

Understanding Gratitude and Happiness: Psychology and Neuroscience behind Well-being

In Search of Meaning for Happiness

Happiness is a subjective feeling that comprises a sense of contentment, joy, and overall well-being. Amidst our regular, routine, and often complex daily life, the importance of happiness cannot be overstated. It serves as a guiding force, influencing our thoughts, actions, and interactions with the world around us. In the context of daily life, happiness acts as a powerful catalyst, shaping our attitudes and responses to the challenges we encounter. It serves as a motivational force, propelling us forward in the pursuit of our goals and aspirations. When individuals experience a genuine sense of happiness, they often find themselves more resilient in the face of adversity, better equipped to cope with stress, and more inclined to engage in positive behaviors. Moreover, happiness is intricately connected to our physical and mental well-being. Even though it seems obvious that positive emotions have a profound impact on our well-being as well as physical health, it is consistently demonstrated in scientific literature too [1-3]. A joyful disposition can contribute to lower stress levels, enhanced immune function, and even increased longevity.

At social level, happiness fosters stronger interpersonal connections and a sense of community. Happy individuals are more likely to engage in prosocial behavior, contribute positively to relationships, and create an overall positive atmosphere in their surroundings [4, 5]. This ripple effect extends beyond individual well-being, influencing the collective happiness of communities and societies. In essence, happiness is not just a fleeting emotion; it is a fundamental aspect of the human experience that weaves its way through the fabric of our daily lives. Recognizing its significance allows individuals to cultivate a mindset that prioritizes well-being, resilience, and the pursuit of positive experiences, ultimately contributing to a more fulfilling and meaningful existence.

Happiness and Well-being

The quest to know about happiness and means of achieving happiness has always been searched and researched over ages by philosophers, theologians, religious heads, scientists, and social scientists. We all strive for happiness in our life and often relate happiness with gaining materialistic wealth, prosperity, success in familial and social life. But these are just one aspect, situations or stimuli which induce happiness for certain individuals for a certain period. They may not be the universal parameters or means of achieving happiness, as many people derive happiness without materialistic wealth or prosperity. The vividness of how people derive happiness is beyond imagination. However, there might be certain practices or virtues that

could be generic for all to derive happiness. In the pursuit of happiness, philosophers as well as scientists have shared valuable insights into effective strategies that individuals can adopt to enhance their overall well-being. Some of the key avenues for achieving and sustaining this positive emotional state could be embracing positive mindsets, nurturing social connections, taking care of physical well-being, setting and achieving personal goals, cultivating resilience, engaging in activities that bring joy, and practicing altruistic behavior to name a few.

But it is always easier said than done, as it is evident that despite these wisdoms being known to us and preached by elders and wise people again and again, we still struggle in our pursuit of happiness. Researchers argue that engaging in any intended activity for our well-being without properly understanding its principle or basics might lead to outcomes which are not up to its optimum [6]. Thus, apart from knowing the means of achieving happiness, it may be desired to know the underlying process of happiness too. For example, researchers have indicated that happiness is associated with cognitive flexibility capabilities, and further suggest the role of cognitive flexibility to enhance happiness [7]. This might draw some critic, as happiness should be a spontaneous rather than an engineered experience. However, knowing the underlying process may help one to filter out the means generally adopted which are potentially short-lived in nature. The scientific exploration of happiness unveils a diverse array of strategies that individuals can incorporate into their lives to achieve and sustain a positive emotional state. By understanding the interplay of cognitive, social, and physical factors, individuals can navigate their unique paths toward a more fulfilling and happier existence.

Connection between Gratitude and Happiness

Among different pathways suggested for attaining sense of happiness, practicing gratitude has been a crucial one, offering a simple yet potent approach to enhance one's overall well-being. There is growing volume of scientific literature linking gratitude with sense of happiness [8]. Cultivating gratitude involves acknowledging and appreciating the positive aspects of life, regardless of their scale. Research consistently highlights the transformative impact of gratitude on mental health, emphasizing its role in reducing stress, fostering optimism, and promoting a sense of contentment [9, 10]. By regularly expressing thankfulness for even the smallest joys and blessings, individuals can shift their focus from what may be lacking to what is present in their lives. This

shift in perspective has been associated with improved mood, increased resilience, and a heightened overall sense of happiness. Incorporating gratitude practices, such as keeping a gratitude journal or verbally expressing thanks to others, not only elevates individual well-being but also strengthens social connections, contributing to a positive and supportive community. In essence, the intentional cultivation of gratitude emerges as a powerful and accessible tool on the journey toward a more fulfilling and contented life.

What Happens inside the Brain When We Experience Gratitude?

Happiness and gratitude share a profound and interconnected relationship, as evidenced by both psychological studies and neuroscientific research. Psychologically, the practice of gratitude has been identified as a reliable predictor and enhancer of overall happiness. When individuals deliberately focus on and express gratitude for positive aspects of their lives, it triggers a positive feedback loop in the brain, influencing emotions, thoughts, and behaviors.

Neuroscientific studies reveal that engaging in gratitude activates brain regions such as parietal and lateral prefrontal cortex associated with reward, empathy, and emotional processing [11]. The release of neurotransmitters such as dopamine and serotonin, commonly linked to pleasure and mood regulation, is heightened during expressions of gratitude [12, 13]. Neuroimaging studies on gratitude might be less in number but are gradually pouring in. In one of the earliest neuroimaging studies to monitor brain activity when receiving gratitude; researchers used near-infrared spectroscopy to evaluate changes in mood state before and after experiencing gratitude. Results were suggestive of decrease in negative mood after experiencing gratitude and the experience of being thanked was accompanied by prefrontal cortex activation [14]. There are other studies too, which imply gratitude-related brain activity in the anterior cingulate cortex (ACC) and medial prefrontal cortex (MPFC) [12], where researcher found ratings of gratitude by participants correlated with activity in a region of the MPFC that encompassed the perigenual ACC and the ventral and dorsal MPFC. Thus, it does not come as a surprise when researchers associate gratitude with better cognitive functions among older adults [15]. This study implied higher levels of gratitude associated with larger volumes of the right amygdala and left fusiform gyrus, and amygdala volumes mediated the association between gratitude and cognitive function. The effects of practicing gratitude are also long term as established in a longitudinal functional magnetic resonance imaging study. Karns et al. [16] in this study revealed that three weeks of gratitude journaling increased the neural pure altruism response in the ventro MPFC (VMPFC) of the participants, suggesting that as a context-dependent value-sensitive cortical region, the VMPFC supports change with gratitude practice, a change that is larger for benefits to others versus oneself. While it is desired to practice gratitude as routine in daily life, even short

instances of expressing gratitude can bring about significant and enduring impacts on neural activity and sensitivity. These neural processes contribute to an elevated sense of well-being and satisfaction. While it is established that engaging in pleasurable activities such as playing games, watching movies or even eating our favorite food also triggers similar release of neurotransmitters; we must differentiate between pleasure and happiness, as well as longevity and stability of these emotions. Pleasure is indeed a happy feeling, but very much momentarily in nature, while happiness on the other hand is relatively long-term emotional state akin to feeling of internal satisfaction and content. Pleasure often follows a bell-shaped progression peaking up and coming down, while happiness is relatively stable. Scholars suggest that the emotional experience of gratitude can be conceptualized at three hierarchical levels of affective trait, mood and emotion, and each having the ability to influence one another [17]. Study findings suggest that grateful moods are created by both top-down and bottom-up effects as well as the interaction of these effects (personality and affective traits). However, more importantly, the findings suggest that grateful moods set the stage for more frequent and pervasive grateful emotions [10]. It is expected that individuals will differ in their gratitude predispositions, yet it can be said that people with more trait gratitude are expected to have more stability in their daily grateful moods or emotions caused by particular events. It could be interesting to research whether the conscious practice of gratitude and imbibing the emotion can bring trait-level changes in an individual or not, as we are well aware of the prowess of the plastic nature of the human brain. Preliminary studies in the field do suggest that core dimensions of psychological well-being can be cultivated through intentional mental training [18, 19]. The correlation between gratitude and increased life satisfaction is not merely coincidental but is deeply ingrained in the intricate workings of the human brain.

Use of Gratitude in Psychotherapy Process

Further, it is interesting to know that the psychological connection between happiness and gratitude extends to cognitive restructuring. Gratitude interventions have been shown to reduce negative thinking patterns and increase positive perceptions, fostering a more optimistic outlook on life [20, 21]. Practice gratitude is known to improve sense of well-being, and mental health in general [22, 23]. There is growing literature on the inclusion of gratitude practice in psychotherapeutic process and encouraging results in diverse population to counter trauma, burnout, depressive symptoms as well as poor self-esteem [24-26]. The practice is very much malleable to be used with most evidenced-based psychotherapeutic practices to improve their outcome, including cognitive behavior therapy, mindfulness-based therapy approaches, and existential therapy. At primary level, the therapeutic affect draws from effect of expressive writing helping in emotional regulation and further getting consolidated because of the rewarding nature of gratitude practice. Much of the outcome measures of gratitude practice

in existing literature revolve around mental health and well-being [27], depression, anxiety, meaning, and purpose in life [28]. Gratitude practice could be an adjunct process to most evidenced-based psychotherapy approaches or could be a framework of a particular approach itself [29, 30]. Gratitude practice has the potential to evolve as a full-fledged psychotherapy model; however, much more evidence base needs to be build-up through randomized controlled trials. Irrespective of how this evidence for specific mental health conditions build up, the implication of gratitude practice in achieving and sustaining happiness is surely established.

Conclusion

The connection between happiness and gratitude is a dynamic interplay of psychological and neural mechanisms. Gratitude practices serve as a cognitive and emotional catalyst, shaping the brain's response to positive stimuli and promoting enduring states of happiness. Understanding this intricate connection offers valuable insights into the transformative power of gratitude in enhancing overall well-being. Practicing gratitude has no connection with growing old, as there is no age to be compassionate and thankful toward others. One need not become a monk to show a sense of gratitude and can practice gratitude within walks of daily life. Gratitude can be practiced irrespective of our financial or societal status, religious affiliation, and cultural background. Gratitude probably is one of the simplest and easiest keys humans hold to unlock happiness.

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Susmita Halder, Ph.D.^{1*}, Akash K. Mahato, Ph.D.²

¹*Department of Psychology, St. Xavier's University,* ²*Department of Clinical Psychology, AIPSK, Amity University, Kolkata, West Bengal, India*

^{1*}Corresponding author. Action Area III, Newtown, Kolkata - 700 160, West Bengal, India.

E-mail: Susmita Halder <susmitahalder@gmail.com>

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