

Normativity and Concepts of Bodily Sensations

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Abstract

This paper challenges the philosophical assumption that bodily sensations are free from normative constraints. It examines the normative status of bodily sensations through two studies: a corpus-linguistic analysis and an experimental investigation. The corpus analysis shows that while emotions are frequently subject to normative judgments concerning their appropriateness, similar attitudes are less evident towards bodily sensations like feelings of pain, hunger and cold. In contrast, however, the experimental study reveals notable differences in conceptions of bodily sensations. It finds that sensations of hunger and cold are occasionally subject to normative assessment, with about half of the participants considering it reasonable to assess these sensations normatively.

1 Introduction

- (1) You forgot to eat breakfast. You feel hungry.
- (2) You moved your hand forcefully into a cactus. You feel pain.
- (3) You are in the snow wearing only a pyjama. You feel cold.

These rather simple cause-effect relations give rise to a plausible story about the role that normative considerations may play when it comes to bodily sensations:

Story 1: Within the domain of bodily sensations—feelings of pain, hunger, and cold—we are confronted with the primacy of the physical sensation itself. These sensations are immediate and primal. When feeling pain, the sensation seizes our attention. Similarly, hunger and cold evoke visceral responses, reminding us of our basic physiological needs. In these moments, we find ourselves at the mercy of these sensations, products of our body’s intricate workings. The question of whether it is reasonable, rational or appropriate to feel hungry, pain, and cold, has no meaning. **These feelings are not open to normative assessment.**

According to Story 1, we would not question the reasonableness or appropriateness of feeling pain, cold or hungry. Perhaps we are too quick though in our

judgments. Is there really no role for normativity in our understanding of bodily sensations? To explore this, consider an analogous case involving an emotion.

(4) You are in your own apartment at night. You feel afraid.

Is such fear reasonable? Our everyday language betrays a tendency to assess emotions normatively, as can be seen by the frequent use of terms like “should” or “shouldn’t” when it comes to emotions. Moreover, contemporary philosophers such as D’Arms & Jacobson (2000), de Sousa (2014), and Deonna & Teroni (2012) have discussed various criteria for evaluating emotions. One key criterion is the appropriateness of the emotion in a given context, like feeling fear in the safety of one’s own apartment at night. Given the many similarities that emotions share with bodily sensations, maybe we should be open to an alternative story:

Story 2: Our concepts of bodily sensations like feelings of pain, hunger, and the sensation of cold—have a normative dimension. While each sensation, whether it’s the persistent pangs of hunger, the sharp jolt of pain, or the frigid embrace of cold, is a unique physical phenomenon, attributions of these sensations are governed by an intricate set of norms and expectations established by the society we live in. Consequently, **these feelings are open to normative assessment.**

While research on the normativity of emotions has been flourishing (D’Arms & Jacobson, 2000, de Sousa, 2014, Deonna & Teroni 2012, Phillips et al. 2017, Díaz & Reuter 2021), very few scholarly articles discuss the idea that bodily sensations might be subject to normative assessment (e.g., Cohen & Fulkerson 2017, Corns 2019). And it’s easy to see why. Emotions are often linked to core-relational themes (Lazarus 1991, Ortony et al. 1988), also known as formal objects. For instance, fear is associated with the theme of danger, anger with insult, and sadness with loss. When an individual experiences fear, the object of that fear is perceived or conceived as dangerous. For example, heights, tigers, or planes are often seen as threatening. This connection between emotions and their thematic underpinnings enables us to evaluate the appropriateness or fittingness of an emotional response. Consider the case of feeling afraid of a clown. Generally, clowns are not dangerous, so fearing one might be deemed unreasonable. It’s understandable, then, when someone argues that “It is unreasonable for Tom to feel afraid of the clown” because the fear doesn’t align with the typical core-relational theme of danger associated with that emotion. This highlights a key difference in how we approach emotions and bodily sensations from a normative perspective.

Unlike emotions, which are often tied to core-relational themes like danger, insult, or loss, feelings such as pain, hunger, and cold do not clearly have such themes. According to representational theories of bodily sensations (Bain 2017, Cutter & Tye 2017), these sensations do have representational objects, similar to how emotions relate to specific entities like extreme heights, tigers, or planes.

In this framework, bodily sensations like hunger, pain, and cold are seen as representing specific bodily states or needs: hunger represents a need for food, pain refers to bodily damage or potential injury, and cold signals a drop in body temperature. While emotions are often associated with evaluative themes (e.g., fear relating to danger), the representational nature of bodily sensations seems more fundamental and not subject to rational assessment. For instance, the sensation of cold is a direct physical response, rather than an evaluative interpretation of a situation. This suggests a more primitive form of representation, one that doesn't readily align with the normative assessments typically applied to emotions. Whether this difference in representational complexity truly exists and how it affects the normative aspects of emotions and bodily sensations is a key issue in understanding these phenomena.

In this article, I will investigate two main questions. **The first question** is about whether bodily sensations are open to normative assessments. In more specific terms, this paper examines the potential normative dimension of our concepts of bodily sensations. My approach to this question will be empirical. Through conducting a corpus study, as well as an experimental study, I aim to investigate whether laypeople tend to align more with *Story 1* or *Story 2* in their perspectives on this matter. **The second question** asks whether there are differences among three types of bodily sensations: feeling pain, feeling hungry, and feeling cold, in regards to being normatively evaluated. Philosophers and psychologists often generalize from the sensation of pain to all bodily sensations. However, different bodily sensations have distinct properties, and these properties might significantly influence our thoughts and evaluations of these sensations.

I will proceed as follows. In Section 2, I begin by exploring recent developments in the field of normative concepts and briefly tackle the crucial difference between normatively assessing emotions / bodily sensations, and the normative assessment of behavior based on those affective states (Section 2.1). This section also includes a concise overview of commonalities and differences between the sensations of pain, hunger, and cold (Section 2.2). Section 3 presents the results of a corpus study that indicate a massive difference in how we normatively address emotions and bodily sensations. Section 4 is dedicated to presenting the results of the experimental study. This presentation is twofold: a quantitative analysis is provided in subsections 4.1 to 4.3, followed by a semi-qualitative examination in subsection 4.4. Finally, in Section 5, I offer potential explanations for the results and engage in a discussion about their broader implications.

2 Theoretical Background

2.1 Normative Concepts and Normative Influences

Some concepts we use to talk about people, behavior and states of affairs are undeniably normative. For example, thin concepts like “bad” are primarily evaluative with minimal or no descriptive content. They express a judgment or

assessment without specifying the details of the behavior or trait being judged. In contrast, thick concepts, such as “rude” and “friendly”, are rich in descriptive and evaluative content (Roberts 2019, Väyrynen 2019, Willemsen & Reuter 2021, Willemsen et al. 2024). They not only describe a set of behaviors but also carry inherent evaluative content. For instance, labeling someone as “rude” conveys both a description of their behavior and a negative evaluation of it, while “friendly” also describes the behavior and approves of it.¹

Recently, it has been discovered that normative considerations play a pivotal role in the application of concepts such as “intentional” (Knobe 2003) and “causation”. The standard view in the philosophy of causation views “causation” as a strictly descriptive concept, and distinct from normative aspects like moral responsibility. Yet, the responsibility account offers a different perspective (Sytsma et al. 2023, Sytsma et al. 2019). The responsibility account argues that in everyday language, claims such as “X caused Y” go beyond describing an event or its contribution to an outcome. They also entail a normative stance on who is accountable for that outcome. Therefore, if we accept that common usage reflects the standard concept of causation, the responsibility account suggests that this concept is not merely descriptive but inherently includes evaluative elements (Sytsma et al. 2023). Normative considerations also influence the way we think about affective states, for example, about happiness, as Philipps et al. have shown (2014). Our beliefs about how happy a person is, seem to be influenced by how happy we think the person should be or whether we think it is morally right to act the way she did. Traditionally, it was believed that we must first identify an emotion before assessing it normatively. However, Díaz & Reuter (2021) claim that normative aspects, especially fittingness, are crucial in recognizing and attributing emotions. Their studies suggest that the attribution of happiness and other emotions depends on their appropriateness to the situation.

In contrast to our perspective on emotions and bodily sensations themselves, there is little doubt that we consider our *personal and social responses* to bodily sensations open to rational assessment. For instance, we may deem someone negligent if they do not seek medical attention despite experiencing pain, as these feelings could be indicative of a serious underlying condition. Likewise, we tell people not to whine so much if they just have a very minor scratch, that they should pull themselves together in the restaurant as their food is surely coming in a few minutes, and that they should get a jumper if they are cold instead of complaining about the cold wind. This rational evaluation of personal and social responses to bodily sensations is clearly normative, rooted in the belief that individuals could have handled or could handle their bodily sensations differently in the past or in the future (see also Cohen & Fulkerson (2017), as well as Brady (2009)).

¹Dual character concepts like “artist” and “colleague” embody both descriptive and independent normative dimensions (Knobe et al. 2013, Del Pinal & Reuter 2017, Reuter 2019). “Artist” describes someone engaged in artistic creation, but also carries connotations about creativity and ideals; “colleague” (Reuter et al. 2021) refers to a co-worker but also implies certain professional relationships and behaviors.

The core of this paper revolves around exploring the question of whether bodily sensations themselves undergo normative evaluations similar to emotions. Prior to doing this, we shall initially examine the similarities and distinctions in how pain, hunger, and cold are processed.

2.2 Commonalities and Differences in the Processing of Pain, Hunger, and Cold

In the subsequent two sections, the empirical studies focus on three specific bodily sensations: pain, hunger, and cold. These sensations were chosen for their prevalence as they represent some of the most frequently experienced and discussed bodily sensations, a point substantiated by evidence presented in the following corpus study. While the sensations of pain, hunger, and cold are distinct in their nature, they exhibit intriguing parallels and unique variances in terms of perception and bodily regulation. Let me briefly highlight some of the commonalities as well as differences of these three bodily sensations before we start with the empirical analysis:

Commonalities: One significant commonality among feelings of pain, cold and hunger is their reliance on specialized receptors and neural pathways to convey information to the brain. In each case, specific receptors are responsible for detecting the initial stimulus: nociceptors for pain (Julius & Basbaum, 2001), ghrelin and leptin receptors for hunger (Schwartz et al., 2000; Friedman & Halaas, 1998), and thermoreceptors for cold (McKemy et al., 2002). These receptors translate physical or chemical stimuli into neural signals, which are then transmitted via peripheral nerves to the central nervous system. In the brain, regions like the thalamus and somatosensory cortex play crucial roles in interpreting these signals for all three sensations (Woolf & Salter 2000, Bautista et al. 2007). Additionally, each sensation triggers both physiological and behavioral responses: pain causes withdrawal and healing behaviors, hunger leads to seeking and eating food behavior, and feeling cold results in actions to seek warmth.

Differences: However, the underlying mechanisms and purposes of these sensations differ significantly. Pain primarily serves as a protective mechanism, alerting the body to potential harm and prompting avoidance or defensive actions (Basbaum et al., 2009). Hunger, in contrast, is a regulatory mechanism that maintains energy homeostasis by signaling the need for nutrient intake (Berthoud, 2002). The sensation of cold is part of the body's thermoregulatory system, ensuring the maintenance of an optimal internal temperature (Davis & Pope, 2002). The emotional and cognitive aspects associated with these sensations also differ: pain is closely linked to distress and suffering, hunger is associated with the drive for sustenance, and cold often triggers discomfort and the need for warmth. Furthermore, the hormonal involvement is more prominent in hunger regulation through substances like ghrelin and leptin, whereas pain and cold sensations are more directly linked to neural responses to physical stimuli.

These differences highlight the body's complex and multifaceted approach

to maintaining homeostasis and responding to environmental challenges. The intricate distinctions in how the body processes pain, hunger, and cold, lead us to consider the broader implications of these findings in philosophical inquiry. We will now examine what corpus data can tell us about the normative aspects of our understanding of bodily sensations.

3 Evidence from Corpora

Philosophers have traditionally employed the method of cases, heavily reliant on intuitions, as a fundamental tool in analyzing and determining the meaning and use of terms, particularly in the realms of ethics, language, and mind (Jackson 1998, Bealer 1998). This method involves considering hypothetical scenarios or ‘cases’ to elicit intuitive judgments about them. For instance, in exploring the concept of conspiracy theory, philosophers might present various scenarios to test intuitions about what counts as a conspiracy theory (Napolitano & Reuter 2023). These intuitions are then used to refine or challenge existing theories. The strength of this approach lies in its simplicity and direct appeal to our intuitive grasp of concepts. However, it has also faced criticism for relying too heavily on intuitions that are subject to biases and confounding factors (Horvath & Wiegmann 2022). This subjectivity raises questions about the generalizability and objectivity of conclusions drawn from such methods.

With the advent of modern corpus linguistic methods, there is a growing interest in using large-scale language data to investigate philosophical questions (Reuter & Baumgartner 2024, Willemsen et al. 2023), including those about the nature and assessment of bodily sensations and emotions (Oster 2010, Reuter 2011). Corpus linguistics allows researchers to analyze vast collections of real-world language use, providing empirical evidence of how terms and concepts are actually used in various contexts. This method can complement, and sometimes even replace, traditional philosophical approaches by providing a more grounded and data-driven way of understanding language. For example, when exploring whether bodily sensations, like pain or hunger, and emotions are open to normative assessment (i.e., judgments about what is appropriate or correct), corpus linguistics can reveal how these terms are used in moral or evaluative discussions across different cultures and contexts.

One of the largest open-access corpora is the NOW corpus (Davies, 2016-).² We can easily enter phrases into the search field on the website and check for the frequency of various terms and phrases. Unfortunately, when we enter “appropriate to feel” (32 hits), “inappropriate to feel” (3 hits), “reasonable to feel” (80 hits), “unreasonable to feel” (37 hits), “rational to feel” (10 hits), “irrational to feel” (7 hits) into the NOW corpus, the amount of hits is too low to paint a representative picture. However, the two phrases “right to feel” and “rightly feel” delivers 4040 hits and 620 hits respectively, allowing us to determine which

²The NOW corpus can be accessed through the following website: <https://www.english-corpora.org/>

aspects of the mind people consider open to normative assessment.³ To get a clearer picture of the data, Table 1 depicts the 17 most frequent hits.

RIGHT TO FEEL ...		RIGHTLY FEEL ...	
Term	Number	Term	Number
SAFE	1025	AGGRIEVED	60
AGGRIEVED	326	PROUD	19
CONFIDENT	74	DISAPPOINTED	7
ANGRY	69	UNEASY	4
CONCERNED	63	CONFIDENT	4
PROUD	46	ANGRY	4
GOOD	38	ASHAMED	4
DISAPPOINTED	36	GOOD	4
COMFORTABLE	32	OUTRAGED	3
SECURE	32	FRUSTRATED	3
SAD	25	CHEATED	2
UPSET	24	BETRAYED	2
FRUSTRATED	20	DELIGHTED	2
BETRAYED	19	DISGUSTED	2
BAD	15	DISTURBED	2
UNCOMFORTABLE	14	DISSATISFIED	2
OPTIMISTIC	11	DISRESPECTED	2
PAIN	5	PAIN	0
COLD	2	COLD	0
HUNGRY	0	HUNGRY	0

Table 1: A list of the 17 most frequent adjectives after the phrases ‘right to feel’, and ‘rightly feel’.

Additionally, the lower section of Table 1 presents the frequency of the phrases “right to feel pain”, “right to feel cold”, “right to feel hungry”, “rightly feel pain”, “rightly feel cold”, and “rightly feel hungry”. It is evident that the expression “right to feel [bodily sensation]” is scarcely used compared to the much more common “right to feel [emotion].” Furthermore, the infrequent occurrences of the term ‘pain’ (totaling 5 hits) are not in reference to the physical sensation but rather to a social or emotional pain. For instance, an example from *The Sun*, dated 22nd September 2013, states: “He had every right to feel pain. But his anger was misdirected.” In terms of ‘cold’, out of two instances, only one pertains to the bodily sensation: “But in winter, she doesn’t try to tell herself she’s got no right to feel cold. It’s natural to feel cold in winter, just as it is to feel sad in grief”, from the *Arkansas Democrat Gazette*, 20th July 2004.

One objection one might raise is that the lower figures for ‘right to feel [Bodily Sensation]’ are due to the disparity in how often discussions about emotions (highly frequent) versus bodily sensations (less frequent) are documented in the NOW corpus. However, this objection is misplaced. The data in Table 2 reveals that although conversations about certain emotions are more common, the frequency for a range of emotions (aggrieved, angry, concerned, disappointed,

³There are even more hits for “should feel” compared to “right to feel”. However, many uses of this phrase do not highlight the appropriateness of feeling a certain way, but rather reflect a prudential use that is not the target of this paper, e.g., “children should feel safe at school”.

secure) is comparable to that of the most typical bodily sensations (pain, tired, hungry, cold).

FEEL ... (TOP 10)		FEEL ... (BOD. SENS.)	
Term	Number	Term	Number
SAFE	69657	PAIN	6007
AGGRIEVED	3214	TIRED	4455
CONFIDENT	32098	HUNGRY	2148
ANGRY	3409	COLD	1345
CONCERNED	1083	DIZZY	1253
PROUD	14129	HOT	893
GOOD	94081	NAUSEOUS	854
DISAPPOINTED	2709	THIRSTY	680
COMFORTABLE	73432	SORE	409
SECURE	7246	ITCHY	272

Table 2: Number of hits for “feel ...” for the most common adjectives in Table 1, as well as for 10 of the most common adjectives referring to a bodily sensation.

In summarizing, an examination of a corpus encompassing over 18.5 billion words reveals scant evidence supporting the normative assessment of bodily sensations within our thought processes. However, it is premature to deduce from this data that normative aspects are irrelevant to bodily sensations. Discussions about the right to experience certain bodily sensations might be less prevalent due to their private nature. The social etiquette surrounding bodily sensations might deem it less appropriate to affirm or critique the legitimacy of these sensations compared to emotions. This potential disparity suggests a distinct meta-normative stance towards bodily sensations and emotions. Nevertheless, the corpus data hints at a significant divergence in how we perceive the normativity of emotions versus bodily sensations. To further understand this, we turn to an experimental study to evaluate whether these findings align with or contradict those of the corpus analysis.

4 Empirical Study

After the corpus analysis yielded no substantial evidence supporting the notion that our perception of bodily sensations carries normative implications, we will now proceed to directly assess people’s intuitions. This involves evaluating the perceived acceptability of questioning the reasonableness of four affective states: feeling afraid, feeling pain, feeling hungry, and feeling cold.

4.1 Methods and Hypotheses

In this study, we recruited a gender-balanced sample of 250 participants ($M_{age} = 43.60$) from the US and from the UK using the Prolific platform. Each participant was presented with one of the following four statements:

1. It is unreasonable for Tom to feel afraid.

2. It is unreasonable for Tom to feel pain.
3. It is unreasonable for Tom to feel hungry.
4. It is unreasonable for Tom to feel cold.

Participants were then asked to rate how natural the statement sounded on a 7-point Likert scale anchored at ‘-3 = sounds weird’ and ‘3 = sounds natural’. To ensure the validity of the responses, participants were required to provide brief explanations for their ratings. The qualitative analysis of participants’ explanations will be presented in Section 4.4. Based on data from a smaller pilot study, the following hypotheses were preregistered at the Open Science Framework: <https://osf.io/a6mjy/>.

Hypotheses:

1. *Perceived Naturalness of Bodily Sensations vs. Emotional State:* Statements questioning the reasonableness of feeling pain, cold, and hunger are perceived as less natural compared to a statement about the reasonableness of an emotional state, like feeling afraid.
2. *Comparison Among Bodily Sensations:* The statement “It is unreasonable for Tom to feel pain” is perceived as less natural than assertions about feeling cold or hungry.
3. *Specific Perception of Pain:* Among the four statements, the study hypothesizes that only the assertion about pain will be rated below the neutral midpoint, indicating a distinct perception of pain as an unreasonable sensation.

4.2 Results

The analysis revealed several significant findings. The mean and standard error for the condition *afraid* were 0.583 and 0.231, respectively. For the *cold* condition, these values were 0.000 and 0.249, while the *hungry* condition had a mean of -0.047 and a standard error of 0.240. The *pain* condition showed a mean of -1.078 and a standard error of 0.229. Figure 1 depicts the mean and distribution of the responses for each condition.

A one-way ANOVA indicated significant differences among the four conditions ($p < 0.001$). Specifically, the *afraid* condition differed significantly from the *pain* condition ($p < 0.001$), but it did not significantly differ from the *cold* ($p = 0.089$) and *hungry* ($p = 0.062$) conditions. Furthermore, the *afraid* condition was significantly higher than the midpoint of 0 ($p = 0.014$).

In contrast, the *pain* condition was significantly lower than the midpoint of 0 ($p < 0.001$). Additionally, it differed significantly from both the *cold* ($p = 0.002$) and *hungry* ($p = 0.002$) conditions. Neither the *cold* nor the *hungry* conditions showed significant differences from the midpoint of 0 ($p = 1.0$ and $p = 0.846$, respectively).

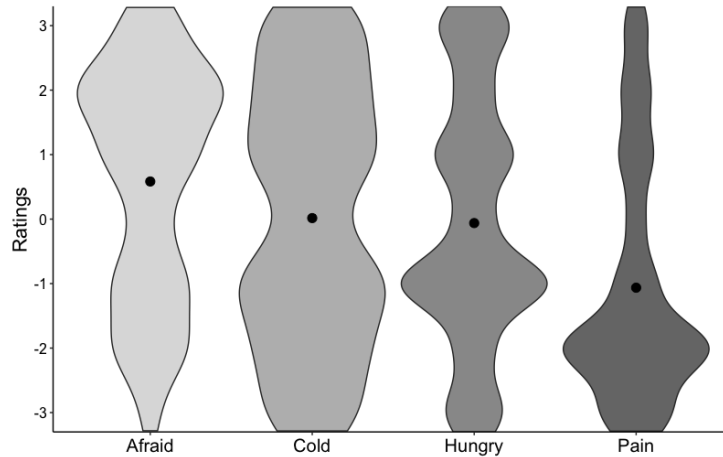


Figure 1: The distribution of the responses for all the four conditions of the experimental study. The black dots represent the average response.

4.3 Discussion of Results

The findings of the experimental study align with certain aspects of the corpus study. Notably, the emotional condition (feeling afraid) received the highest ratings among all four conditions. This condition was also the only one to register significantly above the midpoint, reinforcing the idea that attributions of emotions are subject to normative assessments. In contrast, the pain condition was significantly below the midpoint and received the lowest ratings. This outcome resonates with both the corpus study’s findings and the prevailing philosophical view that attributions of pain lack normative implications.

Nevertheless, the study also unveiled some surprising results. Contrary to the philosophical orthodoxy, the average ratings for the conditions of feeling cold and hungry did not align with those for the pain condition. Instead, they were markedly higher than the pain condition and did not significantly fall below the midpoint. The response distribution further indicates a dichotomy in participant perceptions: approximately half of the participants perceived the statements as unnatural, rating them below the midpoint, while the other half deemed them to be more natural-sounding statements.

4.4 Analysis of Qualitative Data

Analyzing qualitative explanations provided by participants in an experiment, alongside their test answers, offers significant advantages. On the one hand, it provides deeper insights into the reasoning processes behind their responses, revealing the cognitive and conceptual frameworks they employ. On the other hand, qualitative analysis can help identify the diversity of thought and per-

spectives among participants, highlighting variations in understanding or interpretation that are critical for a comprehensive analysis of the subject matter.

In each of the four experimental conditions, I organized the responses by identifying four primary categories: (i) Nature of the Affective State, (ii) Context-related Information, (iii) Focus on the Aspect of “Unreasonableness”, and (iv) Other. I proceeded to manually color-code the responses according to the identified categories for clearer classification. In the subsequent sections, I present only a brief analysis of these categorizations for the conditions FEELING PAIN and FEELING HUNGRY. This includes the average rating for each category, the number of responses it received, and a representative quote from each category. A longer summary of the qualitative responses as well as the complete color-coded dataset is available in this open repository for further reference and analysis.

4.4.1 Explanations for FEELING PAIN

Explanations focusing on the naturalness and inevitability of feeling pain had an average rating of approximately -2.2 (12 responses). This suggests that participants who discussed the nature of pain tended to find the target statement as sounding particularly weird. Illustrating this point, one participant remarked: “It doesn’t make sense to state it is unreasonable for someone to feel pain.”

Explanations that emphasized the lack of context in the statement had an average rating of around -0.5 (10 responses). These participants also leaned towards finding the statement weird but not as much as for the previous category. For instance, a participant noted: “Shouldn’t really be experiencing pain but out of context who knows.”

For those who focused on the concept of unreasonableness in relation to pain, the average rating was -1.86 (7 responses), indicating a similar tendency towards finding the statement very weird. One respondent expressed: “Unreasonable doesn’t feel like the correct word to use in this sentence, reason is subjective to each individual.”

Explanations falling into the “Other” category have an average rating of -0.7 (35 responses). Overall, these results demonstrate that at least some participants are open to contexts in which the statement might not be quite as weird as those who focused more on the nature of pain and how the term “reasonable” can possibly be applied in such a situation.

4.4.2 Explanations for FEELING COLD

Explanations focusing on the nature of feeling cold have an average rating of -1.75 (4 responses), indicating a tendency to view feeling cold as a subjective and natural experience. One illustrative comment included: “Feeling cold is not something you choose to do.”

Participants considering the context of the statement provided explanations with an average rating of 0.79 (14 responses). Context played a significant role in

their assessments. To illustrate, consider the comment: “If taken in the context in which we were told Tom was in a hot place, that would sound natural.”

Explanations addressing the term ‘unreasonable’ received an average rating of -0.5 (12 responses), with participants finding the word ‘unreasonable’ too extreme in this context. A representative comment was: “Unreasonable sounds like an extreme word.”

The “Other” category includes explanations that did not fit into the previous three categories, with an average rating of 0.7 (27 responses).

5 General Discussion

In the General Discussion section, I first offer a brief overview of the collected data. Subsequently, I will explore three plausible explanations for the outcomes observed in the study. Finally, the discussion will culminate in an examination of the philosophical implications derived from these findings.

5.1 Summary of the Empirical Data

In this paper, I conducted two distinct studies—a corpus-linguistic study and an experimental study—to investigate the normative status of attributions of bodily sensations. The findings both corroborate certain theoretical perspectives and challenge a key assumption prevalent in the ongoing debate.

The **corpus analysis** demonstrated that people frequently affirm or critique the appropriateness, reasonableness, and rationality of experiencing certain emotions. However, it revealed no parallel evidence that similar attitudes extend to our perceptions of bodily sensations. The experimental study reinforced this dichotomy, affirming a normative approach to attributions of emotion, while indicating a lack thereof in the context of pain attributions.

Contrary to the corpus study, which found no clear distinction between the bodily sensations of pain, hunger, and cold, the **experimental study** illuminated notable differences. The sensations of feeling hungry and cold were not perceived as exempt from normative assessment. In fact, about half of the participants viewed questioning the reasonableness of these sensations as a natural response. This result challenges the implicit assumption in philosophy that no difference needs to be made between bodily sensations.

A **semi-qualitative analysis** of participant responses yielded additional insights. Those who focused on the nature of the affective state or the term ‘unreasonable’ generally found statements like “It is unreasonable to feel cold” or “It is unreasonable to feel hungry” to be somewhat inappropriate. However, significantly, a substantial number of participants contextualized these statements in a manner that rendered them sensible, thereby providing evidence that some bodily sensations—specifically hunger and cold—may indeed be subject to normative evaluation.

5.2 Possible Explanations of the Findings

Considering the outcomes of both studies, I will proceed to explore three potential explanations to elucidate the findings from these investigations, focusing particularly on the differences between feelings of pain on the one hand, and feelings of hunger and cold on the other.

The Controllability View

According to the Controllability View, the differences in ratings can be attributed to how controllable participants perceive each sensation to be. Feelings of pain, often seen as an involuntary and immediate response to physical harm, are likely considered the least controllable sensation. This lack of control could lead to a lower rating, as it is seen as unreasonable to expect someone to suppress their experience of pain. Feeling hungry and cold, on the other hand, might be perceived as more controllable. Hunger, for example, can sometimes be ignored or temporarily alleviated through distraction. Similarly, the sensation of feeling cold can often be mitigated through physical actions, such as moving around or adding layers of clothing.

While the controllability view provides a plausible explanation, it also has several limitations. First, the idea that emotions are fully controllable is a simplification. Emotional responses, including fear, can be deeply ingrained and automatic. Similarly, the sensation of cold can be affected by physiological factors such as circulation, which are not under voluntary control. Second, the controllability view does not account for situational factors that can influence these sensations. For example, feelings of pain due to a chronic condition may be perceived as less controllable than feelings of pain from a minor injury. Similarly, fear in response to a significant threat may be seen as more reasonable and less controllable than fear in a less threatening situation. Obviously, further studies are necessary that investigate the controllability view further, especially in more specific contexts.

Frequency of Shared Experiences

The *Frequency of Shared Experiences* explanation posits that the differences in how participants rated the statements about Tom's feelings of pain, cold, hunger, and fear are influenced by the frequency with which these experiences are typically shared and understood collectively.

Fear is an emotion that people frequently observe in others and subject to implicit and explicit communication. In many situations, like encountering a dangerous dog or hearing a strange noise, expressing fear is common and relatable. The shared experience of fear provides a common ground, making it easier for people to empathize and relate to it. Hunger and cold are sensations that are sometimes shared and sometimes not. For instance, after having a meal together, if one person feels hungry sooner than others, there might be a disconnect in relating to that sensation. The variability in these experiences could lead to intermediate ratings, as these sensations are only occasionally

shared and understood collectively. The feeling of pain is often a very personal and individual experience. The specific nature and intensity of a feeling of pain can vary greatly from person to person, and it is rare for individuals to experience the same kind of pain simultaneously. Thus, participants might find it unreasonable to apply normative judgments to feelings of pain, leading to its lower rating.

While the shared experience perspective offers an intriguing angle, it also has several limitations. While it is true that a pain feeling is a highly subjective experience, this does not necessarily mean that it is always incomprehensible to others. Humans have a capacity for empathy, which allows them to understand and share the feelings of others, even if they have not experienced the exact same situation. This empathy extends to feelings of pain, where people often can imagine or relate to the pain of others, even if they haven't experienced it themselves. A more comprehensive approach that considers these factors might provide a deeper understanding of the varying perceptions of these states as reflected in the experiment's results.

Criteria of Visibility

The perhaps most plausible view suggests that the differences in ratings for the statements about Tom's feelings of pain, cold, hunger, and fear are influenced by the social visibility of criteria that explain these sensations.

Fear often has a visible or understandable external trigger, such as a dangerous situation or a frightening object. This visibility allows others to evaluate the reasonableness of the fear. Hunger and cold can sometimes be visibly linked to external factors, like the absence of food or low temperatures. However, these links are not always apparent or universally perceived in the same way. For instance, one person might feel cold at a temperature that another finds comfortable. This variability leads to an intermediate rating in terms of the reasonableness of these sensations. A pain feeling is invisible to others and can occur without an apparent external cause. Even when the cause of the feeling of pain is known, the subjective experience of its intensity varies greatly among individuals. This lack of a clear, socially visible criterion for evaluating the reasonableness of a pain feeling might lead participants to view it as less open to judgments of reasonableness, resulting in lower ratings.

While this explanation is quite plausible, it also has limitations. This view may underestimate the subjective nature of all these experiences. Even with an apparent external trigger, individual reactions to feelings of fear, hunger, cold, and pain can vary widely. Feeling of fear, like feelings of pain, can also be triggered by internal or less visible factors, such as psychological stress or past trauma, which are not immediately visible to others. This similarity challenges the notion that fear is always more socially visible or understandable than pain. It might, of course, be that in these situations people indeed do not consider a certain fear to be reasonable or unreasonable. And feelings of pain, while often internal and subjective, can also have visible causes, such as injuries or illnesses. Thus, while the social visibility of criteria account provides an interesting angle

to understand the experimental results, it may not fully capture the complexities of how people perceive and evaluate the reasonableness of sensations like pain, cold, hunger, and fear.

5.3 Philosophical Implications

Philosophical discourse often posits that emotions are amenable to normative assessments, contrasting sharply with the prevailing view on bodily sensations, which are typically seen as free from normative constraints. This distinction is particularly highlighted in discussions about feelings of pain. When an individual experiences pain, raising questions about its rationality or reasonableness is generally deemed inappropriate. Indeed, while we might exert some control over feelings of pain, such as through medication, we don't typically hold individuals accountable for the pains they feel. The empirical findings of this study, encompassing both corpus analyses and an experimental study, lend robust support to the delineation between the normativity associated with emotions and the non-normativity characteristic of pain sensations. Cohen and Fulkerson (2017) observe that "there is suggestive evidence of the rational evaluability of pains, but that the evidence to date is so far not completely decisive by itself." (p.9) It seems to me that the two studies I conducted provide rather strong evidence in favour of the view that pains are not rationally evaluable.

However, it would be an oversimplification to extend this paradigm universally to all bodily sensations. This research indicates that considerations of rationality and reasonableness are indeed relevant when it comes to feelings like hunger and cold. These sensations received average reasonableness ratings lower than those for emotions, yet significantly higher than those for pain sensations.

Participants' explanations suggest a nuanced understanding of context in these sensations. For example, many find it unreasonable to feel hunger after consuming a substantial meal. This insight reveals potential areas for further research, as my study did not explore scenarios with such specific contexts. Future research could productively investigate these contextual influences, enhancing our understanding of the normative dimensions of various bodily sensations.

In attempting to explain the differences in reasonableness ratings, we considered three potential factors: frequency, visibility, and controllability of these affective states. The data, including both quantitative ratings and qualitative responses, do not conclusively favor any one explanation. It seems plausible that our perceptions and judgments about the reasonableness of bodily sensations are influenced by how often they occur, how visible they are to others, and how much they are perceived to be under an individual's control. Further empirical investigation into these factors could yield valuable insights, potentially revealing more about the complex interplay between bodily sensations and normative judgments.

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