Happiness is defined as an emotion and a psychological state of emotional well-being,¹ and is widely perceived as positive, much like joy and pleasure.² Emotions are mental reactions of feelings that are subjectively felt and are usually targeted toward a specific object or event.³ Whether or not and how a certain emotion is felt by an individual is related to that person's value, experience, and ideals.⁴ At first glance, happiness, given its ubiquity as an emotional experience, may not seem like something difficult or impossible to be measured. While commonly-even, universally-experienced, happiness is also, in a sense, abstract and, as an experience, specific to each individual; thus, happiness cannot be translated into specific measurements, that is, in any way that permits insight into different degrees of the experience. This essay will defend this argument by examining the psychological experience and how the brain plays a part with this emotion. Firstly, it will go over the subjectivity of happiness. Secondly, it will explore the transient nature of emotions and how the degree of happiness felt is often relative to the circumstance. Thirdly, it will bring up how people can experience multiple emotions and how it would make it hard to clearly block out the exact feeling or the exact degree of it. Fourthly, it will explore common psychological assessment approaches and their inappropriateness for measuring happiness. Finally, it will point out that our current knowledge of brain activity does not enable us to objectively record happiness.

Happiness is a very subjective experience, and its subjectivity would seem to make it hard to measure objectively. The term happiness is often associated with two factors: an experience of feelings that derive from an emotion such as joy and an overall appraisal for one's current state of life and how satisfying it is.⁵ Both factors are deeply rooted in the perspective of the individual who is experiencing happiness. Indeed, what makes someone feel happy is directly related to their personal beliefs, which will vary from person to person.⁶ Take, for example, the debate about whether money brings happiness—or not. Some may be satisfied only if they are wealthy, while others may be satisfied with a not-so-affluent life if it means that they get to spend time with the people who are important to them.

Such differences in emotional responses to objective differences in life situations renders the measurement of happiness difficult. As another example, imagine an individual who is at their lowest. Under such circumstances, if something small, but nice that would be normally considered insignificant happens in that person's life, this could lift their spirits up more than it usually would in another scenario. The contrast between the pleasant and unpleasant, now quite distinct, could change the degree of joy felt by the individual. In another scenario, something that would usually make a person joyful might have less of an effect on them if that person has been experiencing more positive things in their life. The varied responses individuals feel in relation to seemingly objective stimuli for happiness represents a challenge in measuring the emotion.

The transience of emotions adds to the complexities of evaluating and measuring happiness.⁷ Most emotions are fleeting and occur in a given moment in an individual's mind.⁸ A lot of events in life that act as a stimulus come and go continuously; someone could be sad one moment and their mood could shift to something positive right after being given great news that outweighs the sadness.

The time sensitive nature of emotions makes measurement challenging. Surveys that ask people to indicate their level of happiness capture momentary glimpses of what someone is feeling. These responses are likely to differ from minute to minute, day to day, and so on. Many emotions, including happiness, that are felt, while short-lived, can have a great and, in some respects, lasting, impact.⁸ While an emotion might be fleeting, the experience of some emotion might influence their perception of that prior experience. That is, once the stimulus for some feeling wears off, one might assess one's emotional state more dispassionately, which may lead to a different interpretation of what they were feeling then.⁸

The different dimensions and layers of emotions contribute to the complexities of accurately mapping out happiness and it's exact value. In many scenarios the individual is able to identify what they are feeling whether happy, joyful, sad, angry or scared.⁹ Yet, sometimes a person might experience multiple, layered—even, contrasting—emotions at the same time. For example, an individual who experienced abuse at the hands of a former friend or partner might feel relief upon learning that that person was publicly exposed as abusive; at the same time, they might also feel anger, disgust, fear, or disbelief that the abuser behaved as they did. Depending on the complexity of the circumstance, emotions could mix and interchange swiftly.⁸ This aspect of emotional experiences can make recognizing, evaluating, and picking apart one's own emotions difficult. Moreover, one study looked at how quick, fleeting emotions could affect people's judgment and found that people's interpretation of expressions of emotion of either them or other people and what emotions these expression represent can be easily influenced by their own transient emotions.⁷

The main approach of using surveys to detect a psychological state or emotion would also not be applicable to happiness because of its complex layers of definition that may cause misinterpretations. ¹⁰ Many psychological disorder or state uses surveys or questionnaires as an aid in diagnosis, depression for example uses the Beck Depression Inventory scale to help

diagnosis¹⁰. Happiness, also, is sometimes measured through these types of surveys, with questions such as "how often do you feel like you are happy over the past week."¹¹ These surveys aim to collect data that correlates with how happy people are and usually is used in comparing levels of happiness between groups of people.⁵ While seemingly useful, these surveys are nonetheless flawed. Most surveys are designed with the goal of obtaining accurate and honest results; yet, sometimes people may lie or provide inaccurate responses, whether unintentionally or intentionally.¹² Barnum effect, which refers to when a person believes that vague predictions have specific application to oneself, leads to a wrong interpretation of the questions which may lead to an inaccurate result.¹³ Although this is a condition that is more associated with personality quizzes, the underlying logic and cause of the Barnum effect is one thing to keep in mind with the wordings used in self-reporting tests and surveys because vague concepts and phrases are going to be misleading. If the survey used to measure happiness uses phrases such as "often feels good," how can researchers be sure that one individual's idea of "often" and "good" is the same as another person's?¹⁴ Especially with concepts such as happiness, an abstract idea, the meaning of which can venture into philosophy or psychology, will lead to different interpretations based on different people.⁵ These factors complicate survey responses and show their limited utility in measuring happiness.

The brain has been observed to demonstrate patterns of activity seemingly related to or indicative of happiness. The amygdala, we know, is involved in regulating and responding to both positive and negative emotions. Also, when people think happy thoughts or are in a state of pleasure, neurotransmitters, such as dopamine and serotonin, are released and seem to trigger those feelings.^{15,16} A trigger for dopamine could be shopping or smelling something nice; a trigger for dopamine might be getting a reward after an exam or eating one's favorate snack .¹⁷

References to activity in the amygdala or levels of neurotransmitters seem like great ways to measure happiness objectively, but they are not without pitfalls. The physiological activities of the brain that relate to emotional experiences are not yet feasible to be used for measuring happiness. Many complex procedures in this organ that allow people to feel as they do are not well understood and able to be assessed as one can do with, for example, blood sugar levels.¹⁸ The specific way in which the amygdala plays a role in our emotions is not clear.¹⁴ It is established that the amygdala do take a part in the function of emotions, fight or flight response, social interactions and so on but the exact how is not clear. It interferes with regulation of the system, but which active activities of the amygdala reflect which specific function isn't clear.¹⁴ Neurotransmitters, while related to emotions, are also associated with many states and activities that are unrelated to emotions., so measuring some level of neurotransmitter will not directly or necessarily represent happiness.

The nerves, chemicals and the psyche of humans represent a complex web that is largely not understood to this day. Happiness and the challenges in measuring it are emblematic of this complexity. Assessing "how much happiness" is going through a person's mind is currently impossible, and, perhaps, always will be.

End Note

¹Britannica. "Happiness." *Encyclopædia Britannica*, 10 May 2023,

www.britannica.com/topic/happiness.

- ² Lyubomirsky, Sonja. "Happiness Definition | What Is Happiness." *Greater Good*, 2007, greatergood.berkeley.edu/topic/happiness/definition .
- ³ "Emotions." Apa.org, 2022,

www.apa.org/topics/emotions#:~:text=Emotions%20are%20conscious%20mental%20rea ctions.

⁴UWA. "The Science of Emotion: Exploring the Basics of Emotional Psychology." *UWA Online*, 27 June 2019,

online.uwa.edu/news/emotional-psychology/#:~:text=While%20basic%20emotions%20a re%20expressed. Accessed 26 June 2023.

- ⁵ Haybron, Dan. "Happiness." *Stanford Encyclopedia of Philosophy*, Metaphysics Research Lab, Stanford University, 2019, plato.stanford.edu/entries/happiness/#MeaHap.
- ⁶ "Happiness." Leger Happiness Index,

legerhappinessindex.com/happiness/definition/#:~:text=Many%20philosophers%2C%20i ntellectuals%20and%20researchers. Accessed 13 June 2023.

- ⁷ Andrade, Eduardo B., and Dan Ariely. "The Enduring Impact of Transient Emotions on Decision Making." *Organizational Behavior and Human Decision Processes*, vol. 109, no. 1, 27 May 2009, pp. 1–8, https://doi.org/10.1016/j.obhdp.2009.02.003.
- ⁸Qiao-Tasserit, Emilie, et al. "Transient Emotional Events and Individual Affective Traits Affect Emotion Recognition in a Perceptual Decision-Making Task." *PLOS ONE*, vol. 12, no. 2, 2 Feb. 2017, p. e0171375, https://doi.org/10.1371/journal.pone.0171375.

- ⁹Berrios, Raul, et al. "Eliciting Mixed Emotions: A Meta-Analysis Comparing Models, Types, and Measures." *Frontiers in Psychology*, vol. 6, no. PMC4397957, 15 Apr. 2015, https://doi.org/10.3389/fpsyg.2015.00428. Accessed 9 Sept. 2020.
- ¹⁰ Wang, Yuan-Pang, and Clarice Gorenstein. "Chapter 16 the Beck Depression Inventory: Uses and Applications." *ScienceDirect*, Academic Press, 1 Jan. 2021, www.sciencedirect.com/science/article/abs/pii/B9780128179338000207.
- ¹¹ Ph.D, Jeremy Sutton. "6 Happiness Tests & Scales to Measure Happiness."

PositivePsychology.com, 13 Apr. 2019,

positivepsychology.com/measure-happiness-tests-surveys/#:~:text=Psychologists%20hav e%20found%20a%20way. Accessed 13 June 2023.

- entists%20are%20justifiably%20limited%20in. Accessed 26 June 2023.
- ¹¹Brenner, Philip S., and John DeLamater. "Lies, Damned Lies, and Survey Self-Reports? Identity as a Cause of Measurement Bias." *Social Psychology Quarterly*, vol. 79, no. 4, 19 Nov. 2016, pp. 333–354, www.ncbi.nlm.nih.gov/pmc/articles/PMC5639921/, https://doi.org/10.1177/0190272516628298.
- ¹² APA Dictionary of Psychology. "APA Dictionary of Psychology." *Apa.org*, 2014, dictionary.apa.org/barnum-effect.

¹³ "Why Do Surveys Get It Wrong?" IE Insights, 17 Oct. 2022,

www.ie.edu/insights/articles/why-do-surveys-get-it-wrong/. Accessed 14 June 2023.

¹⁴Dfarhud, Dariush, et al. "Happiness & Health: The Biological Factors- Systematic Review Article." *Iranian Journal of Public Health*, vol. 43, no. 11, Nov. 2014, pp. 1468–77, www.ncbi.nlm.nih.gov/pmc/articles/PMC4449495/.

- ¹⁵ "Serotonin Deficiency: Symptoms, Causes, Tests & Treatments." *Healthline*, 24 May 2018, www.healthline.com/health/serotonin-deficiency#:~:text=There. Accessed 6 June 2023.
- ¹⁶Cleveland Clinic. "Serotonin: What Is It, Function & Levels." *Cleveland Clinic*, 18 Mar. 2022, my.clevelandclinic.org/health/articles/22572-serotonin#:~:text=Mood%3A%20Serotonin %20in%20your%20brain.
- ¹⁷ "How to Measure Brain Activity in People." *Qbi.uq.edu.au*, 29 Mar. 2018, qbi.uq.edu.au/brain/brain-functions/how-measure-brain-activity-people#:~:text=Neurosci entists%20are%20justifiably%20limited%20in. Accessed 26 June 2023.

Works Sited

- Andrade, Eduardo B., and Dan Ariely. "The Enduring Impact of Transient Emotions on Decision Making." Organizational Behavior and Human Decision Processes, vol. 109, no. 1, 27 May 2009, pp. 1–8, https://doi.org/10.1016/j.obhdp.2009.02.003.
- APA Dictionary of Psychology. "APA Dictionary of Psychology." *Apa.org*, 2014, dictionary.apa.org/barnum-effect.

"APA Dictionary of Psychology." Dictionary.apa.org, dictionary.apa.org/feeling.

- Berrios, Raul, et al. "Eliciting Mixed Emotions: A Meta-Analysis Comparing Models, Types, and Measures." *Frontiers in Psychology*, vol. 6, no. PMC4397957, 15 Apr. 2015, https://doi.org/10.3389/fpsyg.2015.00428. Accessed 9 Sept. 2020.
- Britannica. "Happiness." *Encyclopædia Britannica*, 10 May 2023, www.britannica.com/topic/happiness.

- Cherry, Kendra. "Emotions and Types of Emotional Responses." *Verywell Mind*, Verywellmind, 25 Feb. 2022, <u>www.verywellmind.com/what-are-emotions-2795178</u>.
- Cleveland Clinic. "Serotonin: What Is It, Function & Levels." *Cleveland Clinic*, 18 Mar. 2022, my.clevelandclinic.org/health/articles/22572-serotonin#:~:text=Mood%3A%20Serotonin %20in%20your%20brain.
- Dfarhud, Dariush, et al. "Happiness & Health: The Biological Factors- Systematic Review Article." *Iranian Journal of Public Health*, vol. 43, no. 11, Nov. 2014, pp. 1468–77, www.ncbi.nlm.nih.gov/pmc/articles/PMC4449495/.
- Eden. "The Transient Nature of Emotions." *The Eden Magazine*, 30 Mar. 2021, theedenmagazine.com/the-transient-nature-of-emotions/#:~:text=Our%20mind%20canno t%20fathom%20that.

- www.apa.org/topics/emotions#:~:text=Emotions%20are%20conscious%20mental%20rea ctions.
- "Feeling | Psychology." Encyclopedia Britannica, www.britannica.com/science/feeling.
- "Happiness." Leger Happiness Index,

legerhappinessindex.com/happiness/definition/#:~:text=Many%20philosophers%2C%20i ntellectuals%20and%20researchers. Accessed 13 June 2023.

Haybron, Dan. "Happiness." *Stanford Encyclopedia of Philosophy*, Metaphysics Research Lab, Stanford University, 2019, plato.stanford.edu/entries/happiness/#MeaHap.

[&]quot;Emotions." Apa.org, 2022,

- Kringelbach, Morten L, and Kent C Berridge. "The Neuroscience of Happiness and Pleasure." Social Research, vol. 77, no. 2, 2010, pp. 659–678, www.ncbi.nlm.nih.gov/pmc/articles/PMC3008658/. Accessed 8 June 2023.
- Lyubomirsky, Sonja. "Happiness Definition | What Is Happiness." *Greater Good*, 2007, greatergood.berkeley.edu/topic/happiness/definition .
- National Institute of Mental Health. "Depression." *National Institute of Mental Health*, Apr. 2023, www.nimh.nih.gov/health/topics/depression.
- NHS. "Symptoms Clinical Depression." Nhs.uk, NHS, 10 Dec. 2019, www.nhs.uk/mental-health/conditions/clinical-depression/symptoms/.

Ph.D, Jeremy Sutton. "6 Happiness Tests & Scales to Measure Happiness." *PositivePsychology.com*, 13 Apr. 2019, positivepsychology.com/measure-happiness-tests-surveys/#:~:text=Psychologists%20hav e%20found%20a%20way. Accessed 13 June 2023.

- Psychology Today Staff. "Emotion Regulation | Psychology Today." *Psychology Today*, 2019, www.psychologytoday.com/us/basics/emotion-regulation.
- Qiao-Tasserit, Emilie, et al. "Transient Emotional Events and Individual Affective Traits Affect
 Emotion Recognition in a Perceptual Decision-Making Task." *PLOS ONE*, vol. 12, no. 2,
 2 Feb. 2017, p. e0171375, https://doi.org/10.1371/journal.pone.0171375.
- "Serotonin Deficiency: Symptoms, Causes, Tests & Treatments." *Healthline*, 24 May 2018, www.healthline.com/health/serotonin-deficiency#:~:text=There. Accessed 6 June 2023.

sokyahealthdev. "Your Brain Thrives on Positivity." Sokya Health, 29 Nov. 2020,

www.sokyahealth.com/mood/your-brain-thrives-on-positivity/. Accessed 7 June 2023.

- Wang, Yuan-Pang, and Clarice Gorenstein. "Chapter 16 the Beck Depression Inventory: Uses and Applications." *ScienceDirect*, Academic Press, 1 Jan. 2021, www.sciencedirect.com/science/article/abs/pii/B9780128179338000207.
- "Why Do Surveys Get It Wrong?" *IE Insights*, 17 Oct. 2022, www.ie.edu/insights/articles/why-do-surveys-get-it-wrong/. Accessed 14 June 2023.
- UWA. "The Science of Emotion: Exploring the Basics of Emotional Psychology." UWA Online, 27 June 2019,

online.uwa.edu/news/emotional-psychology/#:~:text=While%20basic%20emotions%20a re%20expressed. Accessed 26 June 2023.

- "How to Measure Brain Activity in People." *Qbi.uq.edu.au*, 29 Mar. 2018, qbi.uq.edu.au/brain/brain-functions/how-measure-brain-activity-people#:~:text=Neurosci entists%20are%20justifiably%20limited%20in. Accessed 26 June 2023.
- Brenner, Philip S., and John DeLamater. "Lies, Damned Lies, and Survey Self-Reports? Identity as a Cause of Measurement Bias." *Social Psychology Quarterly*, vol. 79, no. 4, 19 Nov. 2016, pp. 333–354, www.ncbi.nlm.nih.gov/pmc/articles/PMC5639921/,

https://doi.org/10.1177/0190272516628298.