, how individuals think about those in a persistent vegetative state (K. Gray et al., 2011).

These two dimensions of agency and experience can be perceived independently, such that it is possible to be high in both (e.g., adult

humans), low in both (e.g., inanimate objects), low in agency but high in experience (e.g., infants), or high in agency but low in experience (e.g., sophisticated robots). However, some work suggests that, within morally laden contexts—including helping professions (Yam et al., 2018)—these dimensions may be inversely related, such that the more people see someone as a “thinking doer” who helps others, the less people see them as a “vulnerable feeler” who needs help. In other words, people have a tendency to *morally typecast* others, seeing those who help others as high in agency (thinking) but low in experience (feeling; K. Gray and Wegner, 2009). Likewise, people perceive those who receive help as having the opposite kind of mind, as high in experience but low in agency.

Moral typecasting speaks to the broader idea of how individuals categorize others into moral roles, which are some of the most important categorizations that individuals make of others (Aquino et al., 2002). Past work clearly illustrates that people divide the moral world into good and evil (e.g., Helzer; Critcher, 2018), but moral typecasting suggests that people also divide the moral world into doers of moral acts (e.g., heroes, villains) or receivers of moral acts (e.g., beneficiaries, victims; K. Gray and Wegner, 2011; K. Gray, Young and Waytz, 2012).

Typecasting people into either moral “doers” capable of thinking (but not feeling), or moral “recipients” capable of feeling (but not thinking) can have important consequences. It suggests that people might neglect the well-being of individuals they see as saint-like. Past work suggests that people see moral exemplars—such as Mother Teresa or the Dalai Lama—as less sensitive to pain than the average person (K. Gray and Wegner, 2009). This work also reveals that perceptions of

\* Corresponding author. Amelia Goranson Department of Psychology & Neuroscience, 235 E. Cameron Avenue CB #3270 Chapel Hill, NC, 27599, USA.

E-mail address: [agoranso@live.unc.edu](mailto:agoranso@live.unc.edu) (A. Goranson).

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mental capacities translate to decisions, as participants were more willing to mete out pain to the saintly than to average people, because they believed that the saints could better cope with it.

This work on moral typecasting may offer a new perspective on how people perceive doctors. Might people typecast physicians as high in agency but low in experience? Physicians dedicate their lives in service to others—i.e., they are moral “doers”—and they also seem to be perceived as highly capable of agency-related abilities, including thinking and self-control. If people perceive doctors as thinkers who help others, moral typecasting suggests that they may fail to see doctors as feelers who themselves need help. That is, individuals may often deny (or neglect) physicians’ ability to experience emotions and bodily experiences. Consistent with this idea, past work suggests that people emphasize the knowledge and skill of doctors, but are made uncomfortable by the idea that doctors may have their own personal needs and feelings (Schroeder and Fishbach, 2015).

Typecasting therefore suggests a potential downside of the moral accolades inherent in medicine: it is nice to be seen as a force for good, but these perceptions of moral goodness could be tied to unrealistic self or other expectations about physicians’ physical and mental invincibility. During medical training, physicians report a culture in which feeling sick, tired, or distressed—all signs of one’s experiencing side—is seen as weakness or incompetence (McGowan et al., 2013). This has led to renewed calls for scholars to study emotional socialization in the medical training process (Underman and Hirshfield, 2016). Despite the importance of staying well-rested to maintain mental acuity, physicians work an average of 10 hours more per week than other professionals (Shanafelt et al., 2012) and experience cognitive decline, worsened mood, and impaired motor skills as a result of lack of sleep during long shifts (Comondore et al., 2008; Wali et al., 2013).

Past work helps to illustrate how inflated expectations can contribute to physician burnout (Cooper et al., 1989). For example, the greater burnout of female (versus male) physicians can be explained in part by patients’ higher expectations of them. Not only do female physicians struggle to meet these high expectations in the face of other clinical and life responsibilities (Linzer and Harwood, 2018; McMurray et al., 2000), but work shows that failing to meet patient expectations can lead physicians to report less satisfaction with their jobs (Bell et al., 2002). Unrealistic expectations about physician’s abilities can also lead patients to feel over-optimistic about their own treatment outcomes even after their physicians have informed them of the risks, likelihood of success, or descriptions of alternatives to treatment (Hornig et al., 2002; Weinfurt, 2004). For all these reasons, “typecasting” physicians as high in agency but low in experience may help explain the current epidemic of physician burnout (Jha et al., 2018).

In this paper, we investigate the moral typecasting of physicians and medical professionals. In Study 1, we use a representative sample of Americans to examine how people view the mental capacities of doctors, nurses, patients, and other non-medical workers. We hypothesize that participants will perceive medical professionals as “thinkers”—highly capable of thought and action (*agency*)—but not “feelers”—relatively incapable of feeling pain or hunger (*experience*). In Study 2, we examine the implications of this medical moral typecasting, testing whether people think that doctors are better able to ignore mental and physical health problems in their job and to exert exceptional self-control in their everyday lives. Because past research shows that public perceptions can influence public policy on health-related topics (Barry et al., 2009; Gendall et al., 2015), it is possible that superhumanized, typecast perceptions of physicians may contribute to policies that engender engender physician burnout, such as unrealistic mandates about work hours or patient loads. If people see doctors as invulnerable thinkers—unaffected by pain, tiredness, or stress—there is no need to consider policies that protect their health or well-being, whether for their own sake or those of the patients they seek to help.

### 1.1. Study 1

In Study 1, we examine how a representative sample of Americans typecast doctors, patients, and other workers as agentic thinkers versus experiencing feelers. We predict that participants will typecast doctors as possessing high agency but relatively low experience.

## 2. Method

To test whether Americans morally typecast people in medicine, 681 participants—approximating the most recent US census in terms of gender, household income, education, age, region of the country, religion, political affiliation and ethnicity—completed our study via Qualtrics Panels. These participants were collected via an opt-in sampling procedure designed to approximate the US population. We note that although such sampling procedures may not perfectly represent the US population as a probability sample might, the sample does approximate the population of Americans based on the demographic traits listed above. This study was approved by the IRB at the University of North Carolina at Chapel Hill, and this sample was recruited in 2018.

Participants rated the mental capacities of 12 targets: 3 doctors (neurosurgeon, cardiologist, primary care physician), a nurse, 2 workers (factory worker, bank teller), 3 patients (cancer patient, asthma patient, heart attack patient), as well as targets used in past work (H. M. Gray et al., 2007): a persistent vegetative state (PVS) patient, God, and a ten-year-old girl, each of which was presented with a brief description. The three kinds of doctors were selected to include both a general practitioner—with whom participants are most likely to interact—and specialists. The two specialists—neurosurgeon and cardiologist—were selected because they were easily described and likely familiar to participants.

Each target was ranked from 1 (most capable) to 12 (least capable) on 4 mental capacities related to “agency” (i.e., thinking: planning for the future, exerting self-control, remembering details, thinking) and 4 related to “experience” (i.e., feeling: fear, pain, embarrassment, hunger). As participants used this ranking method to rate each target, all participants had complete data. One participant who failed to rank any targets was excluded.

## 3. Results

Consistent with past work (H. M. Gray et al., 2007), data were analyzed using composites for “thinking” agency ( $\alpha = 0.77$ ) and “feeling” experience ( $\alpha = 0.63$ ). See Fig. 1. For statistical analysis,

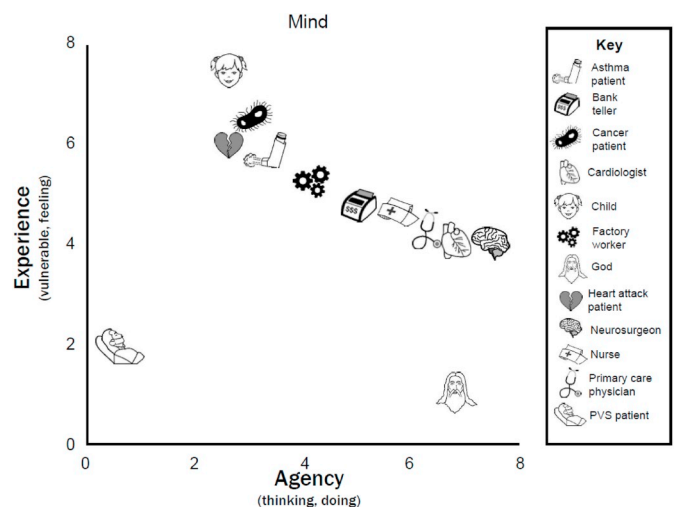


Fig. 1. How Americans view medical professionals, among other targets. The center of each icon is aligned with the average rank order for each capacity.

**Table 1**  
Means (M) and standard errors (SE) for target groups in Study 1.

Target group	Dimensions of typecasting	
	Agency <i>M</i> ( <i>SE</i> )	Experience <i>M</i> ( <i>SE</i> )
Doctors	7.68 (0.05)	4.97 (0.04)
Nurse	6.76 (0.05)	5.48 (0.04)
Patients	4.07 (0.05)	6.89 (0.05)
PVS patient	1.54 (0.08)	2.76 (0.08)
God	7.72 (0.12)	2.05 (0.09)
Workers	5.52 (0.04)	5.90 (0.05)
Girl	3.67 (0.07)	8.32 (0.07)

targets were grouped into their corresponding subset: doctors, patients, God, nurse, adults, PVS, and child. An ANOVA revealed that both agency,  $F(6, 8165) = 1314.54, p < .001, \eta^2 = 0.49$ , and experience,  $F(6, 8165) = 1213.66, p < .001, \eta^2 = 0.47$ , differed across target groups.

Post-hoc tests revealed that all groups were rated as significantly different on agency ( $ps < .001$ )—except for doctors and God ( $p = .99$ ), who were seen as most (and equally) agentic. All group differences in experience ratings were significant, with doctors seen as least capable of experiencing feelings out of all able-bodied humans. These results are robust when controlling for demographic features and participants' level of involvement with healthcare. See Table 1 for means and SEs.

#### 4. Discussion

This representative sample of the American public appears to typecast doctors in a specific way: relative to other adults, doctors are seen as thinking doers high in agency (planning for the future, exerting self-control, remembering details, thinking) but *not* as vulnerable feelers capable of experience (pain, fear, embarrassment, and hunger). This “thinking but not feeling” typecasting is similar to how people view God—a similarity that may stem from cultural stereotypes of physicians as intelligent and knowledgeable. This Godlike perception of doctors may also stem from motivated cognition, as people depend upon doctors in important situations and may prefer to see them as powerful and unemotional (Schroeder and Fishbach, 2015).

These perceptions explain why people feel admiration, respect, and even awe towards medical professionals. At the same time, they suggest why people may be surprised when physicians—who, despite their expertise, are not omniscient—are at times unable to offer a clear diagnosis or an effective treatment. The current study also found that people typecast patients into feeling but not thinking roles, which could help explain patients' reports of perceived paternalism (Emanuel and Emanuel, 1992).

##### 4.1. Study 2

Study 1 demonstrated that a representative sample of Americans view doctors' minds as high in agency, but low in experience. This one-sided view of physicians' minds may explain why the public puts high levels of faith in physicians to help when people fall ill, but simultaneously fail to consider that physicians' themselves might feel tired or be ill. In Study 2, we examine the implications of this typecasting, exploring whether doctors are seen as especially able to exert agency both at work and in their lives more generally. For example, compared to another working professional, are physicians seen as better able to ignore mental health issues at work or stick to a workout regimen?

#### 5. Method

We pre-registered this study using AsPredicted to collect 500 participants and collected an initial sample of 500 participants (276 male,

220 female, 4 non-binary;  $M_{age} = 34.68, SD = 10.87$ ) on Amazon's Mechanical Turk. After screening for individuals who passed all attention checks, our final sample included 451 participants (238 male, 209 female, 4 non-binary;  $M_{age} = 34.86, SD = 10.77$ ). We did not use imputation for missing data because the rate of missing data (all items  $< 1.4\%$ ) was below the recommended threshold for this procedure (5%, Jakobsen et al., 2017; Jakobsen et al., 2014; Jakobsen et al., 2014). The IRB at the University of North Carolina approved this study, and the data were collected in 2019.

After consenting to participate, participants read about twenty-seven tasks or traits in four categories: professional perseverance, personal perseverance, morality, and burnout. They rated each item on a continuous scale from 1 (definitely the average working professional) to 5 (definitely the average doctor), with the midpoint of the scale being 3 (a doctor and the average working professional are equal). For example, participants read the following items: “Imagine that each of the following individuals feels very tired today. Who will be more likely to still perform job related tasks accurately?” and “Who helps others more?”

**Professional perseverance.** This measure included 12 items ( $\alpha = 0.60$ ; being able to perform well in one's job despite poor quality sleep, being able to perform in one's job despite very little sleep, being able to perform in one's job after a long shift, allowing hunger to impair job performance, being able to perform job tasks accurately despite tiredness, allowing feelings of sadness to impede job performance, going to work despite a migraine, concentrating on a boring task, multitasking, explaining complex ideas, maintaining a work-life balance, being able to “shrug off” anxiety and depression).

**Personal perseverance.** Eight items measured personal perseverance ( $\alpha = 0.54$ ; reaching out to family or friends when feeling down, training for a marathon, resisting tempting desserts after deciding to eat healthy, running errands efficiently, keeping to a workout schedule, speed of recovering from a headache, speed of recovering from the common cold, and completing tasks despite chronic knee pain).

**Morality.** Participants rated morality with 4 items ( $\alpha = 0.68$ ; helping others, having strong moral character, being a moral exemplar, being heroic).

**Burnout.** Finally, participants rated three items capturing three main elements of burnout (Maslach et al., 1986): feeling emotionally exhausted, feeling accomplished at work, and feeling cynical towards others in the workplace. As past work reveals that these are distinct factors of burnout, they are examined individually.

#### 6. Results

In order to compare participants' perceptions of physicians and the average working professional, we conducted one-sample *t*-tests, using the scale midpoint (3, a doctor and the average working professional are equal) as our reference value. For concision, we will report results for professional perseverance, personal perseverance, and morality indices, as they are representative of the pattern in individual items, which can be seen in Fig. 2. Note that all differences are significant at the  $p < .05$  level, except for running errands efficiently ( $p = .08$ ) and workplace cynicism ( $p = .21$ ). These *t*-tests revealed that participants rated doctors as significantly higher than the average working professional on professional perseverance ( $M = 3.27, SD = 0.45$ ),  $t(450) = 12.72, p < .001$ , personal perseverance ( $M = 3.22, SD = 0.45$ ),  $t(450) = 10.43, p < .001$ , and morality ( $M = 3.67, SD = 0.61$ ),  $t(450) = 23.43, p < .001$ . Participants also rated doctors as feeling significantly more accomplished at work ( $M = 3.78, SD = 0.97$ ),  $p < .001$ , but did not rate doctors' feelings of workplace cynicism differently than the average working professional's ( $M = 3.06, SD = 1.08, p = .21$ ). Despite super-agentic perceptions in many areas, participants did rate doctors as significantly more emotionally exhausted ( $M = 3.62, SD = 1.13$ ),  $p < .001$ , perhaps reflecting an explicit understanding of the “crisis” of burnout impacting medicine (Jha

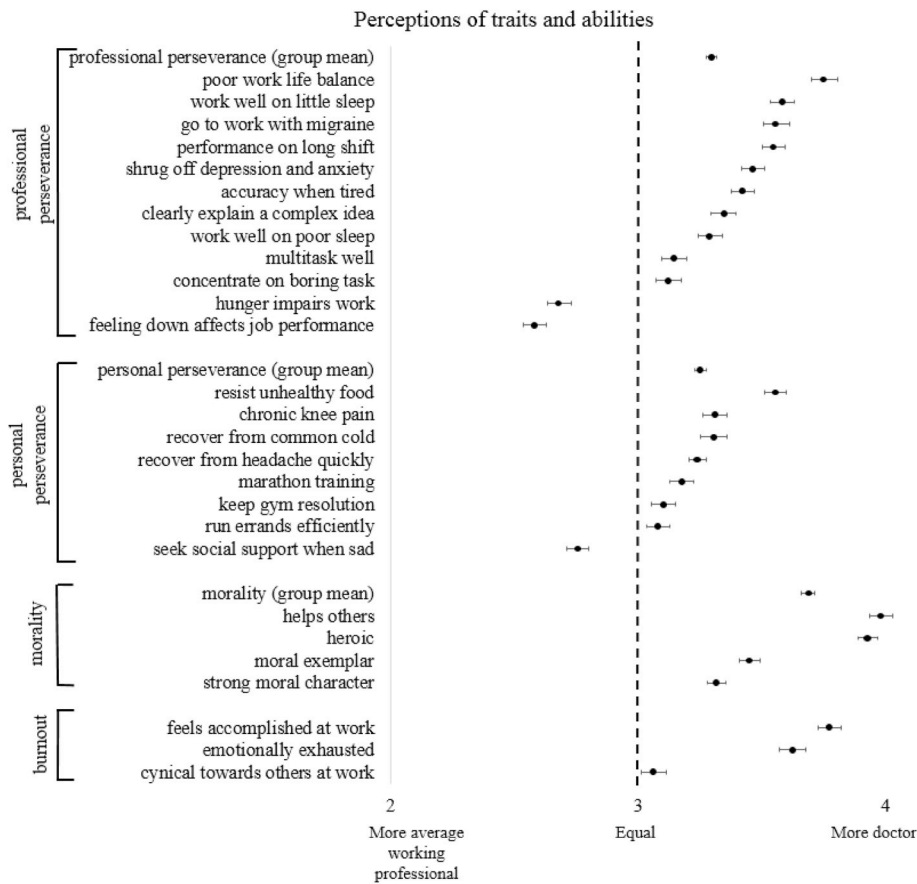


Fig. 2. Perceptions of traits and abilities.

et al., 2018).

Note. Error bars indicate standard error of the mean.

## 7. Discussion

In Study 2, our participants reliably typecast doctors as high in agency, even on tasks unrelated to their careers. This suggests that physicians are not only typecast as mentally and physically tough in the workplace, but also in other domains, including in how they spend their leisure time, recover from common ailments, and set goals. These findings are especially surprising considering our participants also rated doctors as significantly more likely to feel emotionally exhausted—an indicator of job burnout. At the same time, participants reported that they thought doctors would be less likely to reach out for social support, and be better able to “shrug off” feelings of depression or anxiety. Our participants believed that physicians are more burned out than the average worker *and* that physicians can more easily overcome these feelings, which illustrates an important paradox. Participants seem to generally recognize that a life devoted to helping patients can be difficult and draining but fail to extend this understanding to holistic perceptions of physicians. Taken together, these results support the idea that doctors are globally perceived as superhuman—not only are doctors intelligent and self-controlled heroes who are responsible for their patients’ health, but they also seem not to need much sleep, food, or help from others in order to persevere at work and in the home lives.

### 7.1. General discussion

In two studies, we show that both a representative sample of Americans and a large, preregistered sample of mTurk participants perceive doctors as highly agentic. Indeed, doctors are seen as equal to

God in their capacity to think, exert self-control, remember details, and plan for the future (see Fig. 1). Past work reveals that people typecast those who help others as both high in agency and low in experience—which makes them invulnerable to injury and insult, and relatively incapable of suffering (K. Gray and Wegner, 2009). Our results confirm the existence of moral typecasting in medicine: compared to other working adults, people see doctors as less sensitive to pain, fear, embarrassment, and hunger (see Fig. 2). We further find that these perceptions of super-human doctors extend outside of work and into global perceptions of physicians’ traits and abilities. This work adds to other research arguing that people do not want to acknowledge the feelings of healthcare providers, because this would make providers less capable of serving our health-related goals (Schroeder and Fishbach, 2015).

Taken together, this suggests one possible explanation for the systemic overworking of healthcare professionals; it is *because* of their perseverance and thoughtfulness in helping others that they are seen as relatively invincible. But just because these perceptions of invulnerability are common does not mean that they are correct—overwork (Landrigan et al., 2004), lack of sleep (Gaba and Howard, 2002), self-care (Novack, 1997), and burnout (Jha et al., 2018; Rotenstein et al., 2018) are all too much a part of healthcare professionals’ lived experience.

**Limitations and extensions of this work.** To the best of our knowledge, this is the first work to broadly examine the application of mind perception and moral typecasting to healthcare. There is much work yet to be done in this area. In using a representative sample of Americans and a large, pre-registered mTurk sample, this work suggests that Americans typecast doctors as Godlike. There are a number of ways in which future research could expand upon these findings. In this research, we did not specifically examine differences between

participants who identify with mono- and polytheistic religions. Even though removing participants who self-reported as Hindu did not change our results, future research could more specifically examine this question. Further, this work tested perceptions of just three medical specialties in Study 1 (primary care physician, cardiologist, and neurosurgeon) and did not specify a specialty in Study 2. It is possible that perceptions of agency vary substantially across sub-specialties in medicine and constitutes an open question for future work.

Another limitation of this work is the relatively small number of comparison groups used. In this paper, we examined perceptions of physicians compared with a handful of professionals (including the “average working professional”), but future work should expand these comparison professions in addition to those used in this paper. It would be particularly interesting to see how individuals rate the agency of doctors in comparison to those in other demanding careers.

We note that it is difficult to control for the exact exemplar pictured by participants in our study. When asked to think of a doctor, one participant might think of their own doctor, another might think of the abstract category, and another may think of a doctor on television. Future research could direct participants to think of a more concrete exemplar (Lord and Lepper, 1999). However, we note that obtaining our results despite this potential variability argues for their robustness. Finally, we acknowledge that this work uses only third-party perceptions of doctors. Other work suggests that physicians are trained to be highly agentic (McGowan et al., 2013) and acclimatize to a culture in which lack of sleep, skipping meals, or working while sick are normal. It would be informative to directly compare first- and third-party perceptions of doctors' agency.

We believe this area of work could be extended in the future to more directly examine the consequences of typecasting for medical mistakes and burnout among physicians. No current work connects moral typecasting of physicians to physician or patient reactions to medical errors. While past work suggests that physicians react negatively to any outside mandates that could conceivably increase errors—such as the work hour limitations put in place by the Accreditation Council for Graduate Medical Education in 2002 (Kellogg, 2011)—little empirical work examines this question.

Future extensions should also consider the effects of burnout. Given that policies in medicine hinge on societal perceptions, perceiving doctors as possessing superhuman agency but less-than-human experience may help to explain the high levels of burnout occurring in medicine. This problem now looms so large in medicine that recent work argues that the high levels of burnout experienced by physicians constitutes a public health crisis that urgently needs to be addressed (Jha et al., 2018). Typecasting makes it hard for the public to appreciate that physicians both think *and* feel. An important direction for future research will be to discover how to increase the public's appreciation of physicians' experience—to communicate that even though doctors are perceived as Godlike, they still have human needs.

#### CRedit authorship contribution statement

**Amelia Goranson:** Conceptualization, Methodology, Writing - original draft, Investigation, Formal analysis, Visualization. **Paschal Sheeran:** Conceptualization, Writing - review & editing, Supervision. **Julia Katz:** Conceptualization, Investigation. **Kurt Gray:** Conceptualization, Methodology, Visualization, Writing - review & editing, Supervision.

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