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# How Well Can We Measure Well-Being?

## **ABSTRACT**

I will define the meaning of subjective well-being that I believe is the most intrinsic normative good, explain why improving the subjective well-being of sentient individuals ought to be the highest ethical priority, and provide reasons for why finding a way to measure subjective well-being would essentially benefit decision-makers and grassroots altruists. Subjective well-being is a dauntingly nebulous property to attempt to measure with precision, but I will comment on the progress that philosophers and social scientists have made in this field. Although (1) there is no set of well-being criteria that is applicable to every sentient individual (including non-human animals) and (2) most sentient individuals are unable to communicate with us about their level of subjective well-being use or relevant experiential factors, we may yet be able to develop an intrapersonally and interpersonally cardinal method to measure subjective well-being.

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### 1. INTRODUCTION

Suppose I told you that the magnitude of suffering that Violet is experiencing today is twice the magnitude of the happiness she experienced yesterday. It is unclear what this statement should mean.

First, it is unclear whether well-being is sufficiently measurable to make such a claim. It can likely be qualitatively evaluated, but it is not obvious whether it can be quantitatively measured.

Second, it is unclear whether happiness and suffering ought to be measured on the same additive ratio scale. Further, this model could be an oversimplification of how affect and experience function—there are many shades and flavors of happiness and suffering, and to measure these all quantitatively along one axis may be an unjust and misleading way to represent them.

Third, it is unclear how we could know this about Violet. She may have told us that the magnitude of her suffering today is twice the magnitude of her happiness yesterday, or given us information from which we can draw this conclusion for ourselves. However, some evidence suggests that she cannot objectively and accurately evaluate her own affect, and it is not as if we can do a better job from outside her body and mind.

However, information about individuals' well-being can be valuable to us, especially if we are in a position to improve their well-being. Therefore, it would help us to be able to record measurements that would allow us to draw meaningful intrapersonal, and perhaps even interpersonal, comparisons of well-being. It would also help us to gain familiarity with the most relevant theory of well-being.

Subjective well-being is the most intrinsic normative good because it can be enjoyed by sentient individuals themselves. In this paper, I will argue that subjective well-being can theoretically be measured, despite numerous obstacles.

I begin with the premise that our ideal is to maximize well-being for all sentient individuals. I decide that the subset of well-being that we ought to be interested in measuring is subjective well-being because factors that meaningfully impact an individual's well-being necessarily have some conscious effect on them. Such an effect need not be articulable or noticed on a higher level of consciousness in order to influence the quality of an agent's experiences. Sometimes, conscious experiences "fall outside of introspective awareness" or are so elusive that they "exceed our powers of discernment even while they are occurring" (Haybron 396–397). The claim that subjective theories of well-being are the

ones we should focus on is controversial among philosophers, but I will further support this claim in the sections to come.

Clear definitions and measurements of the intrinsic normative goods worth pursuing are necessary to evaluate the success of our endeavors so that we may maximize them. Therefore, I will clearly define the meaning of subjective well-being that I am proposing as the most intrinsic normative good.

I will also describe what scholars have written about the measurability of subjective well-being so far, arguing both for and against its measurability. Subjective well-being is a dauntingly nebulous property to attempt to measure with precision, but I will show that the mission to find ways to measure subjective well-being will eventually succeed. In some ways, it already has.

In this paper, we will look for well-being criteria that are broadly applicable across humans and, ideally, other sentient beings. Although (1) there is no set of subjective well-being criteria that is applicable to every sentient individual (including non-human animals) and (2) most sentient individuals are unable to communicate with us about their level of subjective well-being (or relevant experiential factors from which we can determine their level of subjective well-being), we may yet be able to develop an intrapersonally and interpersonally cardinal method to measure subjective well-being.

Additionally, we need to understand how we can measure and should try to maximize well-being across agents. We might not want to increase the total number of units of well-being at the large expense of a single individual's well-being, if this is the tradeoff given to us by the situation at hand.

A sentient being, for our purposes, is defined as an individual who is capable of (1) conscious, phenomenological experience and (2) a valence of experiences, or a spectrum of qualitatively distinct experiential states. Nagel describes conscious experience like this: “no matter how the form may vary, the fact that an organism has conscious experience at all means, basically, that there is something it is like to be that organism” (Nagel 436).

Sentience enables beings to feel, perceive, or experience subjectively. Humans, many other species in the animal kingdom (if not all), and perhaps members of other kingdoms of life are sentient. (Contrary to popular belief, even insects such as bees and fruit flies have exhibited signs of sentience in scientific studies.)

### **1.1. EQUAL CONSIDERATION OF INTERESTS**

In this paper, I will assume the principle of *equal consideration of interests*, which was coined by Peter Singer and is used often throughout his arguments and writings. Singer, when describing this principle, argues that insofar as an individual has interests or, as some philosophers might say, a valence of experiences, they can be considered sentient. (The presence of interests or preferences is sufficient for the presence of a valence of experiences. The presence of a valence of experiences is necessary but not sufficient for the presence of interests or preferences.)

Singer asserts, “There is no logically compelling reason for assuming that a factual difference in ability between two people justifies any difference in the amount of consideration we give to their needs and interests” and asserts that the same applies to sentient, non-human animals with needs and interests (413). Conversely, “If a being suffers

there can be no moral justification for refusing to take that suffering into consideration” (Singer 415).

This principle only applies to individuals with needs and interests—similar to how there is no moral imperative to consider the interests of a rock, there is no moral imperative to consider the interests of a being with no interests. Moreover, it is not possible to consider the interests of a being with no interests, so any moral imperative to do so would be unreasonable.

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## **2. DEFINING WELL-BEING AND WHY IT MATTERS**

Well-being matters because (and only because) maximizing an individual’s well-being is akin to maximizing their self-interest. What is in an individual’s self-interest is ultimately up to them. This means that we ought to measure well-being in accordance with a theory that emphasizes the subjectivity of well-being criteria—one that accounts for how well-being criteria vary between individuals because each individual’s wants and interests vary. This is to ensure that our measurements are meaningful and beneficial to our goal to have a positive impact on sentient individuals.

Philosophers (justifiably) worry that attempts to measure well-being do not engage with philosophical theorizing. They argue “that the question of which is the right measure of well-being should be settled with reference to our best theory of what well-being is. ... social scientists let statistics, not theory, determine what the correct measures are in the

first place” (Plant 123). This leaves the validity of well-being measures susceptible to confirmation bias (the tendency to interpret new evidence as confirmation of one's existing beliefs) from social scientists who are creating these measures. In other words, social scientists might presumptively assume that the measures of well-being they have created will suffice because they have found statistics that, in their view, seem to justify using those measures.

However, social scientists ought to (1) first decide on a theory of well-being that is sufficiently relevant and defensible, then (2) base their measures on this theory. We will now survey what some philosophers have written about the nature of well-being and decide which theory is most relevant and defensible. First, let us consider whether we actually ought to side with an objective theory of well-being.

## **2.1 OBJECTIVE VERSUS SUBJECTIVE THEORIES**

According to Matt Ferkany, Associate Professor of Philosophy at Michigan State University, “the contrast [between objective and subjective theories of well-being] seems to be whether or not authority concerning what constitutes a person’s well-being should rest with that person” (2). Ferkany tentatively concludes that well-being is objective rather than subjective, though the two are not mutually exclusive.

He argues that well-being is objective because some things are good for us independent of our attitudes toward them or psychological states in response to them: “Individuals do not have final authority concerning what promotes their own good and well-being is not simply a matter of being in some psychological condition.” He asserts that

we ought to be skeptical about subjective theories of well-being because they “privilege well-doing notions over well-going ones” (Ferkany 5). (*Well-going* concerns the quality of our lives and *well-doing* concerns our psychological states.)

He cites the following example in to demonstrate why subjective theories fail (Ferkany 18):

*If we deny the vulnerability of well-being to the world outside our minds, we inevitably accept a view according to which even the lowliest slave can be perfectly well off, so long as he is happy or undisturbed by his situation. This is not plausible. Even a happy slave is living a slave's life.*

Ferkany questions the idea that positive psychological states are inherently valuable if they cannot be conceptualized in terms of some further good. According to him, hedonists (who argue that happiness comes from pleasure) are mistaken about the nature of happiness and, further, the nature of well-being (Ferkany 10):

*Happiness is dispositional and forward-looking, not just experiential and backward-looking, and the relevant dispositions seem patently to include moods and affects, states not obviously reducible to desired consciousness, attitudinal pleasure, or subjective desire satisfaction.*



When Ferkany writes that happiness is dispositional, he means that people who have a growth mindset and other relevant personality traits live happier lives. People who try to be happy will make their lives happier and people who do not try to be happy will achieve the opposite: “Moody people bring a negative attitude that tends to invite misfortune and misery; cheery, easy-going people bring a positive one and, though they still suffer and struggle, find effective ways to get past hardship” (Ferkany 9).

When Ferkany argues that happiness is *forward-looking*, he means that the narratives of people’s lives carry meaning that surpass that of mere pleasure. He explains that a life that begins in the depths but takes an upward trend is preferable to one that begins in the heights but slides downhill, even if the total amount of pleasure experienced in both lives is exactly equal. I grant that this probably sounds intuitive to most of us.

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The takeaway from Ferkany, I believe, is that well-being often consists of more than some narrow definition of happiness or pleasure. Happiness can come from more than mere comfort, feelings of pride or excitement, or similar kinds of affect. Happiness might come from the satisfaction of completing a challenge or making a significant sacrifice for a loved one. Happiness can come from actions that do not feel exciting or comfortable, but are nonetheless rewarding.

We must consider that “some sentient beings with the capacity for abstract, rational thought, can also include non-experiential aspects in their utility function” (Bruers).

Well-being, at least for most humans, contains a cognitive component. (To be precise, cognition probably impacts well-being because of its influence on experience, meaning that cognitive components of well-being are not necessarily *non-experiential*. It is challenging to imagine how any conscious phenomenon can be purely non-experiential.)

For example, most humans demonstrate having a *narrative identity*: an evolving story of the self that (1) contextualizes their life experiences and (2) serves to instill them with a sense of unity or purpose in life. Many humans seem to value their *narrative identities*. It follows that *narrative identities* would shape the experiences, and therefore the well-being, of those who value them.

Ferkany observes that people who try to be happy will make their lives happier and people who do not try to be happy will achieve the opposite. This demonstrates how the narratives that individuals tell themselves about what characteristics they have or what level of well-being they are capable of can strongly influence the quality of their lives. Additionally, humans tend to compare facets of themselves (such as appearance and wealth) to those of the humans around them, and these comparisons can also shape *narrative identities*. This might explain why humans who view themselves as inferior to those who they compare themselves to seem to be worse off, for example.

Values (which can include an individual's *narrative identity*) seem to determine, at least in part, the criteria with which individuals judge their lives. Similarly, other values will shape the experiences, and therefore the well-being, of those who have those values.

Valerie Tiberius and Alexandra Plakias have noticed that “the subjectively important domains that underlie life-satisfaction reports are very similar to a person’s values. Insofar

as values are a normative notion, introducing values into our life-satisfaction theory can help to answer the problem of normative arbitrariness” (421). Drawing from this observation, we can form a subjective theory of well-being that judges the quality of individuals’ lives based on individuals’ own values and criteria. Simultaneously, such a theory might also resolve some of the normativity issues that objectivists (like Ferkany) are concerned about, since it would prioritize values over affective states (though most, if not all, individuals value positive affect).

If an individual’s values include having a positive *narrative conception* of the self, then this theory would account for how their *narrative conception* of the self impacts their well-being. For many, as Ferkany suggests, happiness is dispositional and forward-looking, but this is not necessarily true for every sentient being. If happiness is dispositional and forward-looking for an individual, it is because they value what those attributes contribute to their life—not because a philosopher prescribed that it ought to be the case.

Objective theories are commonly objected to on the grounds that “they are elitist, since they appear to be claiming that certain things are good for people, even if those people will not enjoy them, and do not even want them” (Crisp). While perhaps intuitively appealing, even an objective theory claiming that autonomy is inherently beneficial to an individual’s well-being is making an unfounded generalization. It might be the case that most, maybe even all, individuals value autonomy. Nonetheless, it is essential to consider that this attribute might be beneficial for the individual because the individual values it, not the other way around.

Most slaves are unhappy and quite disturbed by their situation, to say the least. Ferkany is not wrong about this. However, in the unlikely case that a slave is able to thrive (perhaps due to differences in values or priorities), we have little justification for claiming to know more about her well-being than she does.

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As we will soon explore in greater detail, personal reports of well-being are far from infallible. We may believe that liberating a slave from her situation is worthwhile, at least to gauge whether she will be happier once she is liberated. The same could be said about someone who is addicted to a drug that makes them feel good. Both the slave and the drug addict may currently underestimate their capacities to feel pleasure or fulfillment because, perhaps, they have not yet tapped into much of that capacity. Even so, for measuring purposes, personal reports might be the most relevant indicator of well-being that we can obtain easily (though the limits of the scope of each individual's knowledge and experience are also noteworthy).

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It matters that we have a positive impact on sentient individuals by each sentient individuals' respective standards. We cannot improve someone's well-being if they see our

actions as a detriment to their well-being. This conclusion necessarily directs us to subjective theories of well-being.

Additionally, measures based on subjective theories of well-being will be more adequately equipped to handle input from people of diverse backgrounds, values, and cultures, as well as input from non-human animals, who likely have interests that (to varying degrees) differ from ours.

## 2.2 SUBJECTIVE WELL-BEING

Subjective well-being (or SWB) is commonly thought by social scientists to have three components: *evaluation*, *experience*, and *eudaimonia*. *Evaluation* refers to “reflective assessment on a person’s life or some specific aspect of it,” *experience* refers to “a person’s feeling or emotional states, typically measured with reference to a particular point in time,” and *eudaimonia* refers to “a sense of meaning and purpose in life, or psychological functioning” (“Measuring Happiness”).

If we assume that SWB refers to the quality of an individual’s life based on the individual’s own values and criteria, then *eudaimonia* would seem to factor into the *evaluation* and *experience* components of well-being. An individual’s sense of meaning and purpose in life impacts both how they evaluate and experience their life, according to the definitions above. Therefore, we do not need to consider *eudaimonia* on its own and will focus more on *evaluation*- and *experience*-based ways to measure SWB.

Tiberius and Plakias propose measuring SWB in accordance with the *values-based life-satisfaction account* (or *VBLS*): “According to VBLS, life satisfaction is a positive

cognitive/affective attitude toward one's life as a whole, and life satisfaction constitutes well-being when it is not defeated by considerations that undermine its normative authority" (423).

This account avoids some of the difficulties inherent in measuring well-being in accordance with a hedonistic theory. Some reasons why it is difficult to measure well-being in accordance with a hedonistic theory are: (1) memories of experiences become distorted, and (2) an individual's level of positive or negative affect will adapt to their circumstances. Additionally, hedonistic theories often do not discriminate between different kinds of pleasure. They do not prioritize some kinds of pleasure over others in the same way that an individual's values might. Also, as Ferkany argues, the fundamental attributes of a good life cannot be reduced to positive affect.

Additionally, we need to want, prefer, or care about the things that a theory of well-being tells us we need. This is why we require (1) a theory that bases the criteria for an individual's well-being on their values and (2) a subjective theory of well-being. *VLBS* is successful, in my view, because it fulfills both of these requirements.

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### **3. MEASURING WELL-BEING**

Dan Hausman, Professor of Philosophy at the University of Wisconsin–Madison and author of *Valuing Health*, contends that well-being is not measurable. He argues that “well-being is too person-relative to measure reliably” and that well-being “is a concept

that calls for aggregation of goods in a person's life in a way that is duly sensitive to who this person is" (Alexandrova 129).

The heterogeneity or subjectivity of well-being is one of the main obstacles to measuring it, since it implies that well-being ought to be measured differently per each individual. This makes it difficult to know precisely which indicators of well-being to measure per individual, let alone how to measure these indicators.

Some further obstacles to measuring well-being are rooted in the idea that no individual can understand another individual's experiences firsthand. This poses a challenge for any methodology that entails comparing the experiences or overall well-being of two or more separate individuals. Such comparisons may not be feasible if the experiences of separate individuals cannot be measured on the same scale.

This obstacle is already substantial when comparing the well-being of two members of the same species, but it becomes even more so when comparing the well-being of members of different species (if this is theoretically possible). In Nagel's words, "[the] experiences [of a different individual] ... have in each case a specific subjective character, which it is beyond our ability to conceive" (439).

Simon Knutsson from the Foundational Research Institute (FRI) claims that, in principle, measuring well-being could be done if (1) there were a plausible method for adding and subtracting magnitudes of happiness and suffering among individuals to calculate a sum and (2) there were a method to prevent value judgments from influencing the measurements of happiness and suffering and the calculations on the part of those taking these measurements and performing these calculations.

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It might be tempting to suggest that we explore other, more empirical avenues of measuring SWB—perhaps we ought to look for behavior patterns, data from brain scans, or physiological signs that we can reliably associate with higher or lower levels of well-being. Such empirical data can, perhaps, serve as ideal proxy indicators of well-being.

First, though, let us focus on how to evaluate SWB as directly as possible, which means at least tapping into cognitive and affective processes. Such a connection between well-being levels and empirical data can only be verified once we know how to measure SWB, at least for humans.

In other words, for now, behavior patterns, data from brain scans, and physiological signs do not tell us how an individual would assess the quality of their life as a whole. If a sufficiently causal or correlative link between levels of SWB and empirical data is discovered, then perhaps empirical data can be used to measure SWB in the future (Bruers),

*The holy grail in neurobiology is finding the connection between brain activities and personal utilities, just like physicists discovered the connection between molecule velocities and room temperatures. When we find this brain-utility connection, we can objectively determine the utility levels of all sentient beings, even of those who cannot communicate their utilities.*



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Researchers are interested in developing and executing well-being assessments, among other reasons, to study populations of individuals. Surveying people at the individual level presumably has valuable applications (for example, psychiatry and therapy) but findings from surveying larger populations or individuals who represent a larger population can lead to advances in ethical decision-making, whether we are donating to fund an intervention, influencing policy, answering trolley problem and other similar thought experiments, or something else.

### **3.1 SCALE AND QUANTIFIABILITY**

Ordinal scales contain variables that have relative magnitude or ordered values. Cardinal scales, on the other hand, must have consistent relative intervals between their values. It seems clear that well-being can be measured along an ordinal scale, but less clear that it can be measured along a cardinal one.

For example, well-being can be described ordinally because someone can reasonably claim that her well-being is better today than it was yesterday. Ordinal variables, unlike cardinal ones, cannot be added or subtracted from one another because ordinal variables lack specified relative differences between their magnitudes or values.

Philosophers and social scientists are concerned that “researchers tend to either treat the data as ordinal or cardinal and conduct different statistical tests as a result,

without articulating their assumptions for doing so” (Plant 135). It is problematic that researchers are comparing individuals’ well-being without ensuring that the metrics they are using for these evaluations are interpersonally cardinal (or converting the evaluations into metrics that are interpersonally cardinal) and aggregating the results as if the metrics they are using for these evaluations were interpersonally cardinal.

Being able to add and subtract magnitudes of happiness and suffering (intrapersonally and interpersonally) would require that happiness and suffering can be quantified numerically similarly to concepts such as length or weight (Knutsson 4). A scale of measurement ought to provide units to quantify the size, length, or amount of something and allow for comparison between different sizes, lengths, or amounts.

But whether this can be done for SWB in a way that authentically reflects the relative intensity of a variety of experiential content is hotly debated. In this case, we would like to find a scale to measure SWB, but well-being is contingent on many experiential factors. These experiential factors include a plethora of sensations such as (but certainly not limited to) pleasure, comfort, confidence, enthusiasm, desire, nausea, disgust, apathy, despair, frustration, anxiety, terror, and pain. To measure such a broad array of experiences, each with their own color and taste, on the same additive ratio scale, could be an impossible task.

They can also combine with each other—for example, enthusiasm and anxiety can coexist at high intensities. Since enthusiasm is considered a positive emotion and anxiety is considered a negative emotion, the two could cancel each other out if measured on the same additive ratio scale. (To put this more concretely, say that a person’s enthusiasm

added ten units to their well-being, but their anxiety subtracted ten units from their well-being. This person would end up with a net measurement of zero units for their well-being.) However, if this were the case, it would seem that the methodology here is flawed. The total measurement would not end up capturing the intensity of either emotion, but rather, nullifying both intensities.

Knutsson, who assumes that well-being is based on happiness and suffering in his paper (though what he writes is meant to apply to any definition of well-being), further explains why it would seem reasonable to doubt such a high degree of measurability for well-being (5):

*To illustrate this point with a more clear case, we can consider other facts that might be finally good and bad for individuals, besides happiness and suffering. For example, one of the things that might be finally good and bad for individuals is to have close personal relationships, and one that might be finally bad is to be deceived. These are plausibly not measurable on the same ratio scale. It hardly makes sense to say that the extent to which I have close personal relationships is about five times the extent to which I am being deceived.*

However, perhaps some relevant attribute of well-being can be measured along one scale or axis. Knutsson posits that measuring preferences, attitudes, or desires is probably more feasible in practice than measuring well-being overall. In fact, according to the

desire-satisfaction theory of welfare, what is basically good for a subject is the satisfaction of their desires (Lin 1).

Philosopher Fred Feldman posits that pleasure, which I interpret to refer to a broad category consisting of any positive affective response to having one's desires satisfied, is theoretically measurable (Knutsson 10). Feldman's proposal seems both intuitive and defensible. Pleasure and displeasure, if measured correctly, can meaningfully describe to what extent an individual's desires are being satisfied. Though desire-satisfaction does not fully reflect or describe affect, it could be a meaningful indicator of how well someone's life seems to be going for them. Feldman illustrates his point using this example (Feldman 117):

*Surely it is possible for a person to be pleased about several things at once. Tom might be pleased to be living in Massachusetts, pleased to be sitting on his deck, and pleased to be smelling the roses, all at one time. And, equally surely, a person can be pleased about several things at a time, and simultaneously displeased about several other things. Tom is still displeased about his latest speeding ticket.*

Even though, in this example, Tom is experiencing many coinciding affective states that may conflict with one another, in theory, they all jointly determine Tom's level of well-being. Everything that Tom is pleased about contributes to his well-being and

everything that he is displeased about detracts from his well-being. Perhaps well-being can be conceptualized as simply as this.

If our goal in measuring well-being is to verify that the interventions we take to better individuals' lives actually make them better off, then a way to meaningfully measure and compare individual well-being based on pleasure and displeasure might suffice.

Ideally, we would be able to measure well-being (in terms of pleasure and displeasure) using a scale of measurable units, such as *just perceivable increments*, or *JPIs*. Knutsson adopts this concept from classical hedonistic utilitarian Torbjörn Tännsjö. He summarizes Tännsjö's account of how we could theoretically measure happiness using *JPIs* (7–8):

*[Tännsjö] roughly endorses the idea from Edgeworth (1881) that the magnitude or intensity of pleasure and displeasure could be measured in principle by the number of smallest perceivable increments [...] Although it may be difficult or impossible in practice to know how many increments of displeasure a particular, say, fish can perceive, it would allow measurement in principle as long as she can notice increments.*

Because individuals are not infinitely sensitive, each detectable increment between different intensities of an experience can plausibly count as a unit, the total of which can be measured per experience. These can hopefully, once sufficiently studied, be used to measure well-being as a whole. (For example, we might be able to monitor how many *JPIs*

of happiness an individual feels at various points throughout the day and observe how these findings correspond with their evaluations of well-being.)

Using *JPI* measurements might also help us develop a cardinal scale that we can use to measure well-being. Perhaps we would need to alter raw *JPI* scores before placing them on such a scale. Perhaps not. We will come back to this soon.

### 3.2 PLANT ON INTERPERSONAL CARDINALITY

It is possible that the raw scores individuals provide when asked to evaluate their well-being cannot meaningfully be compared to each other without converting them somehow. Well-being cannot easily be measured like constructs such as length and weight. For example, someone might arbitrarily assign the discomfort they experience from having a speck of dust stuck in their eye negative one-hundred well-being units, while another might arbitrarily assign the misery they experience from severe depression negative ten well-being units. These units on their own would be meaningless, since it is highly probable that severe depression, even subjectively, is much worse than having a speck of dust stuck in one's eye.

Plant argues that we need not be concerned about converting raw scores. He proposes the *Raw, Universally Cardinality (RUC) thesis*, which states that self-reported SWB scales are interpersonally cardinal. Plant defends the *RUC thesis*, even though it relies on a handful of counterintuitive assumptions. These are (139):

1. *The underlying phenomenon of SWB (happiness or life satisfaction) has a cardinal structure.*
2. *There is a linear relationship between self-reported and actual SWB.*
3. *There is a consistent scale used over time for each individual.*
4. *Individuals have the same maximum and minimum capacities for SWB.*
5. *Individuals, in a given society, use the maximum and minimum points of their scales to refer to their maximum and minimum SWB.*
6. *There is consistent scale use between societies.*

These conditions combined imply that scale use is intrapersonally cardinal over time and interpersonally cardinal across societies (of humans). They are jointly sufficient to prove the *RUC thesis*. However, Plant does not make it entirely clear why he assumes that these conditions are true.

For one thing, the relationship between self-reported and actual SWB might not actually be linear. It could, as Yew-Kwang Ng (Professor of Economics at Nanyang Technological University) suggests, take on logarithmic or an arc-tangent form. If the relationship between self-reported and actual SWB takes on an arc-tangent form, then those who rate their well-being a ten-out-of-ten are significantly happier than those who rate their well-being a nine-out-of-ten. The same would apply to those who rate their well-being a one-out-of-ten and those who rate their well-being a zero-out-of-ten. Ng's theory is that "SWB is theoretically infinite but measured on a bounded scale" (Plant 144).

On the other hand, Moral Philosopher Stijn Bruers argues that, due to the fact that each individual has only a finite number of neurons, an individual's SWB capacity cannot be infinite. He writes that there is possibly a minimum amount that we can experience, as well as a maximum amount. Sensations such as pleasure and pain come from our brains, which contain (Bruers):

*a discrete, countable number of neurons (about 100 billion in a human brain), which consist of a discrete number of atoms following the laws of quantum mechanics where fundamental properties are quantized. ... As a result, a brain can process a discrete, finite amount of information bits per second (about 20 million billion bits per second for the human brain).*

Bruers reasons that a brain cannot process unlimited information within a limited amount of time, since neurons (which process information in the brain) are themselves limited in number. Thus, he concludes that there is a limit to the amount of pleasure, pain, or any sensation, that we can experience. From a physiological standpoint, this reasoning seems compelling.

Even if we assume that Bruers is correct on this matter, we still ought to consider that individuals might misreport their levels of well-being. There are a variety of reasons why individuals might misreport their SWB. For example, it is probably the case that most individuals have never experienced the upper and lower limits of their SWB capacities. Therefore, it is difficult for them to judge the experiences they have had relative to these limits.



When Plant argues that most people use a cardinal scale to evaluate their own well-being, he cites Dutch economist Bernard Van Praag's observation that:

*... in experiments, when subjects are asked to assign numerical values of between 1 and 1000 to five verbal labels (very bad, bad, not bad, not good, good, very good), the consistent pattern across individuals is to space the words so they are numerically roughly equal-interval ...*

This evidence suggests that most people evaluate their own well-being using a cardinal scale, or at least do this when provided a bounded cardinal scale to use to evaluate their well-being. Plant concludes from this that there is a linear relationship between self-reported and actual SWB.

Let us assume for now that the evidence above determines that there is a linear relationship between self-reported and actual SWB. I am, however, less convinced that (3) there is a consistent scale used over time for each individual (or that SWB scales are intrapersonally cardinal), (4) individuals have the same maximum and minimum capacities for SWB, and (6) there is consistent scale use between societies (of humans).

I will expound upon my doubt that individuals use the same scales to evaluate their well-being through my discussion of Haybron and *affective ignorance* in one of the sections to come. These errors, however, have been shown to cancel out over large samples of data. Therefore, the third criterion is admissible when we are considering large data samples.

However, the fact that individuals probably do not have the same maximum and minimum capacities for SWB is a relevant concern. Perhaps (neurotypical) humans do share similar maximum and minimum capacities for SWB, so this concern might be more relevant for well-being comparisons between individuals across species. In the following section, I will discuss how, theoretically, we ought to treat differences in perception when making well-being comparisons.

Additionally, there is likely not consistent scale use between societies of humans. Scale use may, in fact, vary cross-culturally. Individuals raised in collectivist communities, such as those of many Asian countries, are probably less skilled at emotional introspection because emotional introspection is culturally discouraged. Thus, it would make sense for them to be less sensitive toward or, perhaps, less attuned to their well-being. Haybron writes, “Thus judgments of life satisfaction in collectivist cultures have been found to draw less on affective state than judgments in individualistic cultures, and in some countries—like China—may not correlate with negative affect at all” (402).

This finding suggests that people from different cultures either (1) have different values that cause different criteria to factor into their well-being assessments, or (2) use the scales presented to them differently. The second possibility would pose obstacles for intercultural well-being measurements. For example, if two people from different cultures could have the same measured well-being but different actual well-being (or vice versa), procuring such data would be counterproductive.

Plant's argument that self-reported SWB scales are interpersonally cardinal might, as it turns out, be merely wishful thinking. However, the fact that SWB cannot be measured as easily as Plant believes does not mean that SWB cannot be measured.

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### **3.3 DIFFERENCES IN PERCEPTION**

When comparing the well-being of two individuals, there are at least two relevant potential differences in perception that we must consider. The first is how these individuals perceive their experiences. This is important because sentient individuals have a tendency to enjoy pleasurable sensations and dislike painful ones. The second is how these individuals perceive the duration of their experiences. This is important because sentient individuals tend to prefer longer pleasurable experiences to shorter ones and prefer shorter painful experiences to longer ones (all else being equal).

Taking these differences in perception into account is especially important when comparing the well-being of individuals from different species because there is evidence that individuals from different species perceive differently.

First, let us focus on the differences in how individuals might perceive their experiences. There are two amounts, or increments between intensities of experience, that we can use to scale our measurements of well-being per individual (Bruers):

*Our perceptions appear to be discrete, with a so-called just-noticeable difference or JND: the minimum amount an objective stimulus must be changed before the corresponding subjective experience changes. ... Our brains are also finite, which means they cannot generate infinite experiences. Hence, there must also be a maximum noticeable difference or MND.*

We can use both *JNDs* (which are conceptually similar to *JPIs*) and *MNDs* to scale our measurements of well-being per individual. We still do not know how we ought to use these *differences* to determine such scales, though. Theoretically, we have a couple of options for how these *differences* might allow us to make meaningful comparisons between the experiences or well-being of two individuals.

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Our first option is to use the *staircase model of experiences*. This model is based on the premise: “If a stimulus (for example: room temperature) is increased, our perception (for example: the sensation of heat) increases with many small discrete steps, just like a staircase.” These staircases also branch from some neutral experiential state that, in this analogy, is a room on the ground floor. An individual in a neutral experiential state perceives no pleasure and no pain—no significant positive or negative affect.

The staircases act like a grid, potentially with multiple dimensions, each axis of which corresponds to a kind of sensation or stimulus: “Each sentient being has its own

utility function that can be represented as a multidimensional staircase in a multidimensional room” (Bruers). Some stairs go up while others go down. For example, the stairs that correspond to pleasurable experiences might go up, while those that correspond to unpleasurable experiences might go down.

(It is important to note that *JNDs* can vary intrapersonally, even for the same sensation or stimulus. For example, our *JND* for temperatures we are more used to, such as those around room temperature, might be lower than for temperatures we are unfamiliar with, such as those that we would find extremely hot or extremely cold. In the case of our *staircase model* the heights of the individual stairs in our staircases might vary, similar to *JNDs*.)

Using the *staircase model*, *JNDs* are considered to be interpersonally equivalent, meaning that each *JND* ought to be weighed equally. Suppose that the greatest amount of suffering a honey bee can experience is 960,000 *JNDs* of suffering and the greatest amount of suffering a cat can experience is 760,000,000 *JNDs* of suffering. (These numbers are chosen based on the number of neurons that members of both species typically have.) Then, if a honey bee and a cat each experience 1,000 *JNDs* of suffering, then both animals’ suffering ought to be considered equally because they are experiencing the same raw amount of suffering.

Our second option is to use the *normalization model*. According to Breurs, we ought to use this model if experiences are not discrete, but continuous. The *normalization model* is a more relevant framework to use if we assume *equal consideration of interests*. It might be the case that a honey bee is less capable of suffering and pleasure than a cat is. It also

might be the case that non-human animals are less capable of suffering and pleasure than humans are.

The *staircase model* would make more sense if individuals' consciousnesses, and therefore individuals' experiences, were not contained within their bodies and minds. However, since experiences and well-being do not and cannot transfer cross-individually, it is more reasonable to compare the well-being of separate individuals by converting between their scales, rather than assuming their *JNDs* are interpersonally cardinal. Rather, we should focus on how many *JNDs* an individual is experiencing relative to their *MND*.

If we are to use the *normalization model*, then we need to figure out how to convert between individual scales. Bruers draws an analogy between thermometers measuring temperature and people measuring SWB. He writes the following:

*Suppose there are two rooms, each having a thermometer. One room contains a mercury thermometer, the other a digital thermometer. The readings of the thermometers are different: the mercury thermometer measures the temperature in terms of degrees Celsius, the digital thermometer has other units. You cannot move the thermometers from one room to the other. The rooms can have different air temperatures. How are we going to find out which room is the warmest?*

*This is the analogous situation of the interpersonal comparison of utility between two persons. The two rooms correspond to the two brains of two*

*persons. The air temperature corresponds to our objective utilities. The readings on the thermometers correspond to the subjective utilities: our subjective valuations or stated preferences.*

This analogy illustrates how converting between two individuals' scales of SWB might be similar to converting between two scales of measurement for any other quantifiable construct.

Bruers suggests that overcoming this obstacle for well-being measurements entails knowing how to determine the reference point and unit of scale for each individuals' SWB scale. The reference point and unit of scale are points at which we can verify that each individual's level of SWB is the same—these points can be located anywhere on each scale. (For example, good temperatures for determining the reference point and unit of scale between Fahrenheit and Celsius are the boiling and freezing points of water. By observing the readings on both Fahrenheit and Celsius thermometers at the temperatures water freezes and boils, we now know two points at which the number of degrees in Fahrenheit is equal to the number of degrees in Celsius.)

These can be tricky to determine for SWB. A good reference point might be the level of well-being that individuals describe as neutral. (It is easier when the reference corresponds to the value zero, or does so as closely as possible, depending on the construct.) For the unit of scale, we would have to discover a point at which, similar to a neutral affective state, individuals demonstrate equal levels of SWB.

Once we have both a reference point and a unit of scale, we can come up with uniquely specified linear equations that we can use to convert between two individuals' well-being scales. (For example,  $x$  degrees Fahrenheit, minus thirty-two degrees, times five-ninths is equivalent to  $y$  degrees Celsius.) Bruers writes that we can do this, if we have enough SWB data for each individual, by calculating the standard deviation between the points on each individual's scale and dividing all values on both scales by their respective standard deviation. (Bruers assumes that (1) there is a linear relationship between individuals' reported and actual SWB and (2) individuals' scales align at their neutral state.)

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Now, we will focus on the differences between how individuals might perceive the duration of their experiences: "For example the visual perception part of a fly's brain is four times faster than ours, so when a fly looks at something for one second, it is comparable to us looking at it for four seconds." Theoretically, "After your just-noticeable time difference, you reevaluate your utility function" (Bruers). Therefore, if a fly and a human each experience a one-second shock, the fly might perceive the duration of the shock as four times longer than the human perceives the duration of the shock.

If we can determine the differences between (1) how individuals perceive their experiences and (2) how individuals might perceive the duration of their experiences, then



we have a framework that we can use to compare well-being (and other experiences) interpersonally.

### 3.4 SELF-REPORTS AND INTRAPERSONAL WELL-BEING

Each of us knows what our experiences and lives are like better than anyone else does. As John Stuart Mill writes in *On Liberty*, "... with respect to his own feelings and circumstances, the most ordinary man or woman has means of knowledge immeasurably surpassing those that can be possessed by anyone else." And, as Dan Haybron (Associate Professor of Philosophy at Saint Louis University) writes, "If we are sound judges of anything, it seems, it would be about what our lives are like for us" (Haybron 396). Conversely, other people can more reliably assess what their lives are like for them than we can. The experiential content—consisting of physical and psychological states, memories, desires, and more—of each sentient being can only truly be known by that being.

Even through communication, we will never be able to tap into what it is like to live as another being in another body. We cannot confirm that the color red that you see appears the same to me. Further, it is much less likely that one person can understand the well-being of every other sentient life form in order to formulate a scale for measurement and comparison. Even the most empathetic among us are incapable of accessing another person's memories and psychological states in the same way that person is.

Given that no one can truly know what another individual is experiencing, it would seem that we must rely on individual assessments, which would require participating individuals to honestly and accurately report their experiences. If these self-reports can be

trusted, then, theoretically, they could lead us to accurate judgments about the well-being of these individuals. With greater specificity, Angus Campbell (who authored “The Sense of Well-Being in America: Recent Patterns and Trends”) argues that (Diener, et al. 4–5):

*... three assumptions must be met in order for well-being judgments to be meaningful: (a) the experiences that people encounter should add up to global feelings of well-being, (b) these feelings ought to be relatively stable over time (because life circumstances typically change relatively slowly), and (c) people should be able to report these feelings with candor and accuracy. Laboratory studies challenge these assumptions in several ways.*

In fact, there is ample evidence to suggest that self-reported well-being evaluations do not meet Campbell’s assumptions, particularly the third. Evidence shows that people are unable to report their own well-being with candor and accuracy. This could be because they are unwilling, incapable, or both.

Supposedly, an accurate self-evaluation of a person’s well-being would require the person to spend at least a certain amount of time conducting a comprehensive search of their memory for relevant information. However, people tend to fill out evaluations of their well-being too quickly to have conducted a thorough enough memory search (which poses an issue for the face validity of life satisfaction measures). This suggests that, when filling out these evaluations, people are not aggregating all of the relevant information necessary to provide an accurate assessment of their well-being.

It is possible that people use heuristics to make speedy judgments about their well-being, which could lead to biased reports. It is also possible that people rely on their immediate and salient affect to inform their evaluations of their overall well-being. In any case, such self-reports would be dubiously meaningful in Campbell's view. Perhaps we ought to doubt that we can trust our own conclusions about our well-being, which would indicate that Campbell's three assumptions cannot be met.

Haybron asserts in his paper that we as human beings evidently do a poor job at evaluating how happy we are. He assumes a hedonistic conception of happiness in his paper, more or less equating happiness with pleasant affect. According to him, we are both poor at evaluating how happy we are presently and how happy we were in the past.

Different flavors of experiences are experienced differently by us, some more consciously than others. Haybron discusses Ned Block's controversial distinction between *p-consciousness* and *a-consciousness*: "P-consciousness concerns the 'what-it's-like-ness' of our experience, its qualitative character, whereas a-consciousness concerns the availability of a state to serve as a premise in reasoning and in the rational control of thought and action—'awareness,' more or less" (Haybron 413). This distinction matters because a-consciousness is more accessible than p-consciousness, which is noteworthy if (1) we want to measure p-consciousness and (2) measuring p-consciousness necessitates our awareness of it (or the awareness of a given sentient being).

One might think that phenomenality cannot exist without awareness. However, we have many signs of what Haybron terms *affective ignorance* (or *AI*). The first several examples of *AI* that he mentions highlight our ignorance of our experiential states in the

present. For instance, he describes *elusive affects*, or the phenomenon that some feelings are more elusive than others. He notes that some affective states, such as anxiety, can escape our ability to discern them while they occur, which is why they are considered more elusive than paradigmatic ones, such as terror. However, he argues that elusive moods are “central to the experienced quality of our lives, far out of proportion to their grip on our attention.” Even when they are barely noticed, elusive moods play a crucial role in our well-being at any given moment (Haybron 398).

Other kinds of *AI* in the present include *adaptation to persistent affect* (when one persisting state we experience becomes our new perceived baseline state), *attentiveness and discernment* (when contrast between two experiential states brings attention to the magnitude of the former state), and *scale norming* (when how we evaluate our well-being shifts depending on the range of experiential states that we are used to). Due to the pervasiveness of *AI*, of which there are even more examples than those listed above, there are many instances in which one could currently be in an unpleasant state and not know it.

Some of the following examples of *AI* that Haybron mentions highlight our ignorance of our past experiential states. For example, he describes *omission* (when we are unable to recall every state we experienced within a relevant window of time), *peak-end effects* (the ubiquitous phenomenon that occurs when our recollection of an experience focuses on the felt qualities of its most intense moment and its ending), *duration neglect* (when our recollection focuses on the felt quality of the most hedonically salient aspects of the experience rather than the length of the experience), and more.

*AI* may perhaps lead us to counterintuitive conclusions about well-being. For example, due to peak-end effects, extending the duration of a painful procedure but reducing the amount of pain experienced at the end can alter a patient's memory of the procedure, such that they believe that it was less painful than it was (Haybron 407):

*... doctors can improve the remembered quality of a painful medical procedure (a colonoscopy) by extending the procedure, but with a slightly less painful coda. That is, you can make an experience seem less painful in retrospect by adding more pain. Not only did this manipulation yield surprising memories of hedonic quality, it also affected future choices: patients given the more painful procedure were more likely to return for another exam five years later. Similar results have been found with a wide range of situations: the peak-end rule appears to govern hedonic recall quite generally.*

*AI* shows that phenomenality can exist without awareness, and that there is a meaningful distinction between p-consciousness and a-consciousness. When there exists p-consciousness, but not a-consciousness, it is difficult for an experiencer to evaluate a past or present experience.

Fortunately, when an individual is surveyed many times over a long period of time or a large population of individuals is surveyed, errors that can be attributed to *AI* seem to cancel each other out.

### 3.5 SHIFTING SCALES

As Haybron suggests, we have reason to believe that the scale that an individual uses to evaluate their SWB shifts over time. This leads us to safely assume that the same individual might be using different scales at different time slices, or, at least, it would be difficult to know for certain that they are not. Plant writes that, if these scales shift significantly per individual, then we might conclude that self-reports should not be taken at face value, depending on what we are using them for: “If individuals do this, self-reports are not *intrapersonally* intertemporally cardinal” (148).

If SWB measures are intrapersonally intertemporally cardinal, then a one-point increase in well-being for an individual is equivalent to a one-point increase in well-being for them at any other time-slice. To successfully make intrapersonal comparisons of SWB (or make SWB comparisons between the same person at different time-slices), we need to find a way to either (1) ensure that self-reports are intrapersonally cardinal (or at least intrapersonally ordinal) or (2) manipulate self-reports so that we can use the same scale intrapersonally.

Let us now distinguish between adaptation and rescaling, both of which could potentially cause scale norming (Plant 149):

*If we want to accurately measure [someone’s SWB] then ... adaptation poses no issues for intrapersonal intertemporal cardinality ... [but] rescaling is problematic. It means [their] self-reports represent different levels of actual [SWB] over time.*

Rescaling, more specifically, is when individuals adjust what they consider to be the upper and lower ends of their SWB scales. It seems that the type of scale norming discussed by Haybron resembles the latter rather than the former.

To be clear, scale norming in itself does not influence SWB. It affects where people draw the lines between different ways they could evaluate their experiences, rather than the actual quality of their experiences. While it may be evolutionarily advantageous for individuals to change where they draw these lines, this does not mean that we can draw meaningful conclusions about well-being from how these thresholds adapt.

Due to adapting thresholds, when an assessment asks individuals to choose a number out of ten to represent their well-being, scale norming affects (1) the distinctions they draw between the numbers they are choosing between and (2) the quality of well-being that each of the numbers represent. This inhibits the extent to which the data we collect enables us to make meaningful comparisons of well-being, both between one individual's well-being among several time slices and between the well-being of separate individuals.

Unfortunately, scale norming can distort our measurements of well-being. Simply because one person's ten is another's six does not mean that the first person lacks the potential to reach the other's ten. The range of well-being that a person has experienced thus far does not necessarily encompass the range of well-being that they have the potential to experience in the future. This potential matters. Conversely, the range of well-being that a person has experienced recently does not necessarily encompass the

range of well-being that they have ever experienced in their life. Someone may forget that they are capable of being better off than how well off they are now, or how well off they are now in comparison to how they were worse off before. These comparisons matter.

The claims that this potential matters and these comparisons matter might seem at odds with our prioritization of SWB, but, ideally, the scales that we use to assess SWB can capture the entire range of well-being that individuals are capable of experiencing, from their absolute minimum potential of well-being to their absolute maximum potential. If individuals are unaware of their potential for well-being, then their well-being judgments might not be helpful for us to create a better future for them. We want sentient individuals to be better off, whether or not they know they are capable of it. It would help them and us to know when this is possible and when it is not.

### **3.6 EXPERIENCE VERSUS EVALUATION MEASUREMENTS**

Haybron's findings highlight another dilemma concerning how we ought to measure well-being: whether we ought to evaluate it based on what people experience moment-to-moment or based on people's recollection of their past experiences. As mentioned earlier, SWB consists of both experiential and evaluative components.

Bruers distinguishes between these two outlooks on experiences, or between what he calls the *experiencing self* and *remembering self*:

*The experiencing self lives in the present moment and evaluates well-being or utility after each just noticeable time period. The remembering self evaluates*



*utility for a past episode, based on memory of the experiences in that episode.*

*The utility function of the remembering self can be different from the (sum of) utility functions at each of the experienced instantaneous moments, i.e. for each of the experiencing selves during a time interval.*

Conceptually, we might be more interested in measuring the well-being of a series of an individual's *experiencing selves* rather than measuring the well-being of their *remembering self*. However, three well-being measurements used by researchers—the first couple of which measure the well-being of a series of *experiencing selves* (the experience sampling method and day reconstruction method) and the other of which measures the well-being of the *remembering self* (life satisfaction measurements)—tend to produce results that lead to similar conclusions per individual.

### **3.7 PRE-EXISTING METHODS**

Now, I shall discuss some of the methods that have been used for measuring well-being and evaluate to what extent they each succeed. To properly evaluate these psychometrics, we must consider their reliability and validity.

The quality-adjusted life year (QALY) and disability-adjusted life year (DALY) health metrics have widely been used by the researchers as proxy measurements for SWB. These health metrics are typically used to gauge how undesirable it is to live with health conditions or disabilities.

Some researchers have expressed concern about the validity of using these methods for evaluating well-being and other purposes. QALYs and DALYs are determined by asking members of the public how many years of healthy life they would consider equivalent to the value of ten years with a given health condition or disability.

One of the problems with QALYs and DALYs is that they are determined by individuals who have never experienced the illnesses in question. These individuals, then, must rely on their imagination rather than firsthand knowledge. QALYs and DALYs would be more meaningful if they were determined by the individuals who have experienced the health conditions and disabilities and, therefore, have deeper and more informed perspectives on them (“Measuring Happiness”).

According to “Measuring Happiness,” “The ‘gold standard’ for measuring happiness is the experience sampling method (ESM), where participants are prompted to record their feelings and possibly their activities one or more times a day.” This method has profound merits. For example, it grants researchers access to a series of an individual’s evaluations of their own well-being, distributed consistently throughout a period of time. Each of these evaluations are based on the individual’s opinion of their well-being in the present moment when they are recording these evaluations. This limits the degree to which *affective ignorance* can manipulate these evaluations, since some kinds of *AI* can only distort individuals’ recollections of past experiences.

While ESM is a great way to take many samples of the quality of an individual’s experiences (as they evaluate them in the present), it is expensive to implement and inconvenient for the individuals being surveyed to repeatedly fill out ESM surveys. The day

reconstruction method (DRM) is less expensive and more convenient for participants because “respondents use a time-diary to record and rate their previous day” (“Measuring Happiness”). Although this method might seem more vulnerable to *AI* distortions than ESM does, the two methods produce comparable results. Therefore, DRM might serve as an effective and more efficient proxy for well-being measurements.

Even so, DRM surveys take approximately forty minutes for individuals to fill out, and this process must be repeated in most cases to get a large enough sample of data. In comparison, collecting life satisfaction (LS) data is a much less intensive process. LS measures usually only require individuals to answer one simple question—more or less, how happy they are with their life as a whole. It takes most individuals approximately thirty seconds to respond to LS surveys. Additionally, LS measures have been shown to strongly correlate to individuals’ respective levels of SWB evidenced by ESM and DRM.

ESM can be considered an experiential measurement method, LS measures can be considered evaluative measurement methods, and DRM can be categorized somewhere in between. Although experiential and evaluative measurement methods are designed to measure different phenomena, their strong correlation suggests that they can serve as effective proxies for one another. They might be strongly correlated because “evaluative judgments are, in part if not in whole, determined by how happy people are” (“Measuring Happiness”).

Even if we value improving individuals’ well-being and prioritize improving the quality of their moment-to-moment experiences rather than their satisfaction with their

lives as a whole, it might nonetheless be wise to use LS measures as proxies for experiential measures, such as ESM or DRM, as LS measures are much more feasible to conduct.

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#### 4. INTERPERSONAL APPLICATIONS

Thus far, we have explored why SWB is the most intrinsic normative good, or valuable at the very least. We have determined that SWB has significance due to its subjective component—it is ethical to improve an individual’s well-being because their well-being matters to them. We have addressed important considerations about how measuring well-being can be made feasible. The next question we will explore is whether we ought to try to maximize the total amount of well-being regardless of how we distribute it.

The late philosopher John Taurek argues that we should not. He asks his readers to consider the following situation (294):

*... I have a supply of some life-saving drug. Six people will all certainly die if they are not treated with the drug. But one of the six requires all of the drug if he is to survive. Each of the other five only requires only one-fifth of the drug. What ought I to do?*

He anticipates that some readers will argue that he ought to give his drug to the five people, which would mean that the one other person dies. He acknowledges that (1) people reason that, all else being equal, one ought to save the greater number, (2) intuition tells us that five deaths is more of a tragedy than one death, and (3) according to some, morality demands that we judge a situation from an impartial perspective. For these reasons, in addition to the principle of *equal consideration of interests* that I mentioned earlier, someone could convincingly argue that we ought to treat all six lives as having equal value, and this means that saving five lives is preferable to saving one (even if the one is your own).

Some information about these five individuals might convince him that their deaths would be especially tragic: "Perhaps [one] is close to discovering some wonder drug or is on the verge of negotiating a lasting peace in the world's perennial trouble spot." Alternatively, having this information might convince him that their deaths would be relatively unproblematic: "They might be five driveling old people or five idiot infants, loved by no one" (Taurek 294–295). Perhaps this information should count. For example, if one of the five individuals were on the verge of negotiating lasting world peace, he would be saving far more than five people by giving them one-fifth of his drug. On the other hand, one of the five individuals is statistically more likely to be a serial killer. If he were to give them one-fifth of his drug, then he would be allowing more than five people to die.

Moreover, it is not as if the total happiness (or well-being) actualized across five lives could benefit any one of them more than the total happiness actualized across their

own life could benefit them. Taurek states that it would be ridiculous for any of the five individuals to say the following to him (300):

*Now, we would not ask you to die to make possible the net happiness realized in the life of any one of us five. For you might suppose that you could realize as much in your own lifetime. But it would be most unreasonable for you to think that you could realize in your one lifetime anything like as much happiness as we get when we add together our five distinct favorable balances.*

It might seem that Taurek is disputing the principle of *equal consideration of interests*. There is, however, another takeaway: that Taurek is not disputing *equal consideration of interests*, but suggesting that *equal consideration of interests* does not require us to multiply the interests of a group times the number of group members when comparing a decision with its counterfactual.

There is value in this takeaway because well-being matters only insofar as it matters to someone, which is why improving SWB is our ethical prerogative. No individual can benefit or be disserved directly from the well-being of multiple individuals—therefore, it is important to consider how well an action distributes well-being among individuals, rather than how well it maximizes some overall quantity of well-being.

If *equal consideration of interests* does not require us to multiply the interests of a group times the number of group members when comparing a decision with its counterfactual, then what does this principle imply? What should we do in situations in

which we must distribute increases and decreases in well-being among a group of individuals?

Perhaps we ought to prioritize equality, to some extent, rather than total well-being maximization in such situations. (Equality, in this case, refers to equality of well-being rather than material equality. If five individuals are isolated on a desert island with scant resources and only have enough water to sustain four of them, then they ought to use the water to sustain four of them and allow one to die. If they distribute the water equally, then each individual has four-fifths of the water that they need to survive and all five of them die. In this situation, prioritizing material equality clearly does not make sense.) If one individual is suffering and another individual is neither suffering nor happy, perhaps we ought to prioritize improving the well-being of the suffering individual, even if we could improve the well-being of the other individual more.

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## 5. CONCLUSION

Once we know how to measure SWB, we will get closer to understanding the importance of reducing psychological pain in comparison to physical pain, preventing the exploitation of non-human individuals in comparison to the exploitation of humans, and a plethora of other societal and environmental problems. Measuring SWB will help us analyze the severity of such problems and discover how we ought to prioritize them. Measuring SWB will also help us ensure that we are making progress toward improving the SWB of individuals and thereby ensure that our interventions are effective.

In many situations, we must decide how to most effectively allocate our limited resources. There are many worthy organizations to donate to, but suppose that our funds are limited and we cannot donate to them all. It is important, then, to note that some charities (1) provide aid to larger quantities of sentient individuals than other charities do and (2) demonstrably improve the well-being of each individual aid recipient more than other charities do.

The most urgent cause areas, according to the Centre for Effective Altruism (CEA), are large in scale, highly neglected, and highly solvable. One such cause area is global poverty (“Introduction to Effective Altruism”):

*Diseases associated with extreme poverty, such as malaria and parasitic worms, kill millions of people every year. Also, poor nutrition in low-income countries can lead to cognitive impairment, birth defects and growth stunting. Much of this suffering can be relatively easily prevented or mitigated. Antimalarial bednets cost around \$2.00 each. GiveWell, an independent charity evaluator, estimates that they can significantly reduce malaria rates. Even simply transferring money to people who are very poor is a relatively cost-effective way of helping people. Not only does improving health avert the direct suffering associated with sickness and death, it also allows people to participate more fully in education and work. Consequently, they earn more money, and have more opportunities later in life.*



Another such cause area is non-human animal welfare (“Introduction to Effective Altruism”):

*The advent of industrialized agriculture means that billions of animals each year are kept in inhumane conditions on factory farms. Most have their lives ended prematurely when they are slaughtered for food. Advocates for their welfare argue that it is relatively cheap to reduce demand for factory farmed meat, or enact legislative changes that improve the welfare of farmed animals.*

Donating to charities that successfully alleviate symptoms of global poverty and improve non-human animal welfare in industrialized agriculture goes toward reducing a greater amount of suffering (per each individual), and the suffering of more sentient beings, than donating to many other charities that address different cause areas would. If we hope to make the largest impact possible, perhaps we ought to donate to charities that demonstrably perform successful interventions in these cause areas.

Once we can measure SWB or have a valid proxy measurement, we will have a relevant and accurate method to determine which charities make the most significant impacts. The charities themselves could even use such data to ensure that they are benefiting those who they are helping to the maximum degree possible. If we prioritize the well-being of sentient individuals, which we should, this endeavor is most tractable if SWB can be defined and measured in some way.

I hope that I have shown you that measuring SWB is more tractable than it might seem, while simultaneously exposing you to some of the theoretical challenges that this endeavor faces. Certainly, further research will bring us closer to measuring SWB in a valid and reliable way that we can implement to better our world.

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