

# JUSTIFICATION AS A DIMENSION OF RATIONALITY

## ABSTRACT

How are justified belief and rational belief related? Some philosophers think that justified belief and rational belief come to the same thing. Others take it that justification is a matter of how well a particular belief is supported by the evidence, while rational belief is a matter of how well a belief coheres with a person's other beliefs. In this paper, I defend the view that justification is a dimension of rationality, a view that can make sense of both of these conflicting accounts. When it modifies belief, 'rational' is a multidimensional adjective, as there are multiple dimensions along which a belief can be rational. I will argue that one of these dimensions is justification, an account that can not only explain why philosophers give diverging theories of the relationship between justified belief and rational belief, but can also reveal why rational belief and justified belief are closely related despite being distinct.

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## INTRODUCTION

1 A number of epistemologists have thought that ‘rational belief’ and ‘justified  
2 belief’ are synonymous. Ralph Wedgwood says that, at least in the way epis-  
3 temologists use the terms, “phrases like ‘rational belief’ mean exactly the same  
4 thing as ‘justified belief’,”<sup>1</sup> while Declan Smithies thinks that “to say that a  
5 belief is justified is to say that it is rational or reasonable.”<sup>2</sup> Sinan Dogramaci  
6 simply notes, as an aside, that the terms can be used interchangeably – “Ra-  
7 tionality, justification, reasonableness: same thing. Use whichever word you  
8 like.”<sup>3</sup> ‘Rational’ and ‘justified’ are now so commonly regarded as synonymous  
9 that many authors do not even bother to note that they use the terms inter-  
10 changeably. Maria Lasonen-Aarnio captures this prevailing practice, pointing  
11 out that “as is rather standard amongst epistemologists, I have spoken about  
12 epistemic justification and epistemic rationality in one breath.”<sup>4</sup> Thus, not only  
13 do a number of philosophers say outright that the rationality and justification of  
14 belief come to the same thing, many more simply treat it as the default position.

15

16 Despite the number of epistemologists who adopt this position, rational belief  
17 and justified belief do not come to the same thing, as their behavior diverges at  
18 the top of their scales. Consider, for example, the following case:<sup>5</sup>

19 **Small Town Election**

20 Warren and Greg live in a small, rural town with just over one thousand  
21 residents. Warren is counting the ballots from the recent mayoral election  
22 and finds that Naomi won the election 467-212. The next day, Greg also  
23 learns that Naomi won when he reads it in the town newspaper.

24 In this scenario, both Warren and Greg are justified in believing that Naomi  
25 has been elected mayor. They both have good evidence to think that she won,  
26 Warren through counting the ballots and Greg through reading the newspaper,  
27 such that the truth values for (1) and (2) coincide:

- 28 (1) Warren and Greg are both justified in believing that Naomi won  
29 (2) Warren and Greg are both rational in believing that Naomi won

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<sup>1</sup>See Wedgwood (2017), p. 26.

<sup>2</sup>See Smithies (2019), p. 24.

<sup>3</sup>See Dogramaci (2015), p. 277. The list could go on. Michael Huemer (2001) contends that the words can be used interchangeably saying, “Another word for what is justified, or should be done or believed, from the first-person perspective, is ‘rational’ (p. 22). Stewart Cohen (1984) says that “[R]easonable’ and ‘rational’ are virtual synonyms for ‘justified’” (p. 283). Cohen (2016), argues that it does not make any sense to distinguish between rational belief and justified belief, ultimately proposing that we simply replace talk of justified belief with talk of rational belief. Smithies (2012) also puts forward the view that they can be used interchangeably – “To say that one has justification to believe a proposition is to say that it is rational or reasonable for one to believe it” (p. 274).

<sup>4</sup>See Lasonen-Aarnio (2020), p. 604.

<sup>5</sup>For a similar case that distinguishes between rational belief and justified belief, see Siscoe (2021), pp. 3-4.

30 Even though it seems possible that ‘rational’ and ‘justified’ are synonymous in  
31 (1) and (2), this cannot be the case, as the truth values of (3) and (4) come  
32 apart:

- 33 (3) Warren is more justified than Greg in believing that Naomi won  
34 (4) Warren is more rational than Greg in believing that Naomi won

35 While it is plausible that Warren is more justified than Greg in believing that  
36 Naomi won – after all, he was the one who counted the ballots – it seems obvi-  
37 ously wrong to say that Warren’s belief is more rational than Greg’s. Rather,  
38 because they both adopted the belief that was justified for them, it seems like  
39 they are equally rational.

40  
41 Even though **Small Town Election** makes a strong case that ‘rational belief’  
42 and ‘justified belief’ are not synonymous, it also leaves a number of unanswered  
43 questions. It is not a fringe view to think that rational belief and justified belief  
44 come to the same thing – it might even be the dominant account. If ‘rational’  
45 and ‘justified’ are not synonymous, though, then we need an answer to the  
46 **Synonymy Question:**

47 **Synonymy Question** – Why have so many philosophers taken ‘rational  
48 belief’ and ‘justified belief’ to be synonymous?

49 If it is not true that being rational and being justified are the same property,  
50 then the fact that a considerable number of philosophers think that ‘rational  
51 belief’ and ‘justified belief’ are synonymous could use some explaining. Philoso-  
52 phers are far more likely to posit multiple senses of a term than they are to  
53 declare distinct terms as synonymous. To see this, we need look no further than  
54 justification itself. Even if we limit ourselves to just epistemic justification, the  
55 types of justification that have been posited include propositional and doxastic  
56 justification, immediate and mediate justification, prima and ultima facie justifi-  
57 cation, and personal and objective justification, amongst others. This makes  
58 it particularly striking that a number of philosophers have thought that we do  
59 not need to distinguish between rational belief and justified belief. Why think  
60 that they are synonyms to begin with?

61  
62 One reason, perhaps, that philosophers have regarded ‘rational belief’ and ‘jus-  
63 tified belief’ as synonymous is that they seem closely related. Robert Audi has  
64 argued that rationality and justification are intertwined, saying that “a natural  
65 and promising way to begin to understand rationality is to view it in relation  
66 to its sources. The very same sources yield justification, which is closely related  
67 to rationality.”<sup>6</sup> One theory, of course, for how the two are related is that they  
68 come to the same thing. Where does that leave us, though, if ‘rational belief’  
69 and ‘justified belief’ are not synonymous? Thus, another unresolved issue is  
70 how exactly rationality and justification are connected:

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<sup>6</sup>See Audi (2004), p. 18.

71     **Linking Question** – Are rational belief and justified belief actually  
72     closely related? And if so, how?

73     The simple answer, of course, is that a belief’s being rational and being justi-  
74     fied are the same property, but that account is undermined by cases like **Small**  
75     **Town Election**. If rational belief and justified belief are not equivalent, then  
76     how else might they be closely related?

77  
78     Against the thought that rational belief and justified belief are somehow in-  
79     tertwined, another view has developed that keeps rationality and justification  
80     strictly distinct. On this way of thinking, rationality and justification are ac-  
81     tually quite different, with rationality picking out the coherence of a particular  
82     set of beliefs and justification referring to those beliefs which are supported  
83     by one’s evidence/epistemic reasons. Alex Worsnip exemplifies this alternate  
84     account, saying that “In my view, the term ‘justified belief,’ in contrast to ‘ra-  
85     tional belief’, is best used simply to refer to a belief’s being supported by the  
86     evidence,” whereas “rationality is a matter of the right kind of coherence be-  
87     tween one’s mental attitudes.”<sup>7</sup> James Pryor gives a similar account, arguing  
88     that what beliefs are rational and what beliefs are justified can come into conflict  
89     – “I will count a belief as rational when it’s a belief that none of your other be-  
90     liefs or doubts rationally oppose or rationally obstruct you from believing. This  
91     makes “being rational” a different quality than having justification. A subject  
92     can have some justification to believe  $p$ , but be unable to rationally believe  $p$  on  
93     the basis of that justification, because of some (unjustified) beliefs and doubts  
94     he also has.”<sup>8</sup> Both Worsnip and Pryor treat rationality as merely a matter of  
95     how beliefs fit together, whereas justification concerns the evidence/epistemic  
96     reasons that a person has for their beliefs. This view would answer the linking  
97     question by saying that, though ‘rational’ and ‘justified’ can both be used to  
98     evaluate beliefs, they pick out distinct properties.

99  
100     There is, thus, another way of characterizing ‘rational belief’ and ‘justified belief’  
101     other than the synonymy account, a view which takes them to be quite distinct.  
102     But this is rather surprising. How could it be that, while a large number of  
103     philosophers thought that ‘rational belief’ and ‘justified belief’ were synony-  
104     mous, another tradition sprang up that treated rationality and justification as  
105     strictly distinct, taking rationality to be merely a matter of coherence?

106     **Coherence Question** – Why have a number of philosophers taken ra-

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<sup>7</sup>See Worsnip (2018), p. 12 and p. 3. It should be noted that Worsnip (Forthcoming) and (2021) has now dropped this distinction, preferring to characterize both evidence and coherence as constraints on rationality, a point which might be more terminological than substantive, see Worsnip (Forthcoming), p. 81, fn. 9.

<sup>8</sup>See Pryor (2004), pp. 364-365. Similar accounts of rationality can be found in Broome (2005) and (2013); Jackson (2011); Kolodny (2005), (2007), and (2008); and Scanlon (1998) and (2007). Lasonen-Aarnio (2020) describes this strain of thought as follows: “Rationality concerns, roughly, a kind of internal coherence amongst a subject’s attitudes [...] By contrast, what is permitted (and perhaps required) given one’s epistemic reasons is proportioning one’s doxastic states to the evidence” (p. 617).

107        tionality to just be a matter of coherence?

108        We, thus, have three outstanding questions about the relationship between jus-  
109        tified belief and rational belief – why so many philosophers took them to be  
110        the same thing, why a separate tradition arose on which rationality refers only  
111        to the coherence of a set of beliefs, and how justification and rationality are  
112        actually related.

113  
114        In this paper, I plan to defend answers to all three of these questions. I will  
115        argue that justification is a dimension of rationality, a position that can explain  
116        not only why some philosophers thought that ‘rational’ and ‘justified’ are inter-  
117        changeable while others held that rationality is purely a matter of coherence,  
118        but can also show how rationality and justification are related. In Section 1, I  
119        will distinguish between unidimensional and multidimensional adjectives, argu-  
120        ing in Section 2 that ‘rational’ is a multidimensional adjective. Just as there  
121        are multiple dimensions on which a person can be healthy, there are multiple  
122        dimensions on which a belief can be rational.<sup>9</sup> I will then argue in Section  
123        3 that justification is one dimension of rationality, an account that opens up  
124        a strategy for providing answers to the **Synonymy Question**, the **Linking**  
125        **Question**, and the **Coherence Question**. After introducing this account of  
126        rational belief, I will consider two potential objections in Sections 4 and 5 –  
127        Scanlon’s argument that only coherence considerations contribute to irrational  
128        belief and the externalist view that it is possible to describe someone as rational  
129        but not justified. Whether a belief is justified is a dimension of whether a belief  
130        is rational, an insight that offers a definitive link between the justification and  
131        rationality of belief.

132  
133        A brief note before we begin. Some epistemologists may treat terms like ‘rational’  
134        and ‘justified’, not as picking out the properties of rationality and jus-  
135        tification, but simply as tools for referring to some general positive epistemic  
136        status. Take, for instance, Pryor’s claim that his “main interest when doing  
137        epistemology is in the conditions, nature, and ‘logic’ of a status or quality that  
138        folk language may have no unambiguous direct expression for. I can direct the  
139        attention of theorists to this status by calling it ‘prospective justification or war-  
140        rant to be more confident’ that something is the case.”<sup>10</sup> For the purposes of  
141        this paper, I will consider how we should understand the relationship between  
142        rationality and justification if we treat ‘rational’ and ‘justified’ as actually pick-  
143        ing out these properties rather than being a rough way of referring to some  
144        other, distinct epistemic status.

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<sup>9</sup>Along with belief, we can also evaluate a number of other things as being rational or irrational, including persons, fears, credences, regrets, and actions. Due to limitations of space, I will only be considering the behavior of ‘rational’ as it applies to belief, as rational belief has often occupied center stage in the literature on justification and rationality. A promising direction for future research would be to see whether rationality is multidimensional in these other cases as well. Thank you to a reviewer for suggesting the data available from investigating other varieties of rationality.

<sup>10</sup>See Pryor (2018), p. 112.

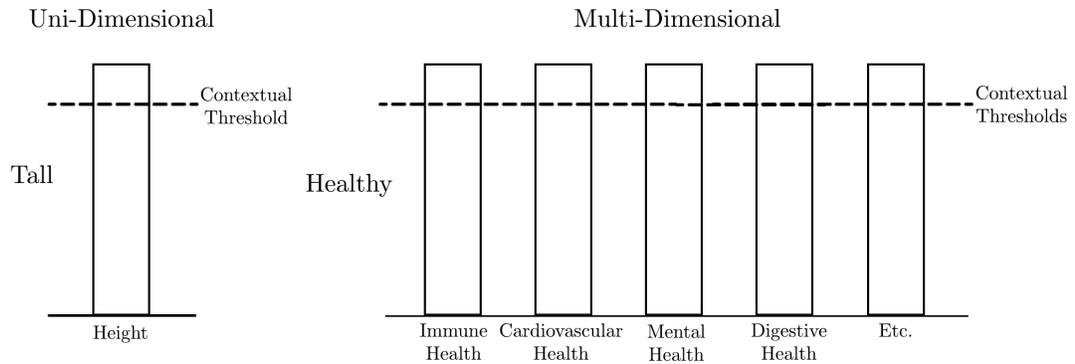
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146 1 MULTIDIMENSIONAL ADJECTIVES

147 1.1 UNIDIMENSIONAL AND MULTIDIMENSIONAL ADJECTIVES

148 A number of adjectives are multidimensional in that there are multiple underlying  
 149 ing dimensions that affect whether or not they apply.<sup>11</sup> Compare the adjectives  
 150 ‘tall’ and ‘healthy.’ Whether someone is tall is a function of a single dimension,  
 151 height, whereas whether someone is healthy is a function of multiple dimensions.  
 152 A person can be made unhealthy by having high blood pressure, broken bones,  
 153 a contagious virus, or a weakened immune system. This, of course, is not to say  
 154 that there is no contextual variation in who counts as tall. The height required  
 155 to count as tall amongst basketball players is greater than the height that is  
 156 required amongst elementary school students, but what makes ‘tall’ unidimensional  
 157 is that this contextual variation occurs only along the dimension of height.  
 158 ‘Healthy,’ on the other hand, is multidimensional, as it involves more than just  
 159 one underlying component. As we can see in Figure 1, the primary character-  
 160 istic that distinguishes multidimensional from unidimensional adjectives is that  
 161 they have multiple underlying dimensions that are used to determine when they  
 162 apply.

163  
164



165

Figure 1: Uni- vs. Multi-dimensional Adjectives

166 A number of linguistic tests can be used to reveal whether an adjective is uni- or  
 167 multidimensional. Multidimensional adjectives, for example, permit sentences  
 168 that quantify over all of their dimensions:

- 169 (5) Joe is healthy in every respect
- 170 (6) The boxes are identical in every respect
- 171 (7) Susan is honest in every respect

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<sup>11</sup>For the development of linguistic views regarding multidimensional gradable adjectives, including the various tests used in this section, see Kamp (1975), Klein (1980), Sassoon (2012) and (2013), and Solt (2018).

172 Due to their multiple underlying dimensions, ‘healthy,’ ‘honest,’ and ‘identical,’  
173 all easily accept the “every respect” construction. Just as it is possible to be  
174 healthy in a number of respects, it is also possible to be identical in a number of  
175 respects. Two boxes can be identical with respect to their color, weight, height,  
176 length, width, etc. The same is true of honesty. In his recent work on the virtue  
177 of honesty, Christian Miller has pointed out that honesty involves more than  
178 just avoiding telling lies. In particular, it can count against someone’s honesty  
179 if they act deceitfully, break their promises, or cheat their employer.<sup>12</sup> The  
180 dimensional aspect of these adjectives is also on display with interrogatives:

- 181 (8) In what ways is Joe healthy?  
182 (9) In what ways are the boxes identical?  
183 (10) In what ways is Susan honest?

184 Just like we can say that someone is healthy or honest in every respect, we  
185 can also inquire as to what ways they are healthy or honest. It may be that  
186 a person is healthy or honest in every way, or it could be that they are only  
187 healthy or honest in a few ways. Regardless of how healthy or honest someone  
188 is, though, multiple dimensions are required to assess whether they  
189 possess these characteristics.

190  
191 Unlike multidimensional adjectives, unidimensional adjectives sound much less  
192 natural in “every respect” constructions:

- 193 (11) ?Dan is tall in every respect  
194 (12) ?The cup is empty in every respect  
195 (13) ?The rope is long in every respect

196 The issue with (11)-(13) is that ‘tall,’ ‘long,’ and ‘empty,’ pick out just one  
197 dimension. ‘Tall’ picks out where someone falls on a scale of height, ‘empty’  
198 picks out how much substance there is in a container, and ‘long’ picks out  
199 where an object falls on a scale of length. This is not to say that these terms  
200 can never be used in any other sense. ‘Long,’ for instance, has both a temporal  
201 and a spatial sense – just as a rope can be (spatially) long, a shift at work can be  
202 (temporally) long. What differentiates multidimensional adjectives, however, is  
203 that they encode a number of characteristics within just one sense of the term.  
204 I need to consider multiple dimensions before I can dub a person healthy, but  
205 I only need to consult one dimension in order to call a rope long. Because  
206 unidimensional adjectives only encode one dimension, we also encounter issues  
207 with interrogatives:

- 208 (14) ?In what ways is Dan tall?  
209 (15) ?In what ways is the cup empty?  
210 (16) ?In what ways is the rope long?

211 All of (14)-(16) sound amiss. If we know that Dan is tall, there is no further  
212 information to be gained about the ways in which this is so. There is only one

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<sup>12</sup>See Miller (2017) and (2020).

213 way which this could be true – whether he meets the contextual standard for  
214 height in a given scenario. Likewise, there are not multiple ways in which the  
215 cup can be empty. The only dimension that ‘empty’ picks out is how much of  
216 a particular substance there is in the cup. And even though ‘long’ has different  
217 senses, only the spatial sense is under consideration when we are talking about  
218 a rope. Thus, unidimensional adjectives do not allow discussing various under-  
219 lying dimensions in the same way that multidimensional adjectives do.

220

221 Even though multidimensional adjectives involve multiple dimensions simulta-  
222 neously, it is possible to specify which dimensions we care about in a particular  
223 situation. Consider the following:

- 224 (17) With respect to his cardiovascular health, Joe is healthy  
225 (18) In terms of their height and weight, the boxes are identical  
226 (19) When it comes to keeping her promises, Susan is honest

227 All of (17)-(19) allow for dimensional specification. Not only can we speak of  
228 being healthy or identical in general, but we can single out certain respects in  
229 which someone can be healthy or honest. Instead of just talking about whether  
230 two objects are identical in general, we can specify the ways in which they are  
231 identical, in this case their height and their weight.

232

233 Dimensional specification need not always be explicit. Oftentimes, context limits  
234 the dimensions under consideration. Take, for instance, a nurse who, removing  
235 a cast from a patient’s arm declares, “It looks like you’re healthy!” If the doctor  
236 disputes the nurse’s claim, saying that the patient still has high blood pressure,  
237 the nurse can maintain that they were only talking about the patient’s fractured  
238 arm. Or suppose that an interior decorator is asked about the color of the two  
239 bedrooms in a newly renovated home. If, in response, they say, “The bedrooms  
240 are identical,” it would be strange indeed to disagree by remarking that the  
241 rooms have different widths and lengths. Context can, thus, help specify which  
242 dimensions are under consideration with particular uses of multidimensional ad-  
243 jectives.

244

245 Whereas multidimensional adjectives allow for dimensional specification, unidi-  
246 mensional adjectives, once again, behave somewhat differently:

- 247 (20) ?With respect to his \_\_\_\_\_, Dan is tall?  
248 (21) ?In terms of its \_\_\_\_\_, the rope is long?  
249 (22) ?When it comes to \_\_\_\_\_, the cup is empty?

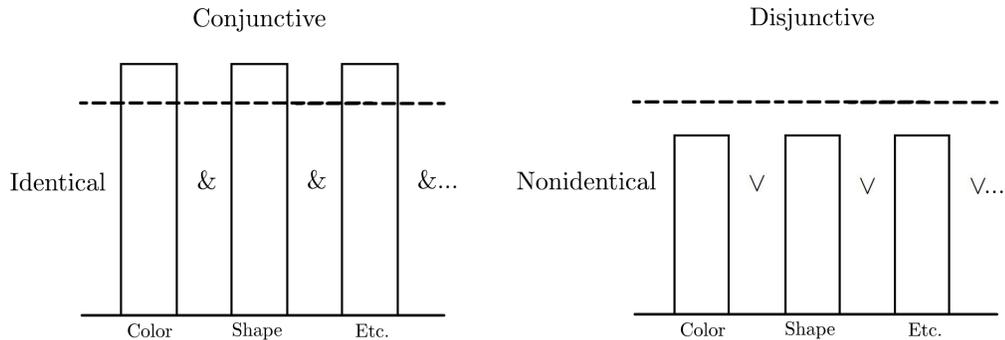
250 With all of (20)-(22), it is unclear how we would sensibly complete them. For  
251 instance, suppose that we completed (21) by saying that, in terms of its length,  
252 the rope is long. Even though this would not be ungrammatical, it does not  
253 further specify the dimension of longness to which we are referring, as only  
254 multidimensional adjectives allow for dimensional specification.

255 1.2 MULTIDIMENSIONAL ADJECTIVES: CONJUNCTIVE, DISJUNCTIVE, AND  
 256 ADDITIVE

257 We can also distinguish between conjunctive and disjunctive forms of multidimensional adjectives. Conjunctive adjectives quantify over all of their contextually relevant underlying dimensions. If two boxes have the same dimensions but differ in color, it is acceptable to say that they are not identical, revealing that 'identical' is a conjunctive, multidimensional adjective. In order to be identical, two boxes must be identical with respect to all of the relevant underlying dimensions. This is not to say that we must always consider every dimension. As we have already seen, context can specify the particular dimensions that are at issue. In the case of the interior decorator, only color is relevant for whether the rooms can be described as identical. However, when they are not used in a way that specifies a particular dimension for consideration, conjunctive adjectives require that all of their dimensions fall in the appropriate range.

269 Disjunctive adjectives, on the other hand, only require that one of their underlying dimensions falls in the appropriate range. Consider, for example, the multidimensional adjective 'nonidentical'. There are a number of dimensions along which two boxes can be nonidentical, but it only requires one of these to judge that the two boxes are nonidentical. Two boxes can fail to be identical because they are different colors, different lengths, or different heights. As seen in Figure 2, conjunctive multidimensional adjectives must rise above the necessary contextual threshold in all of their relevant dimensions, while disjunctive multidimensional adjectives only need to fall below the threshold in at least one of their relevant dimensions.

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 281



282

Figure 2: Conjunctive vs. Disjunctive Multidimensional Adjectives

283 If we were to represent this a bit more formally, where DIM is a function from  
 284 contexts  $c$  and predicates  $P$  to predicates  $p$ ,  $DIM(P, c)$  picks out all the relevant  
 285 dimensions of  $P$  at context  $c$ , e.g.  $DIM(\textit{identical}, c)$  picks out all the contributing  
 286 features of similitude that are relevant in context  $c$ . Thus, a multidimensional  
 287 adjective is conjunctive if and only if it satisfies the universal quantifier such

288 that  $\lambda x.\forall Q\in\text{DIM}(P,c):Q(x)$ . On the other hand, a multidimensional adjective  
289 is disjunctive if and only if it satisfies the existential quantifier such that  
290  $\lambda x.\exists Q\in\text{DIM}(P,c):Q(x)$ .

291  
292 It is also important to acknowledge a third variety of multidimensional adjective,  
293 lying between the conjunctive and the disjunctive. Additive multidimensional  
294 adjectives are like the conjunctive in that they require more than one dimension  
295 to fall in the appropriate range. At the same time, though, it is not necessary  
296 that all dimensions must do so. Take, for example, our earlier example ‘healthy’.  
297 If I am slightly unhealthy along one dimension, say by having high blood pressure,  
298 it seems too strong to conclude that I am altogether unhealthy. In order to  
299 count as unhealthy, I would need to be very unhealthy along a single dimension  
300 or somewhat unhealthy along several. Thus, it is possible to be healthy overall  
301 even though I am not healthy in every respect, making ‘healthy’ an additive  
302 multidimensional adjective.

## 303 2 ‘RATIONAL’ AS A MULTIDIMENSIONAL ADJECTIVE

304 Now that we have laid out the characteristics of multidimensional adjectives,  
305 I will argue that ‘rational’ is a multidimensional adjective, making the case  
306 that it is either additive or conjunctive. From recent work in epistemology, it  
307 should already be familiar that a number of authors have proposed that there  
308 are multiple respects in which a belief can be rational, *structural* and *substantive*  
309 *rationality*. The distinction goes roughly as follows. Structural rationality  
310 is what gives rise to coherence requirements, norms that govern the way that  
311 beliefs should hang together. Popular norms of structural rationality include  
312 that beliefs should be logically consistent or that lower and higher-order beliefs  
313 should be enkratic. Whereas structural rationality might require that particular  
314 sets of beliefs be logically consistent, substantive rationality requires that you  
315 respond correctly to your reasons or evidence. If your beliefs are due to bias or  
316 wishful thinking instead of strong evidence, you are violating the requirements  
317 of substantive rationality. When applied to individual beliefs, a belief is sub-  
318 stantively rational if it is supported by someone’s evidence and it is structurally  
319 rational if it coheres with their other beliefs.<sup>13</sup> In the remainder of this section,  
320 I will argue that, for a belief to be fully rational, it must be both structurally  
321 and substantively rational, making ‘rational’ a multidimensional adjective.

322  
323 A number of recent authors make use of the distinction between structural  
324 and substantive rationality. Daniel Fogal says that he “take(s) there to be two  
325 threads in our thought and talk about rationality” both “responding correctly  
326 to the reasons one has” and “having the right structural relations hold between

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<sup>13</sup>Following Worsnip (2023), p. 4, structural rationality and irrationality are ultimately properties of sets of beliefs. Thus, when referring to individual beliefs, such beliefs are structurally rational or irrational depending on how they cohere with the rest of a person’s beliefs. S’s belief *b* is structurally rationally if and only if, for all the subsets of S’s beliefs, *b* can be combined with those subsets without creating a structurally irrational set.

one's attitudinal mental states."<sup>14</sup> Pryor notes that, when it comes to discussions of the normativity of coherence and the normativity of reasons, there is a trend for epistemologists to "use 'rationality' to refer to the whole genus."<sup>15</sup> Worsnip has also moved from equating rationality with structural considerations to recognizing that both "structural and substantive rationality are two distinct but equally genuine kinds of rationality."<sup>16</sup> And even though the language of structural and substantive rationality may be fairly recent, the distinction itself has historical precedent. In their book *Evidentialism*, Earl Conee and Richard Feldman speak of both types of rationality, saying on the one hand that "it is quite credible to suppose that rational belief formation at least partly consists in adopting beliefs because they fit well with other things that the person thinks" while also maintaining that "the epistemically rational thing to do at any moment is to follow the evidence."<sup>17</sup> Audi argues that rationality is composed of more than just coherence requirements,<sup>18</sup> while Scanlon acknowledges that 'rational' is often applied to both structural and substantive rationality before arguing that its use should be limited to cases of structural rationality.<sup>19</sup>

'Rational' is multidimensional in that substantive and structural rationality both contribute to the overall rationality of a belief. One characteristic of multidimensional adjectives that we saw in Section 1 is that they permit sentences that quantify over their different respects. The same is true of 'rational'. Take, for example, the following case:

#### **Precipitation Prediction**

Mary is researching precipitation figures in the northwestern United States. She learns that, over the past ten years, there has never been a year that Seattle has had less than 30 inches of rain. From this, she infers that Seattle is very likely to get 30 or more inches of rain in the coming year.

So long as it does not conflict with any of her other beliefs, Mary's belief  $p$ , that Seattle is very likely to get 30 or more inches of rain next year, is both substantively and structurally rational. Not only is  $p$  supported by her evidence, but it is reasonable for Mary to infer  $p$  from her belief that Seattle has never had less than 30 inches of rain in the past ten years. Because Mary's belief is both substantively and structurally rational, that makes (23) a very natural assessment of her belief:

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<sup>14</sup>See Fogal (2020), p. 1033.

<sup>15</sup>See Pryor (2018), p. 126.

<sup>16</sup>See Worsnip (Forthcoming), p. 4. Others who acknowledge the distinction between structural and substantive rationality include Broome (2013), ch. 5-6; Fogal (2018), pp. 22-27; Fogal and Worsnip (Forthcoming); Kiesewetter (2017); Neta (2015), pp. 284-285, and (2018), pp. 313-314; Wedgwood (2017), pp. 7-8; and Worsnip (2021), p. 1. Some of these authors ultimately argue that these two forms of rationality are ultimately reducible to a single notion of rationality. For a discussion of how metaphysical reducibility might interact with the thesis of this paper, see Section 4.

<sup>17</sup>See Conee and Feldman (2004), p. 39 and 189.

<sup>18</sup>See Audi (2004).

<sup>19</sup>See Scanlon (1998), pp. 25-30. For a response to Scanlon's argument, see Section 4.

361 (23) Mary's belief that  $p$  is rational in every respect

362 Not only is (23) a natural evaluation of Mary's belief, but because there are  
363 multiple respects in which her belief is rational, (24) is also a sensible request:

364 (24) In what ways is Mary's belief rational?

365 Unlike with the unidimensional adjectives in (14)-(16), it seems like there are  
366 sensible answers we could give to (24). We could say that she has strong evi-  
367 dence that Seattle typically gets more than 30 inches of rain, or we could say  
368 that this belief fits well with her other beliefs about Seattle rainfall. Thus, we  
369 can see that 'rational' is like other multidimensional adjectives in that it allows  
370 quantifying over multiple respects.

371  
372 Not only is 'rational' multidimensional, as it passes these tests of quantification,  
373 but 'rational' is also additive or conjunctive, as serious failures of either sub-  
374 stantive rationality or structural rationality are enough to prevent a belief from  
375 being fully rational. Consider the following vignette:

### 376 **Southside Sluggers**

377 Bill is a committed fan of his favorite baseball team, the Southside Slug-  
378 gers. This week, the Sluggers are playing their rival, the Hometown  
379 Hitters, in a seven game series. Because he is biased in favor of the Slug-  
380 gers, Bill forms the belief that the Sluggers will win the series even though  
381 there is strong evidence that they are less talented than the Hitters. Later  
382 in the week, the Sluggers have lost three games and have only won once,  
383 making it very improbable that they will come back to win the seven  
384 game series. Nevertheless, Bill stands by his belief that the Sluggers will  
385 win the series, reasoning that, because they will win the series, that also  
386 means that they will be victorious in each of the next three games.

387 Bill's belief  $q$ , that the Sluggers will win the series, rationally commits him to  
388 the belief  $r$ , that the Sluggers will win the next three games. Unless he gives  
389 up  $q$ , it would be a violation of structural rationality for him to also believe  
390 that the Sluggers will lose one of the next three games. However, unlike Mary's  
391 belief  $p$  in **Precipitation Prediction**, Bill's belief  $r$  is not rational in every  
392 respect. In particular,  $r$  is not supported by the evidence. Not only are the  
393 Hitters more talented than the Sluggers, but the Hitters have already won three  
394 of the required four games to win the series. Because Bill's belief  $r$  is substan-  
395 tively irrational, it seems like a mistake to dub it as rational, full stop. Instead,  
396 because his belief does not appropriately respond to the evidence, this alone  
397 seems sufficient for describing it as not fully rational.

398  
399 The same phenomenon occurs with failings of structural rationality. With  
400 **Southside Sluggers**, we had a situation where Bill's belief  $r$  was structurally  
401 rational but not substantively rational. Now consider a case that's reversed:

### 402 **Timid Tester**

403 Jane is skilled at math, routinely getting good marks on her tests at  
404 school. Sadly, Jane’s older brother routinely second-guesses her abilities,  
405 saying that she is just getting lucky and that she will do poorly on the next  
406 exam. Jane knows that he does not have any good reason to think this,  
407 but he still regularly undermines Jane’s confidence in her mathematical  
408 abilities with his remarks. After Jane’s next test, she immediately finds  
409 herself believing that she got a high score – she breezed right through all of  
410 the questions and finished before anyone else in the class. Then, however,  
411 she experiences a moment of self-doubt. Even though she believes that  
412 she scored highly on the exam, because of her brother’s comments, she  
413 cannot shake the belief that her belief is irrational.

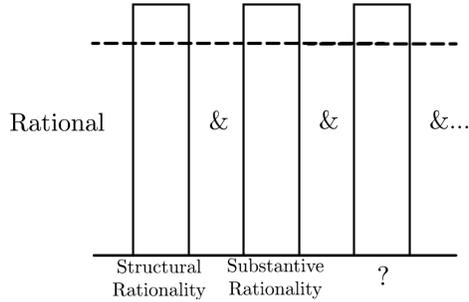
414 Jane is in an epistemically akratic state. On the one hand, she believes  $s$ , that  
415 she scored highly on her exam, the proposition that her evidence supports. On  
416 the other other hand, she also believes that her belief  $s$  is irrational. Due to this  
417 unjustified higher-order belief,  $s$  is substantively but not structurally rational.<sup>20</sup>  
418 As before, even though Jane’s belief succeeds along one dimension of rationality,  
419 this is not enough to describe it as rational simpliciter. Despite the fact that  
420  $s$  is supported by the evidence, her higher-order belief creates rational pressure  
421 for her to give up  $s$ . So long as Jane maintains the belief that her belief  $s$  is  
422 irrational, her belief is not yet fully rational.

423  
424 If all of this is correct, then ‘rational’ is either an additive or a conjunctive,  
425 multidimensional adjective. Being rational by the lights of a single dimension,  
426 whether that be substantive or structural rationality, is not enough to make a  
427 belief rational overall, preventing ‘rational’ from being a disjunctive multidimen-  
428 sional adjective. Instead, a belief must be either rational on all dimensions of  
429 rationality (conjunctive) or most of the dimensions of rationality while avoiding  
430 serious irrationality along a single dimension (additive) in order to be rational.  
431 Now, even if it is correct that ‘rational’ is either additive or conjunctive, this is  
432 not to say that we have identified all of the dimensions of rationality, a possibil-  
433 ity that is left open in Figure 3. All that is necessary for our purposes is whether  
434 structural and substantive rationality are dimensions of rational belief, which  
435 it seems like there is good evidence to think that they are, but we will leave it  
436 open whether there are more respects in which a belief can be rational.<sup>21</sup>

---

<sup>20</sup>A number of belief combinations are thought to be epistemically akratic, including the beliefs that  $p$  and that it is irrational to believe that  $p$  and the beliefs that  $p$  and that my evidence does not support that  $p$ . For arguments that epistemically akratic states are irrational, see Feldman (2005) and Horowitz (2014), and for authors that use the irrationality of epistemic akrasia as a premise, see Greco (2014), Smithies (2012), and Titelbaum (2015). For a defense of the view that epistemic akrasia can sometimes be rational, see Coates (2012), Lasonen-Aarnio (2020), and Williamson (2011). Here, I will assume that akrasia is irrational, though it is also possible to create examples of beliefs that are substantively but not structurally irrational without making this assumption.

<sup>21</sup>While Figure 3 depicts ‘rational’ as having a contextual threshold like ‘tall’ and ‘healthy’, the arguments of this paper are neutral on this point. Siscoe (2021) has argued that when ‘rational’ modifies belief, it is an absolute gradable adjective and lacks the relevant contextual threshold. Instead, in order for a belief to count as rational, it must be at the top of the scale



437

Figure 3: The Dimensions of Rational Belief

438 **3 LINKING RATIONALITY AND JUSTIFICATION**

439 Now that we have seen that the rationality of belief is multidimensional, we are  
 440 now in a position to propose a link between rationality and justification. In  
 441 this section, I will outline the view that justification is a dimension of rational-  
 442 ity, showing how this account can answer the **Linking Question, Synonymy**  
 443 **Question, and Coherence Question**, as well as explain why justified belief  
 444 and rational belief come apart in **Small Town Election**.

445

446 Not only is substantive rationality a dimension of the rationality of belief, but  
 447 some recent work has drawn close comparisons between substantive rationality  
 448 and justification.<sup>22</sup> Worsnip thinks that “substantive rationality is concerned  
 449 with being reasonable, or justified,”<sup>23</sup> while Fogal says that substantive ratio-  
 450 nality generates justificatory pressure to adopt particular beliefs.<sup>24</sup> Fogal even  
 451 goes so far as to define substantive rationality in terms of justification: “For our  
 452 attitudes – i.e., our beliefs, intentions, preferences, and the like – to be rational  
 453 in this sense is for them to be justified or reasonable. Call this substantive

of rational belief. None of what I say requires that ‘rational’ either has or lacks a contextual threshold, but if rationality is absolute, then Figure 3 will need to be modified so that the relevant standard is the maximal point on the scale. Thank you to an anonymous reviewer for helping me to get clear on this point.

<sup>22</sup>My intention here is not to give a fully determinate characterization of justification and substantive rationality. Instead, I aim to draw a connection between what might be described as a platitude about justification – that it involves the evidence that a person has for their beliefs – and the thought that substantive rationality is also a function of one’s evidence. Even amongst those who do not explicitly differentiate between substantive and structural rationality, many take evidential reasons to be associated with justification. As we have seen, Pryor does not think that substantive rationality is a legitimate variety of rationality, but he still identifies justification with what Worsnip and Fogal take to be substantive rationality. When distinguishing between two types of normative pressure on beliefs – the pressure from the evidence you have and the pressure from the beliefs you hold – Pryor (2004) simply calls the first justification, saying that normative pressure is both exerted by “what you have justification to believe, and what you’re rationally committed to believe by beliefs you already have” (p. 363).

<sup>23</sup>See Worsnip (Forthcoming), p. 13. Fogal and Worsnip (Forthcoming) say the same.

<sup>24</sup>See Fogal (2020), p. 1033-1035.

454 rationality.”<sup>25</sup> This potential connection is not surprising. After all, we have al-  
455 ready seen substantive rationality and justification described in much the same  
456 ways, as both involve responding appropriately to the evidence/one’s evidential  
457 reasons.

458  
459 This close relationship between justification and substantive rationality natu-  
460 rally gives way to the following proposal: Instead of taking it that justified belief  
461 and rational belief come to the same thing, maybe justified belief is actually the  
462 same thing as *substantively* rational belief. If, for the time being, we assume  
463 this proposal is correct, then we are in position to advance a link between full  
464 rationality and justification. ‘Rational’ is a multidimensional adjective, and one  
465 of its underlying dimensions is justification:

#### 466 **The Link**

467 Rational belief and justified belief are linked as follows:

- 468 (i) S’s belief that  $p$  is fully rational only if S’s belief that  $p$  is substantively  
469 rational, and  
470 (ii) S’s belief that  $p$  is substantively rational if and only if S’s belief that  
471  $p$  is justified

472 There are several things to point out here. To begin with, note that the first  
473 conditional only holds from left to right. S’s belief that  $p$  is fully rational only  
474 insofar as it is substantively rational, but more is required for  $p$  to be completely  
475 rational. At the very least, S’s belief that  $p$  must also be structurally rational  
476 before it can be considered perfectly rational, and perhaps more if there are fur-  
477 ther dimensions to rational belief. The second conditional, on the other hand,  
478 holds in both directions. Being substantively rational in a belief requires being  
479 justified in that belief and vice versa.

480  
481 Another thing worth noting is that **The Link** stops short of saying that being  
482 justified and being substantively rational are identical properties. Unlike the  
483 view on which rational belief and justified belief are the same thing, **The Link**  
484 is merely committed to the view that when speaking of substantive rationality,  
485 ‘justified belief’ and ‘rational belief’ are co-extensive, not that justified belief  
486 and substantively rational belief are the same thing. My own view is that, once  
487 a belief has enough justification to be considered justified, it is then substan-  
488 tively rational, but that further increases in justification do not make the belief  
489 more substantively rational.

490  
491 We now have a possible answer to our **Linking Question**, but what reasons do  
492 we have to think that **The Link** is plausible? Along with the fact that a number  
493 of epistemologists think that substantive rationality and justification both in-  
494 volve evidential reasons, there are a number of other grounds for thinking that  
495 **The Link** correctly describes the relationship between rational and justified

---

<sup>25</sup>See Fogal (2018), p. 22.

496 belief. To begin with, **The Link** can give a natural answer to the **Synonymy**  
497 **Question**. We began by wondering why, if ‘rational belief’ and ‘justified be-  
498 lief’ are not synonymous, then why ever think that they are in the first place?  
499 Because ‘rational’ can be used to pick out the dimension of justification, there  
500 are certain contexts in which it looks like rational belief is identical to justified  
501 belief. Suppose that I present someone with **Precipitation Prediction** and  
502 ask the following question about Mary’s belief  $p$ , that Seattle is very likely to  
503 get 30 or more inches of rain in the next year:

504 (25) Given Mary’s evidence, is her belief that  $p$  rational?

505 In (25), I specify the dimension of rationality that I am interested in – whether  
506 Mary’s belief is rational given the evidence. This limits my question to consid-  
507 erations of substantive rationality. And if substantive rationality is the same as  
508 justification, then (25) ultimately asks the same thing as (26):

509 (26) Given Mary’s evidence, is her belief that  $p$  justified?

510 If **The Link** is correct and ‘rational’ is a multidimensional adjective, both (25)  
511 and (26) ask whether Mary’s belief is substantively rational, creating a context  
512 in which ‘rational’ and ‘justified’ pick out the same thing and, thus, appear to  
513 be synonymous.

514

515 We now have the beginning of an answer to the synonymy question. ‘Rational’  
516 and ‘justified’ can be used in such a way that they both pick out substantive  
517 rationality, and if this sort of use is common within epistemology, then it is  
518 unsurprising that a number of theorists have taken them to be the same thing.  
519 As it turns out, ‘rational’ is regularly used in a way that limits it to only pick-  
520 ing out whether a belief is substantively rational. In *Evidentialism*, Conee and  
521 Feldman say that “one traditional problem in epistemology concerns the rela-  
522 tion that must hold between a body of evidence and a proposition for it to be  
523 rational.”<sup>26</sup> Roger White’s definition of uniqueness – “Given one’s total evi-  
524 dence, there is a unique rational doxastic attitude that one can take to any  
525 proposition” – centrally features substantive rationality.<sup>27</sup> Kevin Dorst invokes  
526 substantive rationality while discussing evidential uncertainty: “if you should  
527 be uncertain what your evidence warrants, then learning facts about your evi-  
528 dence can give you new evidence – and so can change what it’s rational to  
529 think.”<sup>28</sup> Dealing with cases of deception, Cohen argues that “subjects in the  
530 matrix can have such rational beliefs. These subjects clearly have lots of evi-  
531 dence for their beliefs.”<sup>29</sup> In laying out common uses of ‘rational’, Jack Lyons  
532 says “that was the rational thing to believe, based on the evidence you had at

---

<sup>26</sup>See Conee and Feldman (2004), p. 111.

<sup>27</sup>See White (2005), p. 445. White (2014) also primarily focuses on substantive rationality, saying that “common wisdom has it that examining the evidence and forming rational beliefs on the basis of this evidence is a good means, indeed the best means, to forming true beliefs and avoiding error” (p. 322).

<sup>28</sup>See Dorst (2020), p. 591.

<sup>29</sup>See Cohen (2016), p. 846.

533 the time.”<sup>30</sup> Lasonen-Aarnio points out that “a flourishing literature in episte-  
534 mology is largely concerned with [...] what it is rational to believe given one’s  
535 evidence.”<sup>31</sup> All of these discussions of rationality focus on substantive rational-  
536 ity, the type of rationality that evaluates whether or not someone believes what  
537 their evidence supports. These types of uses of ‘rational’ occur regularly across  
538 the philosophical literature, making it unsurprising that so many philosophers  
539 treat ‘rational’ and ‘justified’ as synonymous.<sup>32</sup>

540  
541 What about the **Coherence Question**? Why have so many philosophers theo-  
542 rized as if rationality is merely a matter of coherence? Here, we can also appeal  
543 to dimensional specification. Just like it is possible to create contexts where  
544 ‘rational’ only picks out substantive rationality, it is also possible to create con-  
545 texts where ‘rational’ only refers to structural rationality. With (25), we asked  
546 whether Mary’s belief is rational given her evidence, but we can also single out  
547 whether her believe is rational given her other beliefs:

548       (27) Given that Mary thinks Seattle gets over 30 inches of rain each year,  
549       is her belief that  $p$  rational?

550 We have already seen that a number of philosophers often use ‘rational’ in a way  
551 that isolates whether a belief coheres with other beliefs. Dimensional specifica-  
552 tion explains why this is possible – just like, in certain contexts, philosophers can  
553 use ‘rational’ to pick out whether a belief is supported by the evidence, in other  
554 cases, they can use ‘rational’ to pick out whether a beliefs fits appropriately  
555 with other beliefs. Thus, it is not a surprise that some philosophers theorize as  
556 if rationality is primarily focused on coherence constraints, because it is possible  
557 to use ‘rational’ in such a way that it only applies to whether beliefs fit together  
558 in the right way.

559 Beyond answering the **Linking Question**, the **Synonymy Question**, and the  
560 **Coherence Question**, the thought that ‘rational’ is a multidimensional adjec-  
561 tive can also explain the behavior of ‘rational’ and ‘justified’ in **Small Town**  
562 **Election**. Recall that, in **Small Town Election**, both Warren and Greg were  
563 rational and justified in their belief that Naomi won, but, even though Warren’s  
564 belief was more justified than Greg’s, their beliefs were equally rational. Ac-  
565 cording to the multidimensional view of ‘rational,’ once a belief is substantively  
566

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<sup>30</sup>See Lyons (2016), p. 871.

<sup>31</sup>See Lasonen-Aarnio (2020), p. 598.

<sup>32</sup>This view is also plausible in that it can vindicate some of what epistemologists have said when comparing ‘rational belief’ and ‘justified belief’. Wedgwood (2017), for example, says that “it seems that there is a way of using the terms ‘rational’ and ‘justified’ so that phrases like ‘rational belief’ mean exactly the same thing as ‘justified belief’” (p. 26). This observation is insightful in that, in contexts where ‘rational belief’ is used to pick out substantively rational belief, then ‘rational belief’ and ‘justified belief’ are co-extensive. Of course, he then goes on to say that “this is the sense of the terms ‘rational belief’ and ‘justified belief’ that is of particular interest to epistemologists” (pp. 26-27), which is not correct given that epistemologists also theorize about structural rationality, but this oversight should not overshadow the aspects of Wedgwood’s view that are on the right track.

567 rational and the other dimensions of rationality are satisfied, that belief is fully  
568 rational. Just like two boxes that are identical in all respects are completely  
569 identical, a belief that is rational in all respects is completely rational. This is  
570 what we see in **Small Town Election**. Warren and Greg are both justified  
571 (and thus substantively rational) in their belief that Naomi won the election, as  
572 they both have sufficient evidence that she did. So long as they do not fail along  
573 any other dimensions of rationality, and **Small Town Election** does not indi-  
574 cate that they do, their beliefs are also fully rational. It is true that Warren's  
575 belief is more justified than Greg's given that Warren has stronger evidence that  
576 Naomi won, but this does not make Warren's belief more rational than Greg's.  
577 Because they are both justified in their belief, Warren and Greg both have a  
578 fully rational belief, making their beliefs that Naomi won the election equally  
579 rational.

#### 580 4 MONISTIC VIEWS OF RATIONALITY

581 This concludes my argument for **The Link**. Not only do a number of authors de-  
582 scribe justification and substantive rationality as involving evidence/evidential  
583 reasons, but taking justification to be a dimension of rationality can provide  
584 answers to the **Linking Question**, the **Synonymy Question**, and the **Co-**  
585 **herence Question** as well as explain why rational belief and justified belief  
586 behave differently at the tops of their scales. One worry worth addressing is  
587 whether monistic views of rationality, accounts that explain structural ratio-  
588 nality in terms of substantive rationality or vice versa, are a challenge to the  
589 thesis of this paper.<sup>33</sup> Do views like these threaten our argument for **The Link**,  
590 specifically the thought that 'rational' has multiple dimensions?

591  
592 The first thing to say is that, on their own, monistic views of rationality need not  
593 conflict with the thesis that 'rational' is multidimensional. This is for a couple  
594 reasons. To begin with, we have already seen linguistic evidence that 'rational'  
595 behaves like a multidimensional adjective when it modifies belief. Any theory  
596 that says that the rationality of belief actually only has one dimension conflicts  
597 with this evidence, making multidimensionality a desideratum of an account of  
598 rational belief. If these monistic accounts do not allow that 'rational' is multi-  
599 dimensional, then so much the worse for those theories.

600  
601 The other reason is that, even if there is a deeper explanation of what links  
602 structural and substantive rationality, this is compatible with the thought that  
603 'rational' is multidimensional. Take, for instance, the multidimensional adjec-  
604 tive 'healthy.' There is likely a deeper explanation for why all of the different  
605 dimensions of health that we have mentioned – cardiovascular health, immune  
606 health, mental health, etc. – are all relevant to being healthy. Such an account

---

<sup>33</sup>For views of this sort, see Broome (2013), Kiesewetter (2017), Lord (2018), and Wedgwood (2017), and for a view that does not attempt to explain one dimension of rationality in terms of the other, see Worsnip (Forthcoming).

607 would be consistent with the fact that we can use ‘healthy’ to pick out different  
608 dimensions of health, and likely explains why all of those factors contribute to  
609 being healthy overall. There would be strong reason to think that this so-called  
610 deeper explanation is incorrect if it reached the verdict that blood pressure and  
611 cholesterol levels are not relevant to health after all. The same is true for ‘ratio-  
612 nal’. Even if there is a deeper, monistic account of what makes a belief rational,  
613 this should itself explain why ‘rational’ is multidimensional, not reveal that ra-  
614 tionality only has one dimension.<sup>34</sup>

615  
616 Even though monistic views of rationality, in and of themselves, are compatible  
617 with a multidimensional account of ‘rational,’ they can make trouble for the  
618 multidimensional proposal when they explicitly deny that we use ‘rational’ and  
619 ‘irrational’ to refer to both substantive and structural rationality. On one way  
620 of interpreting T.M. Scanlon, for example, failing to be responsive to evidence  
621 does not actually affect whether or not a belief is irrational. Rather, talk of ir-  
622 rationality should be limited to just the ways in which a person’s judgments  
623 hang together. According to Scanlon, “irrationality in the clearest sense occurs  
624 when a person’s attitudes fail to conform to his or her own judgments,” and  
625 that ordinary usage of the term ‘irrational’ does not suggest that disregarding  
626 one’s evidential reasons, or failing “to accept certain considerations as reasons”  
627 is enough to make a belief irrational.<sup>35</sup> Now it is not entirely clear if Scanlon’s  
628 claim can be understood using our terminology of structural and substantive ra-  
629 tionality. Scanlon was writing before these categories were explicitly introduced,  
630 though he later describes this distinction using the structural/substantive ter-  
631 minology.<sup>36</sup> If Scanlon has a different distinction in mind, then it may not  
632 undermine the arguments of this paper.

633  
634 But for the sake of argument, if it is true that failures of substantive rationality  
635 cannot result in irrational beliefs, then this comes as a challenge to the thought  
636 that both failures of structural and substantive rationality can render a belief  
637 irrational. In order to argue his point, Scanlon considers two cases of a person  
638 who believes, despite the scientific evidence to the contrary, in the reality of ex-  
639 trasensory perception. In the first case, the person does not accept the scientific  
640 evidence, while in the second case, they judge that the scientific experiments  
641 may undermine their belief in extrasensory perception:

642     Let us stipulate that the person who believes in extrasensory perception  
643     is clearly mistaken; his conclusions violate the relevant standards of sta-  
644     tistical reasoning and good scientific procedure. This alone does not seem  
645     to me to make these conclusions instances of irrationality. We might call  
646     them irrational if certain further things were true: if, for example, the per-

---

<sup>34</sup>Another, related objection is the worry that rationality is not normative (Kolodny, 2005). I do not consider this objection here because the **The Link** simply lays out what it would take to describe a belief as rational, leaving it open whether or not rationality is ultimately normative.

<sup>35</sup>See Scanlon (1998), p. 25.

<sup>36</sup>See Scanlon (2007), pp. 84-85.

647 son admitted that the established scientists' experiments would, if valid,  
648 count against [extrasensory perception], and admitted that he could see  
649 no flaw in the methods used, but still kept insisting that there must be  
650 some flaw, without being able to cite any reason for this conclusion.<sup>37</sup>

651 Here, Scanlon points out a crucial difference in the way that the believer in ex-  
652 trasensory perception processes counterevidence. In the first case, even though  
653 they are aware of it, they might not judge that the scientific evidence under-  
654 mines their belief in extrasensory perception – a failure of what we have called  
655 substantive rationality. In the second case, they might judge that the experi-  
656 mental evidence does count against their belief in extrasensory perception, but  
657 neglect to change their belief structure because of this – a failure of structural  
658 rationality. Scanlon thinks that only the second case is a clear instance of ir-  
659 rational belief, while the first “does not seem to me to make these conclusions  
660 instances of irrationality.” So let's consider the possibility that only structural  
661 rationality can make one's belief irrational.

662  
663 One way to respond to this view is to argue that it need not undermine the  
664 position that we have staked out in this paper. Scanlon makes it clear that he  
665 does not think that beliefs which fail to respect the evidence are fully rational.  
666 It is just that, on Scanlon's view, we should “draw a distinction between an  
667 attitude's being irrational and its being [...] open to rational criticism.”<sup>38</sup> It  
668 may be possible to accept all of this and leave **The Link** intact. After all,  
669 the first conditional of **The Link** just says that, in order for a belief to be  
670 fully rational, it must also be substantively rational. Based on what Scanlon  
671 has said, it seems like he may be open to the possibility that beliefs that are  
672 not substantively rational are also not fully rational, given that they still may  
673 be open to rational criticism. This would allow that substantive rationality is  
674 a dimension of rationality and that failures of substantive rationality can still  
675 undermine the full rationality of one's beliefs.

676  
677 Even though this may be enough to preserve **The Link** in the face of Scanlon's  
678 views on irrationality, it seems to me that we can also go a step further. After  
679 all, Scanlon says that his view “fits better with ordinary usage.”<sup>39</sup> In order to  
680 test if this account fits best with ordinary usage, a study was conducted with  
681 50 participants via Amazon Mechanical Turk. All subjects were located in the  
682 United States and had graduated from high school. Study participants were  
683 first presented with the control case **Precipitation Prediction**, an example  
684 where the belief in question was both structurally and substantively rational,  
685 and asked whether Mary's belief  $p$  was rational. As displayed in Figure 4, 88%  
686 of participants responded that her belief was rational, 10% responded that her  
687 belief was irrational, and 2% responded that her belief was neither rational nor  
688 irrational. Participants were then presented with **Southside Sluggers**, a case

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<sup>37</sup>See Scanlon (1998), p. 26.

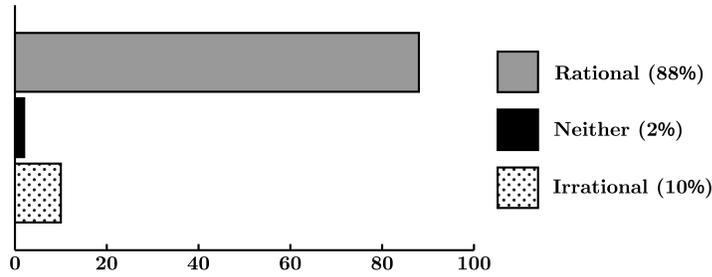
<sup>38</sup>Ibid, p. 27.

<sup>39</sup>Ibid, p. 25.

689 of structural rationality but serious substantive irrationality, and asked whether  
 690 Bill's belief  $r$  was rational. As seen in Figure 5, 78% of participants responded  
 691 that his belief was irrational, 18% responded that his belief was neither rational  
 692 nor irrational, and 4% responded that his belief was rational.

693

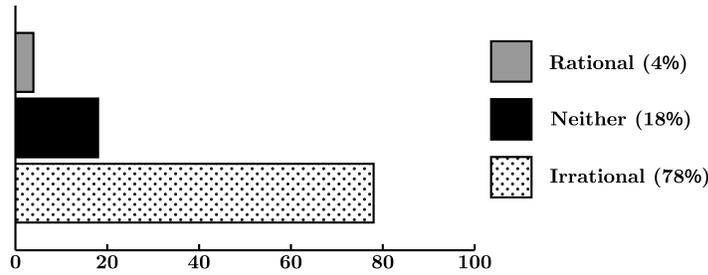
Is Mary's belief that Seattle is very likely to get  
 30 or more inches of rain next year rational?



694

Figure 4: Is Mary's Belief Rational?

Is Bill's belief that the Sluggers will  
 win the next three games rational?



695

Figure 5: Is Bill's Belief Rational?

696 From the results of this study, we can see that our interpretation of Scanlon's  
 697 account, that only failures of structural rationality can make a belief irrational,  
 698 is not an accurate description of ordinary usage. On this view, because Bill's  
 699 belief  $r$  is structurally but not substantively rational, it is best described as  
 700 neither rational nor irrational. It is open to rational criticism, though not bad  
 701 enough to be dubbed 'irrational'. The majority of study participants, however,  
 702 were willing to call the belief irrational due to its serious lack of substantive  
 703 rationality, undermining the thought that failures of substantive rationality are  
 704 not enough to make a belief irrational. We, thus, have two ways of responding  
 705 to the challenge. On the one hand, we could incorporate our interpretation  
 706 of Scanlon's views in a way that is compatible with **The Link**, characterizing  
 707 beliefs that are not substantively rational as less than fully rational even though  
 708 they might not be positively irrational. On the other hand, we could also reject  
 709 the view altogether, appealing to the survey data here to argue that ordinary  
 710 usage suggests that glaring failures of substantive rationality is enough to make

711 a belief irrational.

## 712 5 RATIONAL BUT NOT JUSTIFIED?

713 Another concern someone might have about **The Link** is that it predicts that  
714 some sentences should be contradictions when they are clearly not. Consider,  
715 for example, a common claim by externalists about victims of global decep-  
716 tion. In cases where subjects might be trapped in the matrix or deceived by  
717 an evil demon, internalists about justification tend to say that such victims are  
718 nevertheless justified in their beliefs.<sup>40</sup> One route to answering this worry for  
719 externalists is to concede that, though these victims may be rational in their  
720 beliefs, they are nevertheless not justified.<sup>41</sup> Here, I am not concerned with  
721 taking either the internalist or externalist side. Instead, I am concerned with  
722 the externalist claim captured in (28):

723 (28) The beliefs of victims of global deception are rational but not justified

724 If **The Link** is correct, wouldn't we expect (28) to be a contradiction? After  
725 all, according to **The Link**, in order for a belief to be fully rational, it must also  
726 be justified, suggesting that there should be some tension in saying that a be-  
727 lief is both rational but not justified. So why does (28) not sound contradictory?  
728

729 One way to avoid this worry would be to hold that 'rational' is an additive  
730 rather than a conjunctive multidimensional adjective. When a multidimen-  
731 sional adjective is additive like our example 'healthy', then it can still be  
732 possible to be healthy overall despite a failure along a particular dimension.  
733 Even if my blood pressure is technically in the unhealthy range, I can still  
734 qualify as healthy simpliciter if I am healthy along a sufficient number of other  
735 dimensions. Likewise, it may be possible for a belief to be unjustified but for  
736 it still to be rational overall if it is rational enough in a number of other ways,  
737 preventing (28) from being contradictory.  
738

739 A potential concern for this approach is that, even with additive multidimen-  
740 sional adjectives, a serious failing along any one dimension typically prevents  
741 the application of the multidimensional adjective. If my cholesterol is extremely  
742 high, putting me at imminent risk of heart attack, then I do not qualify as  
743 healthy simpliciter even if I am healthy in a number of other ways. And if  
744 we take externalism about justification to be correct, then the victims of the  
745 matrix or the evil demon are seriously unjustified. Their beliefs about the  
746 world are wildly inaccurate, making their failure of rationality a significant  
747 one. In this case, even if 'rational' is an additive rather than a conjunctive  
748 multidimensional adjective, then we would expect a conflict to arise from (28).  
749

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<sup>40</sup>For the original version of the new evil demon critique of process reliabilism, see Cohen (1984).

<sup>41</sup>This sort of response to the new evil demon is endorsed by Bach (1985) and Lyons (2013), amongst others.

750 Nevertheless, even if ‘rational’ is a conjunctive multidimensional adjective, there  
751 is still a strategy for making sense of sentences like (28) by appealing to dimen-  
752 sional specification. Thus far, we have picked out particular dimensions of mul-  
753 tidimensional adjectives by using phrases such as “with respect to” or “in terms  
754 of”, but this is not the only way to limit the dimensions under consideration.  
755 Consider, for instance, the following sentence:

756 (29) The boxes are identical, but they are different colors

757 Because ‘identical’ is a conjunctive, multidimensional adjective, (29) falls under  
758 the same criticism as (28). Shouldn’t it be contradictory to say that two boxes  
759 are identical but are different colors, since color is one of the dimensions of  
760 being identical? Even though this might be a reasonable expectation, it turns  
761 out that sentences like (28) and (29) can be used for dimensional specification.  
762 If someone says (29), they communicate that, even though they are different  
763 colors, the boxes are identical in terms of their other dimensions. The same  
764 can be said to account for the non-contradictory nature of (28). Even though  
765 being justified is part of what it is to be rational, we can nevertheless use (28)  
766 to describe beliefs that satisfy only some of the dimensions of rationality. Now,  
767 perhaps the externalist hypothesis is mistaken and victims of global deception  
768 are both structurally and substantively rational, but regardless of whether ex-  
769 ternalists are right about justification, dimensional specification can explain why  
770 a sentence like (28) can be used without contradiction. The important lesson  
771 is that, when used with conjunctive, multidimensional adjectives, sentences like  
772 (28) and (29) can be used to limit the dimensions under consideration, making  
773 sentences acceptable that would otherwise appear to be contradictory.

## 774 CONCLUSION

775 We started this essay with a couple of theories about the relationship between  
776 rational and justified belief. The central question was whether rational belief  
777 and justified belief are connected, and if they are, how exactly they are linked.  
778 On one popular theory, rational and justified belief are identical, making it pos-  
779 sible to talk of rational belief and justified belief interchangeably. On a rival  
780 view, rationality is only concerned with whether beliefs fit together in the right  
781 way, while justification is focused on whether beliefs are supported by the evi-  
782 dence. In this paper, I have tried to shed light on what each of these theories  
783 has going for it while also arguing that neither fully captures the relationship  
784 between justification and rationality. Justification is a dimension of rationality,  
785 explaining why rational belief involves more than just coherence, but fully ra-  
786 tional belief must be both substantively and structurally rational, showing why  
787 ‘rational belief’ and ‘justified belief’ are ultimately not synonymous.

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