

The theoretical research of voluntary beliefs

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Abstract. We use “voluntary” to describe actions, activities, movements, or other processes that are chosen and controlled by a person's free will to explore whether beliefs are voluntary. This paper will argue that although the involuntary nature of belief is to some extent rooted in the human biological system, a person's voluntary control can still affect the original belief system if there is science-based social intervention. So we need to invest more resources in scientific research, get everyone better educated, and get these helpful, correct ideas out in the public.

Keywords: voluntary; beliefs; social intervention.

1. Introduction

Beliefs cast a role of life guidance for almost all human beings across different cultures, societies, and organisations. Belief, according to the American Psychological Association (APA), refers to “acceptance of the truth, reality, or validity of something (e.g., a phenomenon, a person's veracity), particularly in the absence of substantiation” (American Psychological Association, 2010). As belief can result in different behaviors based on personal perceptions of right and wrong, people holding different beliefs might be involved with invincible conflicts and consequences. The biased belief about the negative effect of COVID-19 vaccination can lead to more death tolls. For instance, a recent study just reported an 8-fold increase in the death rate from Covid-19 was revealed among people who refused or delayed vaccination over two years (Mesa et al., 2021). One would feel extremely desperate if these beliefs against vaccination could be amended before these tragic deaths happened.

Therefore, it is not trivial to investigate whether a person's belief is as stubborn as a default setting or can be adjusted by their choice. In other words, whether beliefs are “voluntary”. Consistent with psychological literature, we use “voluntary” to describe behavior, activity, movement, or other process chosen and controlled by one's free will (American Psychology Association, 2010). Many psychologists have conducted research to explore if beliefs are voluntary, and somehow, these studies have come up with contradictory findings. This essay will argue that although the involuntariness of belief is somehow rooted in human beings' biological system, a person's voluntary control can still affect the original belief system, if being provided with social intervention based on science.

2. Cognitive Neuroscience of Belief

Many scholars have addressed the importance of human beings' autonomic choices in defining who we are. Some religious figures, like protestants, even summarized this as an individual's “free will” granted by God's divinity to determine whether they are sinful or kind. Criminals, such as terrorists and murderers, under this context, are deemed as one who voluntarily chooses to become the product of the evil belief. Therefore, these people are worth brutal punishment. However, today's science has illustrated that a person's so-called “virtue” or “value” is limited to the function of brain activities. And these are difficult to change through conscious control. One case is that the damage of the pre-frontal cortex (PFC) has made a well-disciplined worker named Phineas Gage become an anti-social wonderer (Ratiu & Talos, 2004), because PFC is irreplaceable in regulating people's tendency to be primitive. Hence, it is important to bring the awareness that even the brain structure can overturn a person's characteristics. Attributing all falsehood to one's voluntariness might be too simplistic.

With regards to one's belief, individual difference of belief and disbelief is substantially determined by corresponding brain regions.. Harris (2008) argued that the uniqueness of human being

in respect to their special belief and disbelief is a result of brain activities instead of a voluntary choice. In his study, functional magnetic resonance imaging (fMRI) was used to detect brain activation patterns when showing 14 adult participants with the stimulus that trigger their belief and disbelief system. These stimuli included statements such as mathematical formula, geographical knowledge, religious doctrines, ethical common sense. All subjects were asked to judge these statements while being examined by fMRI. The result showed that belief, and disbelief, are mediated primarily by regions in the medial PFC, the anterior insula, the superior parietal lobule, and the caudate. These brain regions are responsible for the preference of individuals' taste (Yamamoto, 2006). Thus, no matter what the missionaries preach how free will assigned by "God" can influence our life to be "sinful" or "glorious", our divinity of believing or disbelieving something, biologically speaking, might share no difference with tasteful or distasteful food.

When adopting brain scanning into the field of religious belief, consequently, the biological basis of terror attacks performed by extremists can rather be revealed. One study has shown that the activity of different parts of the brain can differentiate heroic and non-heroic narratives in ISIS propaganda videos (Yoder et al., 2020). In this study, electroencephalography (EEG) was adopted as the neuroimaging technique that measures the electrical activity of the brain. It was found that beta waves in the frontal lobe were elicited under a heroic narrative of terrorist behaviour against Westerners in the propaganda video. In contrast, theta waves were induced under a non-heroic narrative. Considering that beta wavelength is correlated with empathetic response whereas theta wavelength is responsible for emotional regulation, it can be inferred that terrorists' belief system has been significantly affected by the heroic narrative of terrorism, thereby causing self-sabotage and horrendous behaviours against humanity. Therefore, some beliefs that seem incomprehensible and dangerous to normal people are rather affected by the brain, instead of people's free choice.

3. Socio-cultural and Historical Influence

Not only heroic narrative about terrorism can trigger activation in the brain that predict violent behaviour, but terrorists do not have the choice to choose the social environment where they grow up. Apart from western liberal society where the value of freely thinking and speaking is lionised, their government's restriction limits many regions, and people do not have the right to freely choose their spiritual world.. In this social environment, people have no approaches to learn about different lifestyles according to their own wishes, which further leads to being more persistent in their beliefs that could be involuntarily imposed by their government.

One historical tragedy derived from this totalitarianism was among Jewish people who were deprived of their lives forcefully by Nazi Germany. Millions of innocent people died because of racism and fascism. However, we must know that these brutal orders were executed by normal German soldiers who have the ethical value of humanity. One explanation for this can be the psychology study on authority conducted by Milgram (1963). An authority figure can unconsciously influence our belief system, and the Milgram experiments were a series of social psychology experiments conducted by Stanley Milgram in the 1960s to study obedience to authority. The experiment involved a "teacher" who was instructed to give "learners" (confederates who actually did not receive electric shocks) "electric shocks" when they made mistakes in memory tasks. During the experiment, the teacher became more and more cold-blooded as they proceeded to apply the electric punishment. Hence, the order of authority despite being moral or immoral, can implicitly alter our behavioural choice, which might be against the basic value of humanity.

4. The Voluntary Side of Choosing Beliefs

Since the emergence of science and technology has changed the way people live. However, there are still opportunities granted to individuals to decide their beliefs. For instance, a well-educated population gradually forms the belief that environmentalism should be incorporated into our moral

system, as the scientific community make a consensus that climate change is anthropogenic, and the detrimental consequence is irreversible. According to the value-belief-norm theory (Stern et al., 1999), belief is derived from value to make a judgement about what is right and wrong. However, the value of environmentalism is not innate, compared to intrinsic altruism, which represents the willingness to protect other human beings (Okasha, 2003). Despite this, human beings can actively engage in a new belief that is consistent with education from cutting-edge scientific findings. Scientists have found that under the study of human pro-environmental behaviour, when people realize that changes in the environment may cause harm to other species, their awareness of environmental protection will be activated. Also, they reported that the behaviour of environmentalists and the “value orientation” proposed by Schwartz (2012) are the same. When they see the environment being destroyed, a sense of moral obligation is activated in their hearts, causing them to engage in altruistic behaviours towards the environment. This is how humans have voluntarily transformed a belief from an innate attribute of protecting their fellow humans into altruism to the environment.

What’s more, education and subjective experience are also predictors that prompt autonomy in freely choosing one’s belief. A recent systematic review has revealed that knowledge and experience of climate-related hazards serve as the facilitator of improving the young generation’s belief in the consequence of climate change (van Valkengoed & Steg, 2019). The younger generation learns the disadvantages of climate change from the scientific conclusions of empirical evidence and realizes the inconvenience that climate change brings to life. More and more of them have begun to respond to the call for low-carbon environmental protection policies, such as taking more public transportation and reducing electricity consumption in their daily life (Sanson et al., 2019). The belief in climate change is a result of free thinking formed through education and their feelings and obtained via objective interpretation of these experiences.

Racism has been another implicit belief forged by toxic monoculturalism against minority groups in the US. For instance, the black community in the United States has historically experienced systematic injustice that is evident across the whole country. Black Americans are more likely than the white to live in poverty and have limited access to quality healthcare and education (Kneebone & Holmes, 2015). This is conspicuous in the racial wealth gap and persistent disparities for the black to access to education and economic opportunity (Derenoncourt et al., 2022). Besides, they even face injustice in the judicial system (Shapiro et al., 2013). However, although historical racial inequality is a long-lasting problem that is somehow rooted in the culture of white Americans, these biased beliefs can still be treated by evidence-based science. Implicit racial bias intervention is developed by scientists to tackle the problem of racism (Devine et al., 2012). This intervention is based on the idea that bias is a habit that can be broken through awareness, concern, and strategies to be adjusted. One longitudinal study showed that participants who received the intervention had significant mitigation in implicit race bias. The intervention also increased concern about discrimination and personal awareness of bias. Therefore, evidence-based studies demonstrate the significance of social intervention in training our conscious mind to voluntarily eliminate racial bias, which is an automatic belief against minority groups. In a nutshell, every society with different cultural backgrounds can improve people's voluntariness in a scientific way to change those beliefs rife with stereotypes, but this requires the government to develop relevant policies from a top-down perspective.

5. Conclusive Remarks

In summary, our beliefs are naturally circumscribed by both intrinsic and extrinsic factors, which encompass cognitive neuroscience and socio-cultural and historical influence, respectively. However, by embracing science, we can voluntarily cultivate beliefs that are more suitable for the modern world. In this unpredictable modern society, ongoing conflicts, starvation and climate change can result in all kinds of social crises. And if people are only enclosed in their own beliefs, then we will have no way of seeing the full extent of the problem. If the world we have learned is just one side of the story, our lives could become very empty and deceptive. However, people can actively engage in anti-

racism activities and embrace new beliefs. Then we will create a more justice and inclusive social environment. Social progress also needs to consider environmental protection and sustainable development. People's attention to climate change will make us have a more stable and sustainable world. As such, we need to put more resources into scientific research and make everyone receive a better education so that these beneficial and correct views can be spread among the public.

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