Varieties of experience: A new look at folk philosophy of mind

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Abstract

Philosophers, psychologists, and neuroscientists have often divided the mind into fundamental component parts. Does this intuition carry over into folk philosophy of mind? In a series of large-scale studies, we explore intuitive distinctions among different kinds of mental phenomena and consider how these distinctions might organize the conceptual space of the diverse "intelligent" and "social" entities in the modern world. Across studies, independent exploratory factor analyses reveal a common latent structure underlying mental capacity attributions, centered on three types of phenomenal experiences: *physiological* experiences of biological needs (e.g., hunger, pain); *social-emotional* experiences of self- and other-relevant emotions (e.g., guilt, pride); and *perceptual-cognitive* abilities to detect and use information about the environment (e.g., hearing, memory). We argue for an expanded model of folk philosophy of mind that goes beyond agency and experience (H. M. Gray, Gray, & Wegner, 2007) to make basic and important distinctions among different varieties of experience.

Keywords: mind perception; folk theories; sentience.

Introduction

The ontology of the mind or soul has been a topic of great interest to humankind, from ancient philosophers to modern neuroscientists. In Plato's *Republic*, Socrates argued for a tripartite division of the soul into reason, spirit, and appetite, while Aristotle, in *De Anima*, posited four faculties of the soul: nutrition, perception, mind, and desires. Half a world away, the Buddha described sentient beings as aggregations of five components: material form, feelings, perceptions, impulses, and consciousness. Over two millennia later, the tradition continues, from Freud's model of the human psyche as composed of id, ego, and superego, to ongoing attempts to derive data-driven "cognitive ontologies" from neural activity (Hastings, et al., 2014). Does the intuition that the mind is composed of distinct parts carry over into *folk* philosophy of mind? Here, we set aside questions about the true organization of the mind to explore how lay people conceptualize mental capacities and mental life.

Many converging traditions in psychology and philosophy suggest that folk philosophy of mind might include a broad distinction between internal experiences and behavioral outputs (e.g., Gelman & Spelke, 1981; Knobe & Prinz, 2008). In an influential investigation of folk philosophy of mind, Gray, Gray, and Wegner (2007) conducted a large survey in which participants compared the relative mental capacities of various characters (e.g., a frog vs. a robot; a man vs. God). Participants' judgments of capacities for hunger, fear, pain, pleasure, rage, desire, personality, consciousness, pride, embarrassment, and joy covaried, forming a dimension that Gray et al. termed *experience*. Judgments of self-control, morality, memory, emotion recognition, planning, communication, and thought also hung together; they termed this second dimension *agency*. Gray et al. proposed that these two dimensions—experience and agency—organize people's understanding of different kinds of minds, playing a particularly important role in the identification of moral patients (capable of experience and therefore vulnerable to harm) and moral agents (capable of intentional behavior and therefore responsible for their actions).

However, we suspect that there is more to the lay ontology of mind than broad categories of experience and agency—particularly in light of Gray et al.'s (2007) untraditional analytical approach. In preparing their data for dimension reduction, the authors collapsed across many paired comparisons to estimate (non-independent) scores for 13 target characters on 18 mental capacities, and then performed a principal components analysis on this 13x18 dataset. In contrast, guidelines for dimension reduction generally recommend a much higher ratio of observations to variables (see Fabrigar, Wegener, MacCallum, & Strahan, 1999). Given the constraints of their approach, Gray et al.'s analysis would not be expected to yield much more than one dimension of mind perception; indeed, we note that the *experience* dimension actually accounted for nearly all of the variance in their data (88%, compared to 8% for *agency*). These findings thus leave open the possibility that there may be more than two dimensions of mind perception. In particular, lay people may make distinctions between different kinds of "experience," with potentially important consequences for social and moral reasoning.

In line with this, in our previous work we have proposed a three-part model of the lay concept of sentience, including two distinct forms of experience: *affect*, the ability to experience positively or negatively valenced states; and *perception*, the ability to detect information about the environment. (The third component in our model is *autonomy*, similar to Gray et al.'s (2007) "agency.") Our studies have demonstrated that when adults or young children learn that an unknown entity has one of these kinds of experience they do *not* strongly infer that it has the other; instead, affect and perception appear to be conceptually distinct (Weisman, Markman, & Dweck, 2015).

If, indeed, people consider affect and perception to be distinct capacities that do not mutually imply each other, they might also distinguish between entities that have one vs. both of these experiential capacities. For example, perceptual abilities might allow some autonomous being to

have a sensory impression of its environment, but suffering—a hallmark of higher-order mental and moral life—requires the ability to evaluate which sensations are pleasant or unpleasant. As Gray and others have argued (e.g., K. Gray, Young, & Waytz, 2012), attributions of intentional action and suffering are fundamental to moral reasoning. If these mental phenomena are thought to require combinations of distinct capacities for affect and perception, then differentiating between these varieties of experience might be as important in sociomoral reasoning as the broader distinction between experience and agency.

With these considerations in mind, the current studies examine US adults' attributions of a variety of mental phenomena, including various affective, perceptual, agentic, physiological, cognitive, social, and other capacities. Building on Gray et al.'s (2007) data-driven approach, we probe ontological distinctions among mental capacities in three large-scale studies. Converging dimension reduction analyses lead us to propose an expanded model of folk philosophy of mind, focused on intuitive distinctions among different varieties of experience.

Study 1

We begin by exploring people's attributions of mental capacities to two "edge cases" in social reasoning: a beetle and a robot. We selected targets whose existence is beyond question, but whose mental capacities were predicted to be controversial. This ensured that not all participants would endorse all mental capacity attributions (as they might if the target were a human), providing the variance necessary for the planned dimension reduction analyses. In addition, this provided a glimpse into how lay people currently think about robots, as social technologies begin to play increasingly larger roles in our everyday lives.

Methods

Participants. 405 adults participated via Mechanical Turk. All participants had gained approval for ≥95% of previous work (≥50 assignments); had verified US MTurk accounts; and indicated that they were ≥18 years old. Participants were paid $0.30 for about 3-4 minutes of their time. Repeat participation was prevented. An additional 48 respondents were excluded for not completing the survey (*n*=14), failing an attention check (19), or not providing a year of birth (15).

Materials and procedure. Participants were randomly assigned to evaluate either *a beetle*, accompanied by a photograph of a black beetle on a leaf (*n*=200); or *a robot*, accompanied by a photograph of a humanoid robot (Sony's Qrio; *n*=205). The picture and label ("a beetle" or "a robot") were present throughout the survey.

Participants read the following instructions: "On the following page, you will see a list of mental capacities. For each mental capacity, please indicate the extent to which you believe a [beetle/robot] has this capacity. Please note: We care only about your opinion or best guess—please do not do any external research about these questions." Participants then rated 40 mental capacities presented in a random order, responding to the following question: "On a scale of 0 (Not at all capable) to 6 (Highly capable), how capable is a [beetle/robot] of...?" An attention check ("Please select 4 for this question") was embedded randomly among the ratings, and respondents who failed excluded from analyses (see *Participants*).

The 40 mental capacities were generated from an a priori analysis of candidate ontological categories of mind: physiological experiences of biological needs (e.g., *getting hungry*); emotional experiences (*feeling happy*); perceptual experiences (*detecting sounds*); cognitive abilities (*remembering things*); capacities related to autonomy or agency (*having intentions*); social abilities (*experiencing guilt*); and several additional items that could have fallen into either none or more than one of these categories (*being conscious*). Each category included at least five items of varying valence, complexity, and phrasing. All 18 mental capacities from Gray et al.'s (2007) study, or close variants thereof, were included. See Table 1 for the full set of items.

Exploratory factor analysis (EFA).[1] For all EFAs reported in this paper, we used Pearson correlations to find minimum residual solutions. We examined maximal (39-factor) unrotated solutions to determine how many factors to extract. We report factor loadings from varimax-rotated solutions that included only factors that had eigenvalues >1.0 and that individually accounted for >5% of the total variance in the maximal model.

Results and Discussion

Collapsing across conditions, the first three factors of an unrotated EFA accounted for 68% of the variance in the data, with eigenvalues of 15.37 (explaining 46% of total variance), 4.36 (13%), and 3.09 (9%); all other factors individually explained ≤5% of total variance.

After rotation, the first factor captures a continuum from embodied physiological experiences of biological needs to non-bodily computational abilities, with factor loadings >0.60 for the following items, in descending order: *getting hungry*, *experiencing pain*, *feeling tired*, *experiencing fear*, *experiencing pleasure*, *being conscious*, *having free will*, *feeling safe*, *having desires*, *feeling calm*, and *feeling nauseated*. One item had a strong negative loading: *doing computations* (-0.74); there were no other loadings <-0.29.

The second factor corresponds to social-emotional experiences, with factor loadings >0.60 for the following items: *feeling embarrassed*, *experiencing pride*, *feeling love*, *experiencing guilt*, *feeling depressed*, *feeling disrespected*, *holding beliefs*, *understanding how others are feeling*, *experiencing joy*, *having a personality*, *feeling happy*, and *telling right from wrong*. No items had loadings <-0.08.

The third factor includes a mix of perceptual experiences and cognitive abilities, with factor loadings >0.60 for the

[1] Factor analyses using polychoric correlations and/or oblimin rotation; principal components analyses; correspondence analyses; and item response analyses all yielded similar structures.

Table 1: Factor loadings from exploratory factor analyses for all studies (S1-S3)

A priori category	Item *How capable is a [target] of...?*	Factor 1: Physiological S1	S2	S3	Factor 2: Social-emotional S1	S2	S3	Factor 3: Perceptual-cognitive S1	S2	S3
PHY	*getting hungry**	**0.93**	**0.93**	**0.84**	0.01	0.10	0.11	-0.08	-0.05	0.34
PHY	*experiencing pain**	**0.93**	**0.90**	**0.86**	0.10	0.16	0.14	0.01	0.01	0.33
PHY	*feeling tired*	**0.83**	**0.82**	**0.85**	0.23	0.31	0.21	0.10	0.04	0.35
EMO	*experiencing fear**	**0.82**	**0.78**	**0.83**	0.28	0.37	0.20	0.06	0.10	0.37
COG	*doing computations*	**-0.74**	**-0.80**	-0.41	0.19	0.08	0.51	0.44	0.27	0.40
	*experiencing pleasure**	**0.74**	**0.70**	**0.79**	0.43	0.51	0.36	0.11	0.11	0.35
	*being conscious**	**0.70**	**0.69**	**0.65**	0.36	0.41	0.36	0.12	0.20	0.38
AGE	*having free will*	**0.70**	**0.69**	0.59	0.37	0.40	0.42	0.09	0.18	0.39
PHY	*feeling safe*	**0.70**	**0.69**	**0.73**	0.36	0.35	0.33	0.13	0.16	0.36
	*having desires**	**0.69**	**0.73**	**0.68**	0.40	0.44	0.44	0.11	0.18	0.34
EMO	*feeling calm*	**0.65**	0.59	**0.75**	0.41	0.49	0.35	0.17	0.25	0.32
PHY	*feeling nauseated*	**0.65**	**0.64**	**0.70**	0.50	0.50	0.40	0.09	0.06	0.26
EMO	*getting angry**	0.58	0.54	**0.67**	0.57	**0.62**	0.47	0.08	0.11	0.31
AGE	*having intentions*	0.54	0.54	0.48	0.35	0.33	0.48	0.27	0.34	0.44
	being self-aware	0.52	0.49	0.38	0.48	0.48	0.59	0.22	0.26	0.35
PER	*detecting odors*	0.45	0.54	0.58	-0.01	0.04	0.22	0.43	0.41	0.58
SOC	*feeling embarrassed**	0.19	0.18	0.28	**0.85**	**0.75**	**0.82**	-0.01	0.02	0.09
	*experiencing pride**	0.28	0.24	0.43	**0.85**	**0.77**	**0.74**	0.05	0.08	0.20
SOC	*feeling love*	0.37	0.42	**0.65**	**0.81**	**0.70**	**0.58**	0.06	0.15	0.18
SOC	*experiencing guilt*	0.26	0.19	0.31	**0.80**	**0.76**	**0.82**	0.02	0.07	0.13
SOC	*feeling disrespected*	0.37	0.35	0.51	**0.78**	**0.75**	**0.63**	0.03	0.06	0.23
EMO	*feeling depressed*	0.25	0.21	0.29	**0.78**	**0.75**	**0.78**	0.04	0.07	0.18
COG	*holding beliefs*	0.11	0.10	0.19	**0.76**	**0.64**	**0.82**	0.12	0.15	0.14
SOC	*understanding how others are feeling*†	0.06	0.09	0.32	**0.70**	**0.62**	**0.72**	0.29	0.35	0.30
EMO	*experiencing joy**	0.51	0.50	0.71	**0.70**	**0.70**	0.53	0.10	0.14	0.25
	*having a personality**	0.23	0.21	**0.63**	**0.66**	**0.62**	0.54	0.31	0.37	0.33
EMO	*feeling happy*	0.55	0.52	**0.74**	**0.65**	**0.68**	0.50	0.10	0.17	0.23
	telling right from wrong†	-0.04	-0.10	0.17	**0.60**	0.51	**0.80**	0.32	0.37	0.25
COG	*having thoughts*†	0.50	0.50	**0.60**	0.55	0.55	0.50	0.22	0.33	0.33
AGE	*exercising self-restraint*†	0.24	0.19	0.24	0.55	0.56	**0.70**	0.31	0.27	0.38
COG	*remembering things*†	-0.20	-0.15	0.25	0.17	0.19	0.41	**0.72**	**0.65**	**0.71**
SOC	*recognizing someone*	-0.29	-0.27	0.43	0.29	0.29	0.39	**0.71**	**0.66**	0.59
PER	*sensing temperatures*	0.21	0.40	0.41	-0.06	-0.06	0.06	**0.66**	0.58	**0.72**
SOC	*communicating with others*†	-0.02	-0.11	0.34	0.20	0.16	0.31	**0.65**	**0.60**	**0.71**
AGE	*working toward a goal*†	0.09	0.16	0.23	0.17	0.21	0.41	**0.62**	0.56	0.57
PER	*perceiving depth*	0.11	0.20	0.28	0.11	0.11	0.32	**0.62**	0.58	**0.68**
PER	*detecting sounds*	0.06	0.20	0.45	-0.05	-0.03	0.08	**0.61**	**0.64**	**0.75**
PER	*seeing things*	0.36	0.37	0.56	-0.07	-0.04	0.13	**0.61**	0.55	**0.67**
AGE	*making choices*	0.25	0.27	0.37	0.18	0.21	0.37	**0.60**	0.59	**0.67**
COG	*reasoning about things*	-0.06	-0.13	0.16	0.47	0.41	**0.66**	0.57	0.59	0.48
	Percentage of total variance explained:	46%	47%	63%	13%	11%	10%	9%	8%	7%

Note: Factor loadings >0.60 or <-0.60 are in bold. The full set of items, used for all studies reported here, is listed in the second column. Each item is listed with its a priori category membership (first column): physiological (PHY); emotional (EMO); perceptual (PER); cognitive (COG); agentic (AGE); social (SOC); and other/multiple (unmarked). Items marked with an asterisk (*) or a dagger (†) constituted Gray et al.'s (2007) "experience" and "agency" dimensions, respectively.

following items: *remembering things*, *recognizing someone*, *sensing temperatures*, *communicating with others*, *working toward a goal*, *perceiving depth*, *detecting sounds*, *seeing things*, and *making choices*. No items had loadings <-0.09.

See Table 1 for the full set of factor loadings.

These results suggest that three latent constructs guided participants' assessment of the target characters included in this study: *physiological experiences*, characterized by embodied sensations related to biological needs; *social-emotional experiences*, characterized by positive or negative valence and relevance to the self and/or social partners; and *perceptual-cognitive abilities*, characterized by the detection and use of information about the environment. Interestingly, this analysis did not reveal any factor corresponding to agency or autonomy, as Gray, et al. (2007) and Weisman, et al. (2015) would predict. Instead, distinctions among varieties of experience dominated the correlation structure of participants' judgments when they were asked to evaluate the mental capacities of a beetle or a robot in isolation.[2]

Study 2

In Study 1, each participant evaluated a single entity in isolation. Study 2 was a within-subjects replication of Study 1, providing an opportunity to evaluate the reliability of this framework and to examine whether this way of thinking about minds is altered when people are presented with a salient contrast between an animate and an inanimate entity.

Methods

Participants. 400 adults participated via MTurk and were paid $0.50. An additional 24 respondents were excluded for not completing the survey (n=13), failing the attention check (7), or not providing a year of birth (4).

Materials and procedure were identical to Study 1, except that all participants rated both entities. Half of participants saw the beetle on the left side of the screen and half saw the beetle on the right. Although ratings for the two entities were made simultaneously, they were independent (e.g., a participant's rating of a beetle's capacity for joy did not constrain her rating of a robot's capacity for joy).

Results and Discussion

The first three factors of an unrotated EFA accounted for 67% of the variance in the data, with eigenvalues of 15.55 (explaining 47% of total variance), 3.77 (11%), and 2.63 (8%); all other factors individually explained ≤5% of total variance. After rotation, all three factors were very similar to those revealed in Study 1, corresponding to physiological experiences, social-emotional experiences, and perceptual-cognitive abilities; see Table 1.

A within-subjects design, which encouraged participants to compare an animate being with a "social" technology, revealed a very similar three-factor structure, distinguishing among physiological, social-emotional, and perceptual-cognitive experiences. This framework for mind perception appears to be quite robust, at least in participants' reasoning about "edge cases" like beetles and robots.

Study 3

In Studies 1 and 2, participants evaluated entities that we considered to be controversial in terms of their mental capacities. Were the distinctions uncovered in these studies specific to reasoning about edge cases, or would they apply more to reasoning about a wider range of entities? More broadly, how does the lay ontology of mind uncovered in Studies 1 and 2 organize the range of potentially "mental" entities people encounter in the world? In Study 3, we presented a variety of entities ranging from an inert object (a stapler) to a canonical social partner (a human adult).

Methods

Participants. 431 adults participated via MTurk and were paid $0.30. An additional 40 respondents were excluded for not completing the survey (n=15), failing the attention check (24), or not providing a year of birth (1).

Materials and procedure were identical to Study 1, except that participants were randomly assigned to evaluate one of the following entities (labeled as follows and accompanied by a photograph): *an adult*, *a child*, *an infant*, *a person in a persistent vegetative state*, *a fetus*, *a chimpanzee*, *an elephant*, *a dolphin*, *a bear*, *a dog*, *a goat*, *a mouse*, *a frog*, *a blue jay*, *a fish*, *a beetle*, *a microbe*, *a robot*, *a computer*, *a car*, or *a stapler*. The number of participants per condition ranged from 17 (*stapler*) to 24 (*dog*).

Results and Discussion

Once again, three factors emerged from the correlation structure of participants' mental capacity attributions, distinguishing social-emotional, physiological, and perceptual-cognitive abilities. Notably, this framework was revealed even when canonical minds, such as humans and familiar mammals, were evaluated. In fact, the three (unrotated) factors accounted for the vast majority of the variance in Study 3 (80%), with eigenvalues of 22.77 (63% of total variance), 3.72 (10%), and 2.42 (7%); all other factors explained ≤2% of total variance. Rotated factor loadings were very similar to Studies 1-2; see Table 1.

Target characters varied widely in their judged mental capacities (see Figure 1): While a human adult was seen to be highly capable of all mental capacities and a stapler was seen to be incapable of any, judgments of other targets revealed a diverse range of attribution patterns between these extremes. Non-human mammals were judged to be highly capable of most physiological experiences and many perceptual-cognitive abilities and to have middling social-emotional capacities. Non-mammalian animals were judged to have weaker capacities across the board, particularly in the social-emotional domain. See the General Discussion for comments on the particularly interesting case of the robot.

[2] A direct replication of Study 1 yielded very similar results, although the third factor accounted for only 5% of total variance.

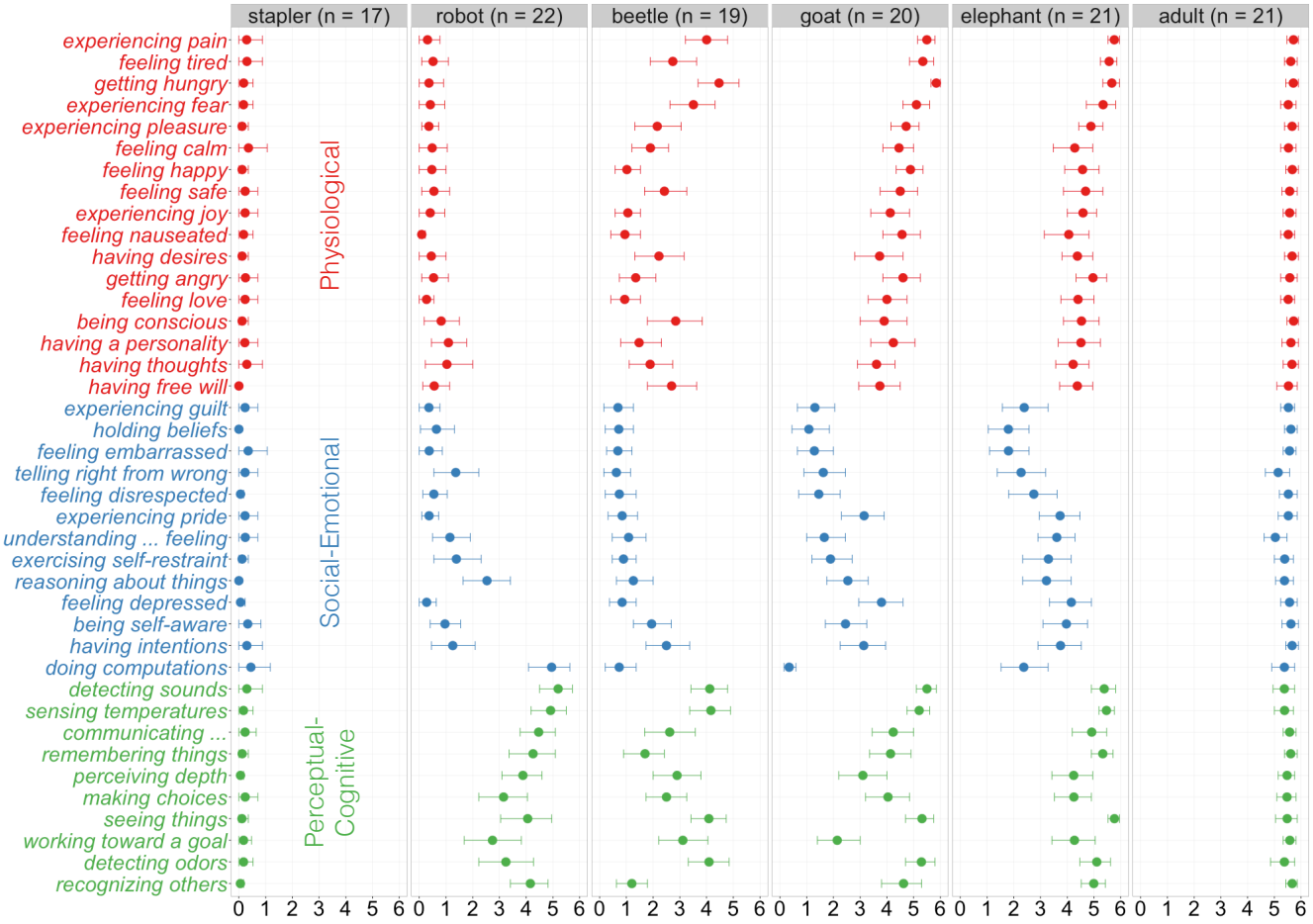

Figure 1: Mean ratings by mental capacity for a subset of target characters (Study 3)

Note. Target characters were rated on a scale from 0 ("Not at all capable") to 6 ("Highly capable"). Error bars are bootstrap 95% confidence intervals. Mental capacities are grouped according to their dominant factor loading in Study 3; see Table 1.

General Discussion

In three large-scale studies, we set out to explore what, if any, distinctions people make between categories of mental phenomena—to examine, in other words, a folk ontology of mind. Our results revealed reliable intuitive distinctions between physiological experiences of biological needs (e.g., hunger, pain); social-emotional experiences of self- and other-relevant emotions (e.g., guilt, pride); and perceptual-cognitive abilities to detect and use information about the environment (e.g., hearing, memory).

This three-factor structure seems to be quite robust. First, we note that participants each rated a wide variety of mental capacities, from multiple a priori domains, that varied in valence and complexity. Given this experimental design, additional or alternative latent factors—e.g., complex cognitive abilities, negatively valenced experiences, experiences of the self, etc.—could have emerged, but they did not. Furthermore, we observed very similar factor structures across independent analyses, both when participants judged a single "mental edge-case" in isolation (Study 1) and when participants were encouraged to compare two edge-cases that contrasted in animacy (Study 2). Finally, when a wider range of entities was included—from humans and other mammals down to microorganisms, technologies, and an inert object—this three-factor framework accounted for fully 80% of the variance in participants' judgments (Study 3). Given these observations, we conclude that distinctions among varieties of experience loom large in people's intuitive ontology of mind.

Interestingly, the agency/autonomy construct predicted by both Gray et al. (2007) and Weisman et al. (2015) did not emerge as a separate factor in any of the current studies. Instead, items that we predicted to be related to agency or autonomy were evenly distributed across the physiological (*having free will*, *having intentions*), social-emotional (*exercising self-restraint*), and perceptual-cognitive (*working toward a goal*, *making choices*) factors. This prompts us to speculate that people might also make intuitive distinctions between different aspects of agency (e.g., the experience of having intentions vs. abilities to act or not act on these intentions); a modified version of the current paradigm including a wider range of "agentic"

abilities and actions could help substantiate this suggestion. This null finding by no means rules out the possibility that lay people consider agency to be an important, distinct component of the mind. Our studies do, however, suggest that distinctions among varieties of experience are at least as prominent in people's intuitive philosophy of mind as the broad distinction between experience and agency.

We view these results as consistent with—but an important expansion upon—Gray et al.'s (2007) dimensions of mind perception. Rather than making a general distinction between agency and experience, participants in our studies focused on the extent to which mental capacities and phenomenal states are embodied, socially valenced, or perceptual in nature. These latter two kinds of experience—social-emotional experiences and perceptual-cognitive abilities—are closely aligned with Weisman et al.'s (2015) model of the lay concept of sentience, which distinguishes between affect and perception. In some sense, the current results might be seen as a combination of Weisman et al.'s theory with the classic animate–inanimate distinction, which from early in development encompasses physiological experiences of hunger and pain (Carey, 1985). Indeed, the size of the physiological factor, which accounted for 46-63% of the total variance across our studies, indicates that reasoning about biological animacy might have played an especially large role in people's judgments in this task.

Differentiating among capacities for physiological, social-emotional, and perceptual-cognitive experience could have important ramifications in social reasoning, particularly in the identification of moral patients, beings that should be protected from harm and suffering. Building on Gray et al.'s (2012) argument that "mind perception is the essence of morality," we speculate that different varieties of experience might play *different* roles in social and moral reasoning. For example, our ongoing work examines whether attributions of social-emotional experiences might be more strongly predictive of judgments of moral patiency than attributions of perceptual-cognitive abilities, at least among US adults.

Explorations of folk philosophy of mind have acquired new urgency in recent years, as people have begun interacting more frequently with increasingly sophisticated "intelligent" and "social" technologies. Interactions with robots and other social technologies are likely to be guided by intuitive understandings of the mind; in turn, these encounters might reshape lay intuitions about how minds work, and what qualifies an entity to be considered an object of sociomoral concern. The current studies provide a snapshot into how US adults are currently thinking about the "minds" of robots: The robot was judged to have virtually no capacity for physiological experiences (confirming that participants considered it inanimate), but it received notably higher ratings for many perceptual-cognitive abilities, and even for some capacities in the social-emotional domain (contra K. Gray & Wegner, 2012). In fact, in several cases, judgments of a robot's capacities for social-emotional and perceptual-cognitive abilities *exceeded* judgments of the capacities of other "edge cases" (e.g., a beetle; see Figure 1). In the agency–experience framework, this result would have been obscured by the stark discrepancy between these entities' relative capacities for physiological experiences. However, the attribution of even low-level perceptual-cognitive and social-emotional abilities to technological devices could have profound implications for how people reason about artificial intelligences as they become more enmeshed in our everyday lives—particularly if these capacities are conceptually linked to morally relevant abilities in their respective ontological categories.

There is a growing body of evidence that lay people share the ancient philosophical intuition that "the mind" is composed of distinct parts. In particular, the current studies shed light on an intuitive ontological distinction between physiological sensations, social-emotional feelings, and perceptual-cognitive abilities—three varieties of experience that may play different roles in guiding people's sense of who or what "counts" as an object of moral concern.

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