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The Impact of Free Will Belief on Decision-Making and Life Satisfaction: A Comprehensive Analysis

Supervisor
Prof. Federico Zilio

Candidate: Yasemin Ada Boru
Student ID number: 2072864

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1. Introduction

1.1 Overview of the research question and objectives

Free will has long been a factor in shaping our understanding of moral responsibility, human agency, and personal autonomy. In our everyday lives, we often assume that we can make our own choices freely, choices that we can be held accountable for. But can this assumption be justified today, in a world in which there's a lot of evidence that goes against this belief, with causal laws, neuroscientific findings, and psychological conditioning? In this thesis, I explore the history and ongoing debate surrounding free will, the extent to which free will belief is influenced by various external factors, as well as how our belief in free will shapes our psychological well-being and decision making.

The debate on free will often touches topics on metaphysics, ethics, neuroscience, philosophy, and psychology. It explores questions of cause-and-effect relationships, human consciousness, the nature of time, as well as what it means to be truly free and the originator of one's own decisions. Classical philosophical discussions explore different viewpoints of the free will argument, such as compatibilism, incompatibilism, libertarianism, and hard determinism. More modern arguments on the topic with the development of neuroscience and experimental psychology has brought some new perspectives to the debates. Studies on unconscious brain activity and readiness potential that Libet (1983) pioneered, brought to light some new findings that suggest unconscious processes happening neurologically before we make a decision, arguing for a lack of free will. Although these studies were very influential in the way that they started the conversation on if we're really free or is it our brains that are predetermined to make decisions for us, other studies that came after suggest that these findings don't necessarily negate free will. They

then introduce the role of executive functions and "veto power" that can better explain the role of autonomy in decision-making.

The psychological side of free will belief and how it impacts our well-being as well as the way we see and understand the world around us is a significant part of this thesis. Many studies on this subject show that free will belief is not merely an abstract topic, but one that influences many key areas of our lives like moral judgments, personal identity, and even social interactions we have. People who believe in free will tend to exhibit higher levels of prosocial behavior, perceived control, motivation, as well as often showing increased overall life satisfaction. On the other hand, decreased belief in free will is associated with higher levels of dishonesty, aggression, and fatalism. These studies and findings on free will belief brings out the following important questions I aim to answer in this thesis: In what ways does cultural background, spiritual and religious beliefs, and cognitive factors effect free will belief? And to what extent does belief in free will influence moral responsibility, psychological well-being, and overall life satisfaction?

1.2 Significance of studying free will belief and its implications

Beyond its appeal as a philosophical topic of debate, studies have also shown that belief in free will has serious effects on our daily lives and mental well-being: impacting various domains including motivation, moral judgements, interpersonal relationships, social behavior, and mental health. It's been shown by several studies, which I will discuss later on, that decreased free will belief can also have many negative impacts like antisocial and aggressive behavior, as well as increased dishonesty. Understanding the way individuals integrate these factors with their sense of agency is crucial, especially in a world that's becoming increasingly shaped by scientific explanations of human behavior, from neuroscientific to experimental psychology studies.

Studying the way free will belief impacts our well-being, decision making, and life satisfaction is not only an academic topic, but it also directly influences the way we hold ourselves and others accountable for their actions, how we cope with negative emotions, as well as the way we make meaning of life.

1.3 Outline of the thesis structure

I will start the thesis by briefly going over a short history of the free will debate, which will include some of the most significant historical contributions, the key philosophical concepts and ideas about the topic, and the contrasting arguments about free will. I will then move onto the chapter in which I will discuss free will in cross-cultural and theological contexts. This will include discussions on free will in different religious and cultural contexts, and how these discussions shape the way individuals view free will. The role of education as well as language will be discussed to further understand the mechanisms that shape our belief systems of agency and responsibility. Neuroscientific and psychological perspectives on free will are going to be explored, from Libet's experiments to more modern-day findings. These topics will include but are not limited to: brain studies related to decision making processes, implications of neuroscience for traditional views on free will, determinism and free will in light of new neuroscientific findings, and psychological approaches to free will. I will lastly explore the real-world impact of free will belief by relating the paper's findings on free will belief to everyday practical scenarios. A new tripartite framework for understanding the relationship between free will belief and life satisfaction will be proposed, alongside recommendations for future research areas on the topic.

2. Historical and Philosophical Foundations of Free Will

2.1 A Short History of the Free Will Debate

The concept of "free will" has long been central to philosophical debates, serving as a cornerstone in discussions about human agency and control over one's actions. For over two millennia, some of the most influential thinkers in Western philosophy, including Plato, Aristotle, Augustine, Aquinas, Descartes, and Kant, have studied and examined the essence and existence of free will. They have contemplated whether free will requires the ability to choose otherwise or the capacity for self-determination, as well as whether these qualities are essential for moral responsibility or human dignity. In this chapter I will briefly go over the history of the free will debate, referencing some of the major historical contributions to the topic as well as defining the keywords and philosophical concepts that are crucial to fully understanding the subject.

Discussions about free will inevitably lead to broader inquiries into metaphysics and ethics, touching on complex themes like causation, the laws of nature, time, substance, and the interplay between causal and reason-based explanations. These topics also necessitate exploration into the nature of human motivation and the constitution of personal identity. Additionally, studying the significance of free will involves examining moral concepts such as rightness and wrongness, virtue and vice, and the principles of blame, praise, reward, punishment, and desert. Although these questions have traditionally been rooted in philosophical discourse, they have increasingly attracted attention from empirical research within the human sciences. Recent studies explore the extent to which free will exists, its manifestations, as well as its limitations, often incorporating insights from psychology, neuroscience, and behavioral science.

It is also worth mentioning that the exploration of free will is not limited to Western philosophy. For those interested in a broader perspective, works like those by Marchal and Wenzel (2017) and Chakrabarti (2017) offer perspectives of free will as discussed in Chinese and Indian philosophical traditions. Ultimately, the concept of free will sits at the intersection of deep metaphysical inquiry and practical ethical considerations, raising questions that continue to inspire vigorous debate across cultures and academic disciplines.

2.2 Major Historical Contributions

Free will has been a central topic in Western philosophy for centuries, with ongoing debates about its origins, nature, and implications. While some scholars like Albrecht Dihle (1982) trace the concept to St. Augustine in the 4th century CE, others like Michael Frede (2011) find it in the Stoic Epictetus from the 1st century CE. Despite these varying accounts, the core question remains to be whether humans have genuine control over their choices and actions.

Plato and Aristotle, early thinkers who examined free will, offered differing views. In *The Republic*, Plato saw freedom as self-mastery, suggesting that one can achieve it by allowing reason to guide actions and desires (Cooper, 1997). Aristotle, in *Nicomachean Ethics* (1985), emphasized choice as the intertwining between rationality and desire, arguing that humans have the capacity to form habits through repeated actions, shaping their character in the process. He noted that while our choices might be influenced by our characters and external circumstances that we're faced with, they are more generally voluntary. The Hellenistic period continued these discussions, with Stoics advocating for causal determinism while allowing for personal responsibility, and Epicureans proposing random atomic "swerves" to allow for free will (Bobzien, 1998). This period also saw debates about fate and determinism in human actions.

In the medieval era, Augustine considered free will in a Christian context, grappling with the idea that human will could be corrupted by sin yet still possess the capacity for self-determination (Augustine, 1993). Aquinas (1945), blending Aristotelian philosophy with Christian theology, argued that freedom emerges when choosing among different means to pursue rationally desired ends, while John Duns Scotus (1986) took a more radical libertarian stance, positing that the will is the sole cause of its activity, allowing for the possibility of choosing otherwise even at the moment of action. These varying views from ancient and medieval thinkers continue to influence contemporary debates on free will, determinism, and moral responsibility. Through their diverse approaches, they explore whether we can truly control our choices and the extent to which our actions are shaped by external or internal factors.

During the modern period, major philosophers like Descartes (1641), Hobbes (1654), Spinoza (1677), and Locke (1690) explored free will's implications for moral responsibility, theology, and science. Central to this exploration were two assumptions: first, that belief in free will is key to moral action and judgment, and second, that free will seems difficult to reconcile with a deterministic universe. Theologically, the question was whether human freedom could exist in a world governed by God's design. Metaphysically, philosophers like Leibniz (1686) and Spinoza (1677), who embraced the principle of sufficient reason, questioned whether contingency or freedom could coexist with a deterministic worldview. The sufficient reason principle states that everything in life; every action, feeling, thought, must have a cause or ground as to why it’s the case. According to this principle, there are no spontaneous or unexplained occurrences. Scientifically, figures like Descartes (1641) wondered if a universe governed by deterministic laws could leave room for human freedom.

Modern philosophers often approached compatibilism from a two-step strategy. First, they argued that freedom wasn't contrary to determinism but to external constraints on one's desires. Hobbes (1654), Locke (1690), and others hypothesized that if a person could do otherwise by simply willing it, they had free will. The second step critiqued the idea of a more robust sense of freedom, as proposed by thinkers like Kant and Reid, who suggested that free will required the ability to will differently or that the agent's choices were independent of their desires (Ragland, 2006). Compatibilists like Locke contended that the notion of willing what you will was incoherent (see below for details about compatibilism), while free will skeptics like Spinoza argued that virtue itself could motivate moral behavior without belief in free will or divine reward. Being one of the most well-known determinists, Spinoza denies the existence of free will in the sense of *liberum arbitrium*, which he defines as to be able to act on one's own desires, which *prima facie* makes him an incompatibilist in contemporary discussions as well. The main question that this topic explores is if it's possible for free will and moral responsibility to coexist with determinism (Kluz, 2025). But rather than simply denying the existence of free will, Spinoza proposes a different idea of freedom that supports real freedom, which is an idea that supports self-determination; being able to understand and act on the causes that drive our actions. This concept of freedom aligns with the Stoic view of freedom, which suggests that if someone is merely reacting to the things that happen to them based on their emotions and desires, they are not really free in the end. He advocates that real freedom is about being able to overcome these emotions and desires, and act based on rationality, and knowing the causes of our emotions (Spinoza, 1996). Overall, these modern debates highlight that questions of free will are deeply intertwined with differing views on moral responsibility and human agency in a determined world.

2.3 Compatibilism vs. Incompatibilism

Any discussion on free will eventually also encompasses the compatibilism vs. incompatibilism debate. The idea of compatibalism refers to the argument that free will is compatible with determinism, while hard determinism argues that free will and determinism cannot coexist (Fook, 2023). The ideology behind determinism holds the belief that everything happens as the result of the inevitable operation of fixed laws of nature that are external to the will. These predetermined events and conditions regulate and even restrict the outcomes of people's various decisions, therefore suggesting that people are not morally responsible for their actions. Compatibilists defend the idea that having free will doesn't necessarily mean freedom from causation but having the power of making one's own decisions without external constraints. In line with this ideology, one of the famous compatibilists David Hume makes the argument that true freedom is simply the ability to act upon one's own preferences (Hume, 1975). In this sense, an action is free if it comes from the agent's own will, even if the will is the product of previous causes. Modern compatibilists such as Daniel Dennett have carried this idea further by arguing that through the use of free will, individuals can uniquely shape and evolve their character, and can align their behavior and actions with their longer-term goals (Fook, 2023).

On the other side of this discussion are incompatibilists, who believe that free will and determinism are inconsistent with one another and, therefore, cannot coexist. They claim that if anything we do is the result of previous causes, then we are not free in our choices (Fook, 2023). Incompatibilists typically fall into two categories; this distinction is most readily understood by libertarians who believe in free will (and therefore reject determinism) and hard determinists who accept determinism (and therefore reject free will).

Indeterminism suggests that the universe is not entirely controlled by laws while incompatibilism argues that free will and determinism cannot coexist simultaneously. Indeterminism proposes that not all events are predetermined by causes allowing for randomness or unpredictability, which some argue opens space for free will. Incompatibilism on the other hand argues that free will and determinism cannot coexist; if determinism holds true, then free will cannot exist and vice versa. These concepts often intersect in conversations about accountability and human agency; indeterminism can lay the groundwork for incompatibilism by introducing the unpredictability for libertarian perspectives on free will. However, incompatibilism can also lead to determinism, where the rejection of free will aligns with a deterministic universe. Both ideas play roles in discussions on whether humans possess autonomy or are merely links in a causal chain.

2.4 Libertarianism and Hard Determinism

Free will, in the non-political sense (of the term libertarianism), is the belief that some of our actions are free in a manner that is incompatible with determinism. The libertarians, in fact, argue for a kind of agent causation where people can initiate causal chains that are not caused prior to the event by something or some necessarily prior to events. All too often this view captures intuitive notions of free will but challenges us to account for how it can occur in a physical universe governed by natural laws.

A particularly prominent argument for free will on the part of libertarians is that of Robert Kane who says that there is free will in situations of conflicted decision making. These "self-forming actions" have the outcome undetermined by prior events, so the final choice is genuine (Fook, 2023). Yet critics say that this is random and that it threatens to undermine the idea of willful action. Specifically, hard determinism takes incompatibilism (that is, the thesis that free

will is contradictory with determinism) but then concludes, since determinism is true, that free will is an illusion (Fook, 2023). Hard determinists maintain that all our actions are the consequences of previous causes and that this denies any freedom of choice. It is usually connected to scientific naturalism and promoted by philosophers like Baruch Spinoza and Paul Holbach.

One of the main problems for hard determinism is combining the absence of free will with our intuitions on moral responsibility. If our actions are fixed, how can we punish or blame praise? Hard determinists, though, such as Derek Pereboom, have also developed positions like hard incompatibilism, a position that rejects free will but retains notions of moral responsibility in some other way.

2.5 Key Philosophical Concepts

2.5.1 Moral Responsibility

The concept of free will has traditionally centered on the idea of having control over one's choices and actions, with two common interpretations: the freedom to choose otherwise and the notion that an agent is the source of their actions. These interpretations are linked to the concept of moral responsibility, which explores the extent to which individuals can be held accountable for their behavior. While some philosophers focus on the personal experience of deliberation (Nozick, 1981 & van Inwagen, 1975), others connect free will with the requirements for moral responsibility (Double, 1991; Ekstrom, 2000; Widerker & McKenna, 2003; Pereboom, 2014). Many philosophers argue that free will involves both the capacity to choose otherwise and sourcehood—the ability to be the source of one's actions (Watson, 1987).

In the context of moral responsibility, there are several species of responsibility, including answerability, attributability, and accountability. The most common interpretation involves moral responsibility as accountability, where an agent is deserving of praise for going beyond expected behavior or blame for morally wrong actions (Watson, 1996). This approach relies on reactive attitudes, such as gratitude, resentment, and guilt, which in turn inform how we interact with and respond to others. Central to this concept of accountability is the notion of "basic desert", suggesting that an agent deserves praise or blame simply for their actions' moral status, without requiring consequentialist or contractualist considerations (Pereboom, 2014).

The link between free will and moral responsibility is crucial: individuals are deserving of praise or blame only if their actions are truly up to them. This understanding underpins the broader discussion on free will, where the freedom to do otherwise and sourcehood are examined to understand their implications for moral responsibility. While some suggest that free will does not necessarily require the ability to choose otherwise, it is generally agreed that free will must entail some level of control or self-determination to justify moral accountability.

2.5.2 Freedom to Do Otherwise

The idea that free will involves the possibility to do otherwise is complex, with philosophers debating how to define this freedom. Classical compatibilists such as Hobbes (1654) and Locke (1690) used the Simple Conditional Analysis, suggesting that if an agent chose otherwise, they would act otherwise. This approach aimed to reconcile free will with determinism, implying that even if an action was inevitable given the past and natural laws, an agent could still choose differently under certain conditions (O’Connor, T., & Franklin, C. 2022).

However, this analysis has some problems of its own. It doesn't clearly explain the ability to choose otherwise, leading to counterexamples where agents appear to lack free will despite meeting the conditional criteria (Lehrer, 1976). To give an example, we can consider a severely agoraphobic person. Looking at things from Fischer and Ravizza's view of reasons-reactivity: even a person such as Fred, who hasn't left his house in over a decade can be morally responsible of his actions if in a hypothetical scenario where his house is on fire, which would be considered a sufficient reason for him to leave, he would leave (Mele, 2000; Fischer & Ravizza, 1998; O'Connor & Franklin, 2022). Regardless of him not being able to attend his daughter's wedding, the fact that he would leave the house if something as extreme as a fire would happen shows that he's weakly reasons-reactive. Nevertheless, Mele (2000) also notes that if it takes something as extreme and life threatening as a fire to motivate Fred enough to leave the house, that may suggest that his capacity to act otherwise is so limited that he might not be morally responsible for missing the wedding after all. To address this, the Categorical Analysis suggested that an agent has the ability to choose otherwise if it was possible to do so, holding everything else constant up to the time of choice. This approach inherently conflicts with determinism, which states that the same past and natural laws lead to a predetermined future (Lewis, 1979; van Inwagen, 1983). If these factors are fixed, the freedom to do otherwise seems impossible.

David Lewis (1981) countered this by distinguishing between two senses of "ability to break a law of nature": a weak sense, where an agent's action might break a law if conditions were different, and a strong sense, where an agent directly breaks a law. Lewis argued that compatibilists could rely on the weak sense to maintain the possibility of free will under determinism. However, critics noted that even this weak sense might allow cases where agents lacking free will could still meet the criteria for having it.

Recent approaches, like those of Kadri Vihvelin (2004; 2013), rely on the intrinsic properties of an agent, suggesting that an agent's ability to do otherwise is based on their dispositions. This perspective attempts to balance the need for freedom in a deterministic world while excluding cases where agents lack the intrinsic dispositions necessary for certain actions. Yet, critics argue that this approach might still be too permissive, leading to cases where individuals who clearly lack the freedom to choose otherwise could still be seen as having it.

2.5.3 Sourcehood and Theories of Agency

Sourcehood is a concept in philosophy that deals with the origin of human actions in the context of free will and moral responsibility (O'Connor & Franklin, 2022). It suggests that for one to truly be autonomous and morally responsible for their actions they must serve as the "source" or creator of those actions rather than being molded by external circumstances or past occurrences. This concept lies at the heart of incompatibilism, which contends that if determinism holds true—where every action stems from a cause—then individuals cannot claim authorship over their choices resulting in a deficit of free will. To possess true freedom there needs to exist an aspect of autonomy or indeterminism enabling individuals to manifest actions from within (Watson, 1987). Therefore, sourcehood offers a framework for delving into the degree to which our actions are self-generated or are regulated by deterministic mechanisms. Another noteworthy discovery from the survey centered on the influence of cognitive reflection (Hannikainen et al., 2019). The research findings indicated that individuals with greater cognitive reflection tended to lean more towards incompatibilist perspectives indicating a belief that free will and causal determinism cannot coexist. This trend was evident across cultures, with a significant impact observed in Asian

nations. The study emphasized that cognitive style, rather than personality traits like extraversion, played a bigger role in shaping views on free will and moral responsibility

Frankfurt-style cases challenge the idea that moral responsibility requires the freedom to do otherwise (Principle of Alternative Possibilities). These cases, pioneered by Harry Frankfurt (1969) and developed later by others (e.g., Fischer 1994), are thought experiments designed to show that someone can be morally responsible for their actions even if they lack the ability to do otherwise. The original Black and Jones case was proposed by Frankfurt himself in 1969. Since then, there has been numerous adaptations of this case, with one of the most well-known ch coming from Fischer (1994). In this example, a hypothetical scenario is proposed in which Black is a doctor that puts a device in Jones' brain that lets him control his decisions. If Jones wants to vote for Clinton, then Black does nothing and lets him vote for Clinton by himself. But if Jones starts to decide that he wants to vote for Bush, Black stops him and changes his decision so that he votes for Clinton. In this case, even if Jones decides to vote for Clinton on his own, we would consider Jones morally responsible, even though he couldn't physically have chosen otherwise. In a typical case, like the one with Black and Jones (Fischer, 2006), a hidden mechanism ensures a specific outcome but does not intervene if the agent chooses the desired outcome on their own. This suggests that even if there's no ability to do otherwise, the agent's action can still be considered free and morally responsible, as long as the agent is the source of their actions without external interference.

Despite the appeal of Frankfurt-style cases, they face criticism and raise complex questions. Some critics argue that the cases don't convincingly address incompatibilist concerns (Widerker, 1995 & Ginet, 1996). The main challenge involves the deterministic or non-

deterministic nature of the cases. If the connection between the indicator and the agent's decision is deterministic, incompatibilists might argue that this proves the agent's action is predetermined, undermining moral responsibility. If it's non-deterministic, then the agent retains some ability to do otherwise, potentially contradicting the central premise of these cases. In either case, Frankfurt-style scenarios do not demonstrate that Jones can be morally responsible for his choice while simultaneously lacking the ability to choose differently. This dilemma has led to a variety of responses, with some proponents of Frankfurt-style cases revising them to accommodate these criticisms while maintaining their central claim about moral responsibility.

Ultimately, Frankfurt-style cases have shifted some compatibilists' focus from the ability to do otherwise to sourcehood, suggesting that what matters for moral responsibility is whether an agent's actions originate from their own volition, not whether they could have chosen differently (O'Connor & Franklin, 2022). This shift has helped compatibilists defend their position in the face of deterministic challenges. However, it's important to note that while these cases may weaken the requirement for the ability to do otherwise, they don't necessarily prove compatibilism true. Some incompatibilists accept Frankfurt-style cases but maintain that agents in deterministic worlds still can't be the true source of their actions, pointing to other ways to challenge compatibilism (Pereboom, 2014; Stump, 1999). Thus, the success of Frankfurt-style cases, while influential, is only a step toward resolving the complex debate over free will, moral responsibility, and determinism.

2.5.4 Compatibilist vs. Libertarian Accounts of Sourcehood

The compatibilist view of sourcehood explores whether a person can be considered free and responsible for their actions if their actions are causally determined by various factors. One

prominent compatibilist model is the reasons-responsiveness approach, championed by John Martin Fischer (2006). In this view, a person's action is free if it's the result of a moderately reasons-responsive mechanism (Fischer & Ravizza 1998). This means the person can recognize and react to reasons, even though they might not always act on those reasons. This approach introduces concepts like reasons-receptivity (the cognitive ability to understand moral reasons) and reasons-reactivity (how a person might act differently if given different reasons). However, the potential for manipulation creates a challenge, leading to concerns about whether external forces can control a person's behavior even within this moderately reasons-responsive framework.

Another compatibilist approach is the identification model, focusing on an individual's self-determination or autonomy (O'Connor & Franklin, 2022). This approach suggests that a person's actions are free if they stem from desires or motives that they identify with, as opposed to external pressures or compulsions. Harry Frankfurt (1971) and Gary Watson's (1975) work is foundational here, emphasizing the distinction between internal and external motivations. Identification models aim to enrich classical compatibilist perspectives by acknowledging that internal constraints, like phobias or addictions, can also impede free will. For example, an agoraphobic individual may act based on their strongest desires but isn't free because they don't identify with those desires, which are driven by their phobia.

The Manipulation Argument challenges these compatibilist theories, suggesting that even if a person seems to meet the conditions for reasons-responsiveness or identification, manipulation can undermine their freedom (Pereboom, 2001; 2014). This argument presents thought experiments where a person is manipulated to act in a certain way, casting doubt on whether they can be held morally responsible for those actions. Compatibilists attempt to counter this argument

with soft-line and hard-line replies (McKenna, 2008). Soft-liners propose additional conditions, like Fischer and Ravizza's (1998) idea that a person must take responsibility for their mechanisms to be held morally responsible. Hard-liners argue that manipulation might not necessarily negate free will, particularly if it occurs at the beginning of life without further interference.

Libertarian accounts of sourcehood take a different approach, arguing that true freedom and responsibility require that an agent's actions are not causally determined by factors beyond their control (O'Connor & Franklin, 2022). These accounts often consider nondeterministic or probabilistic elements as essential for genuine free will. Libertarians disagree on the specifics, with some advocating non-causal explanations (Ginet, 1990; McCann, 1998; Goetz, 2009) and others emphasizing event-causal (Kane, 1996; Mele, 1995; Clarke, 2003) or agent-causal (Reid, 1969; Chrisholm, 1966; O'Connor, 2000) mechanisms. A non-causal explanation is when something is explained not based on the simple and direct cause and effect relationship, but by the explanation of principles, patterns, and logical connections that may have caused it to happen. Event-causal mechanisms are the opposite: in these types of situations, one event is the cause and the other is the effect (or result) of this cause. While agent-causal libertarianism has a strong intuitive appeal, suggesting that agents themselves cause their actions, it faces criticism for its perceived metaphysical obscurity and difficulty in reconciling with traditional causal frameworks. The debate continues as scholars explore various compatibilist and libertarian perspectives, each seeking to understand the complex dynamics of free will, moral responsibility, and determinism.

2.6 Arguments For Free Will

To argue for the reality of free will, compatibilists and incompatibilists take different approaches. Compatibilists like Fischer and Ravizza (1998) suggest that evidence of effective agency, where

individuals understand their actions and motives, supports the notion of free will. However, given the complexity of social sciences and debates about whether psychological states reduce to physical states, this claim faces challenges. Some compatibilists argue that effective agency is essential for scientific inquiry, implying that it can't be doubted rationally (O'Connor & Franklin, 2022). However, this doesn't necessarily imply causal indeterminism, which is central to incompatibilist views. Incompatibilists often focus on causal indeterminism in the process from deliberation to action as evidence for free will, with varied opinions on whether introspective experiences of agency suggest indeterminism.

Two common incompatibilist arguments for the reality of free will are the introspective evidence of action and the idea that belief in free will is epistemically basic. Philosophers like Augustine (1993) and Duns Scotus (1986) noted that our experience of action or deliberation seems to reflect freedom. However, recent debates question whether these experiences support an indeterministic view (Deery et al., 2013; Guillon, 2014). On the other hand, some philosophers claim that belief in free will, like other basic beliefs, doesn't require additional evidence to be reasonable (Reid, 1969; Swinburne, 2013). If beliefs in fundamental concepts don't have this basic status, all beliefs could be unjustified. This belief in free will could also be indirectly supported through moral responsibility, where the latter implies the former. Overall, these arguments suggest that free will may be inherently part of our understanding of human behavior, even as debates on its nature continue.

2.7 Arguments Against Free Will

Arguments against the reality of free will often rest on the premise that causal determinism is incompatible with freedom. Galen Strawson's (1986; 1994) prior argument suggests that ultimate

moral responsibility requires an infinite regress of choices, which is impossible. He posits that for a person to be responsible for their actions, they must be responsible for their mental state, which would require prior choices to shape that state, leading to a logical impasse. Critics like Alfred Mele (1995) argue that Strawson misconstrues where freedom and responsibility lie, suggesting that freedom is more about the control over actions rather than the underlying character traits. Indeterminist views like agent-causal theories claim that choices can be made without being causally determined, allowing for a form of control that doesn't necessitate ultimate moral responsibility (Clarke, 2003). This concept raises questions about whether such indeterminate agents have appropriate control over their choices, leading to further debate over the concept of control and its metaphysical implications.

Others, like Derk Pereboom (2001), contend that if human actions are governed by statistical laws at a physical level, the occurrence of certain behaviors based on agent-causal choices becomes highly improbable, leading to skepticism about free will. While these empirical arguments support skepticism about free will, they also fuel debates among philosophers, with some advocating for a more nuanced agnosticism or revisionism about traditional concepts of free will. These debates suggest that while empirical findings raise significant questions about free will, the conclusions are far from settled. Whether these doubts are about the definition of free will, how the experiments are designed, or what the results of these experiments actually show; the debate is still ongoing.

In this chapter, I have explored and examined both historical and philosophical foundations of the debate surrounding free will. Although it was just a brief history of the subject, the time period that was covered started all the way back from Aristotle and Plato, and traversed over two

millennia to more modern figures such as Descartes and Spinoza. More recent research on the topic was also discussed as it relates to modern day conversations surrounding free will most. On top of going over some of the major historical contributions, some key terms as well as philosophical concepts were defined in order to have a stronger understanding of the subject.

The history, definition, and ongoing debate surrounding compatibilism and incompatibilism were explored. When exploring these topics, significant attention was also given to discussions on philosophical concepts such as moral responsibility, human agency, the freedom to do otherwise, and sourcehood, which all contribute to understanding the complexity and multi-dimensional nature of free will. The chapter also addressed some of the key arguments both for and against the existence of free will. More empirical evidence on arguments against free will will be discussed later on in the paper. As I transition onto the next chapter on free will belief and how in manifest itself in different cultural contexts, I will continue building from the theories and arguments mentioned in this chapter.

3. Free Will in Cross-Cultural and Theological Contexts

3.1 Free Will and God's Attributes

The intersection of free will and the power, knowledge, and goodness of God has been a topic of extensive debate in Western philosophy, largely due to its overarching theological framework (O'Connor & Franklin, 2022). Many philosophers consider God as the ultimate source and sustainer of all things, which leads to a tension when considering the concept of human free will. Compatibilists who hold that God's power doesn't negate human freedom suggest that God's influence is necessary for human actions but doesn't necessarily determine them (Edwards,1957). However, those who view God as omni-determining may lean toward theological determinism, suggesting that God's knowledge of future events and perfect goodness inherently limit human freedom. This perspective raises ethical concerns, as attributing all events to God could imply that God is responsible for evil, thereby challenging His perfect goodness.

Additionally, philosophical debates explore God's perfect knowledge and how it interacts with human free will. The "Consequence Argument" implies that if God has infallible foreknowledge of all events, then human acts are predetermined by God's prior beliefs, making it impossible for humans to exercise free will (van Inwagen, 1983). Critics argue that if God's beliefs are necessarily true, then our choices are simply the logical outcomes of those beliefs (Fischer, 1989). This tension leads to further questions about the nature of God's freedom and how it aligns with His omnipotence, omniscience, and perfect goodness. Some argue that if God inherently wills the ultimate good, then He may lack the freedom to choose otherwise, yet remains the ultimate source of His actions (O'Connor & Franklin, 2022). Others suggest that God's freedom might be reconciled with His perfect goodness through complex metaphysical concepts, proposing that God

could choose from a range of equally good or incommensurably different worlds, allowing for a nuanced perspective on divine freedom and human free will.

3.2 Examination of Philosophical Theories Regarding Free Will Across Cultures

The age-old discussion on whether we are really free or is it just a psychological illusion has captivated philosophers for years. This discussion brought with itself a series of sub-questions, such as whether free will can coexist with determinism. Recent scientific studies have expanded this debate to include a range of individuals from different cultures. The study *Is Belief in Free Will a Cultural Universal?* by Sarkissian and colleagues (2010) investigates the relationship between will and moral responsibility by examining the viewpoints of individuals from diverse cultural backgrounds. The research indicates that many individuals, irrespective of their heritage, lean towards indeterminism and incompatibilism when contemplating free will and moral responsibility. The study's outcomes highlight a doubt regarding the feasibility of responsibility in a deterministic cosmos prompting inquiries about the universal nature of these beliefs across cultures and their implications for philosophical discussions.

Sarkissian and his team conducted a cultural investigation involving 70 students from four distinct regions: the United States, Hong Kong, India, and Colombia. This broadened the scope of previous research, which had often focused on Western cultures, predominantly the United States. Despite the pool that covered a wide range of regions across the world, the results indicated a shared belief among the participants that the universe operates in an indeterministic manner, and that moral responsibility does not align with determinism. This consistent perspective across cultures hints at an underlying principle shaping people's perceptions concerning will and moral accountability. Incompatibilism, a topic frequently debated in philosophical

circles, emerged as a theme in Sarkissian's research. In the view of those who believe in incompatibilism, the concept of free will is incompatible with a deterministic framework. This implies that if the universe functions based on principles, individuals may not bear responsibility for their actions. The study observed that participants tended to reject the idea of moral responsibility within a deterministic context, showing a preference for views that lean towards indeterminism. This discovery is consistent with research by Feltz et al. (2009), Roskies and Nichols (2008), and Nichols and Knobe (2007), which also found similar responses when investigating people's perspectives on free will and moral accountability in deterministic scenarios.

The study highlighted potential limitations in existing studies on free will and moral responsibility while having serious limitations of its own as well; such as having only 70 students among all countries mentioned. The exclusive focus on cultures has raised concerns about how applicable these findings are universally, as some scholars argue that cultural differences could lead to diverse understandings of these various concepts. The cross-cultural nature of Sarkissian's study aimed to bridge this gap, suggesting that incompatibilist responses were not merely a product of Western philosophical traditions but could be reflective of a more universal human intuition. However, the authors noted that further investigation is required to delve into the underlying reasons behind these discoveries and whether they reflect an innate moral faculty or a result of cultural conditioning. The idea that a principle of incompatibilism could be ingrained in our innate moral sense raises thought-provoking questions about the evolutionary roots of such beliefs. Sommers (2007) suggests a scenario where this principle may have been favored through evolutionary processes, indicating that the ability to attribute accountability might rely on the assumption that choices are not solely driven by deterministic mechanisms.

In essence, the study conducted by Sarkissian et al. (2010) marks an advancement in grasping the cultural viewpoints on free will and moral responsibility. The shared viewpoint among participants from different backgrounds hints at potential fundamental principles shaping our moral instincts. Nevertheless, additional research in Western settings is essential to fully grasp the extent and implications of these findings within the broader discourse on free will and determinism.

Another study titled *For Whom Does Determinism Undermine Moral Responsibility* conducted by Ivar Hannikainen and colleagues in 2019, a cross-cultural and cross-linguistic survey aimed to explore how people with different cultural backgrounds and cognitive styles perceive free will and moral responsibility. This extensive research involved 5,268 participants from twenty countries speaking sixteen languages offering an examination of beliefs regarding free will in deterministic scenarios.

The results of the study indicate that, generally speaking, participants from different cultures tend to ascribe moral responsibility, even in deterministic scenarios, where there are no alternative possibilities or sourcehood. However, the degree of ascription varied significantly across different regions. Individuals from European and Middle Eastern cultures tended to link sourcehood with free will more strongly, resulting in higher levels of perceived control, blame, and punishment. Conversely, Asian respondents appeared swayed by considerations of sourcehood when evaluating moral responsibility, highlighting cultural distinctions in views on free will and control.

Despite the thoroughness of the study, the authors acknowledged limitations. For instance, they noted that specific scenarios could pose comprehension challenges for

participants, potentially introducing bias. Cognitive reflection had an effect on reflective individuals who often revised their judgments when faced with scenarios they didn't fully grasp. The study's emphasis on sourcehood as a key factor in affecting differences between scenarios also prompted inquiries into aspects of cultural psychology, such as dispositional and situational explanatory styles, which were not directly assessed. The authors suggested that future research should utilize matched stimuli and pre-test instructions to ensure exclusion rates and enhanced comprehension.

These discoveries align with research on the subject by Miller and Feltz (2011) well as Nahmias et al. (2005) demonstrating that people often blame and punish agents regardless of sourcehood or alternate possibilities. However, the Hannikainen et al. study showcases how cultural differences impact judgments, emphasizing the role of cultural psychology in shaping our understanding of free will and moral responsibility. The results highlight the need for further investigation into how cultural differences and cognitive reflection contribute to our perception of free will and moral responsibility, with an emphasis on exploring cross-cultural perspectives in order to better contribute to philosophical debates on determinism.

An intriguing convergence between the Sarkissian et al. (2010) and Hannikainen et al. (2019) studies lie in the influence of cognitive reflection on perceptions of free will and moral responsibility. Sarkissian et al. suggests that incompatibilism may be inherent in our instincts and potentially influenced by evolution's impact on our views of free will. Similarly, Hannikainen et al. discovered that individuals with higher levels of cognitive reflection tended to see free will as incompatible with determinism, highlighting a strong link between cognitive style and beliefs about moral responsibility and free will's relationship. This finding suggests that cognitive

processes and reflective thinking can significantly impact how people perceive moral responsibility in deterministic contexts.

While these studies (Sarkissian et al., 2010 & Hannikainen et al., 2019) share similarities, they also bring attention to perspectives that shape these judgments. Sarkissian and colleagues focused on a diverse sample from various regions suggesting that responses denying free will may have universal tendencies. In contrast, Hannikainen and team identified differences noting that European, American, and Middle Eastern individuals tend to assign greater moral responsibility in deterministic scenarios compared to their Asian counterparts. These cultural disparities highlight the nature of the debate on free will and indicate that one's cultural background significantly influences their beliefs and assumptions regarding free will and moral responsibility. Both studies provide insights into the philosophical discourse on free will and determinism by underlining the significance of cross-cultural perspectives in comprehending how individuals think about these concepts. Furthermore, they underscore the necessity for an investigation into the underlying factors driving these variations such as the impact of cultural psychology and cognitive reflection, on lay judgments concerning free will and moral responsibility.

3.3 Differences in Free Will Belief Across Cultures

The perception towards free will is relative and bound by culture as influenced by historical will, social and philosophical. In the cultures of emancipative individualism with roots in the Enlightenment, free will is tend to be presupposed as an essence of human nature and the basis for moral agency (Helion & Ochsner, 2018). This belief is related to individualism which is a cultural paradigm where people are thought as independent and able to make their own decisions. On the other hand, most of the eastern civilization like the influenced of Confucianism and Buddhism are

more or less collective and relational. Here, free will is defined as power that is circumscribed by role requisites and expectations (Nisbett & Masuda, 2003).

In various studies, Vohs & Schooler (2008) noted that the collectivist people may provide lower endorsement of the absolute free will than the Western people. This difference implies that cultural background has a very important influence over attitudes toward agency and control. Furthermore, research work conducted across different cultures proved that beliefs in free will affects the psychological processes. For instance, self-authoring has been associated with increased level of life satisfaction and cultural wellbeing in the Western world (Baumeister et al., 2011). On the other hand, where lower levels of locus of control are expected, arising from 'high determinism culture,' for example some Indigenous cultures, people may derive comfort from the notion that their lives are predetermined (Helion & Ochsner, 2018).

3.4 Influence of Religious Beliefs on Perceptions of Free Will

Religious beliefs influence perceptions of free will in cultures that are seen as distinct from one another. The majority of world's major religion support free will to allow for moral responsibility. For example, Christianity coherently asserts that are supposed to have the freedom to do either good or bad (Light & Block, 2017). It is a basic truth that has a group of followers who hold it as guiding principles in issues to do with morality, sins, and redemption.

Studies on religious beliefs and self-developed beliefs first revealed that religiosity and free will are directly related. It has been shown that people with a high level of religious affiliation see free will as a phenomenon than the respondents without any religious affiliation (Yonker et al., 2012). An empirical research work done on college students showed that religious spirited students had more beliefs in free will and less deterministic beliefs (Lewis, 2021).

However, there are those religious elaborations stating that these last two may infringe the doctrine on the sovereignty of free will. There are several controversies of predestination and free will that explain more on the topic. For example, the main doctrines of Calvinism speak about determination by God's omniscience, questioning the account of human freedom when it comes to action (Bere & Bessie, 2023). Theological debates in this case suggest that people can take different positions on the issue of free will depending on the religion in which they were put into the world.

3.5 The Role of Education and Upbringing in Shaping Beliefs About Agency

Education and upbringing affect volitions concerning free will by conditioning sets of thinking patterns that direct people's perceptions. Autonomous educational systems make learners to think critically in a manner that they would perceive themselves as individuals able to make rational decisions, (Khairani et al., 2023). On the other hand, school environments restrict the student's belief system concerning abilities and choices in the educational settings.

Another interesting component of the analysis addresses parenting regarding agency beliefs. Inductive parenting, as warm demanding, encourages a high level of self-assertion in children (Steinberg et al., 1994). On the other hand, the authoritarian style of rearing is characterized by high demandingness and low warmth such that it constrains children autonomy to make decisions (Steinberg et al., 1994).

According to the studies, children who are raised at their home environment are more predisposed to develop beliefs in their personal agency than the children raised in rescue home environments (Knafo-Noam & Schwartz, 2003). This developmental perspective outlines ecological context promoting beliefs about free will imprinting.

3.6 Cross-Cultural Studies Comparing Free Will Beliefs

Analyzing eastern and western philosophy strategies one finds quite a contradiction in the perception of the free will factor. In the Western context, most people have adopted libertarian conceptions of free will-meaning an individual's capacity to generate decisions without being predetermined by other forces (Kane, 2005). This point of view can come out of the Enlightenment philosophy and the idea that the freedom of an individual is needed for her or him to bear moral accountability.

Conversely, Eastern *ethos* is largely compatible in its approach to the two aspects. For instance, Buddhism offers a discussion of interconnection whereby, they discover that individuals are unique agents who have free will although each decision is bound by an existing karma (Harvey, 2013). This perspective has left many questioning on the essence of free will.

These philosophical differences have with the increased cross-cultural research that show how they play out in the differences in the belief in moral responsibility. It has been found that users of collectivistic culture easily take external factors into consideration while letting off responsibility or extending it on a particular person; they consider situations to be highly influential. This is quite in contrast to the Western culture in which people feel it's their individual responsibility to ensure that certain tasks get done.

Moreover, the research demonstrating that free will has links with a kind approach to others diverges between cultures. In western culture, higher endorsement of free will is linked to elevated levels of pro- social and moral behavior (Vohs and Schooler, 2008). They concluded that this relationship may not necessarily be so in collectivist cultures wherein focus is made on the main concepts of community welfare over self-serving activities.

3.7 The Role of Language in Free Will Belief

3.7.1 How Language Shapes Beliefs About Agency and Responsibility

Language is an effective instrument by which people construct free will and responsibility. It is not only a means to get in touch with each other but also a structure of perceiving reality and every occurrence in it. Several examples show that the structure of our language determines the theories that underlie free will and moral responsibility. For example, the languages which usage of personal pronouns is preferred it might lead to a better feeling of self- efficacy than the languages that prefer the usage of collective nouns is (Boroditsky, 2011). This linguistic structure causes the speakers to see themselves as more of agents of free will thereby strengthening that stand.

Previous studies show that speaking about moral issues influences perceptions of responsibility. For example, bilingual people can show the diverse working of moral reasoning concerning to first (L1) and second language (L2). Keysar and colleagues (2012) have found that when faced with the moral decision-making scenarios people adopt a more utilitarian approach when the information was presented in the second language. This change indicates that the affective component can determine the proportion of aspects relating to free will and accountability; while using an L2, one's emotional response is likely to be dampened, and decision-making becomes more rational (Lazar et al., 2014).

The hypothesis inform of conceptual relativity was that the structure and lexicon of a particular language determine a speaker's perception and conception of reality. This matter has great relevance regarding concepts concerning freedom of choice. To give an example, it was found that the English-speaking participants deeply associated a conceptually specified structure of agency and intention, which lead them to hold actors more responsible for the actions than the participants, who heard the version in other languages (Zhu, 2015).

As applied to moral decision making, language determines how a particular decision may be viewed by an individual. Geipel et al. (2016) determined that bilingual participants assigned moral responsibility to individuals more when the dilemmas were in their first language than in second language. This hints that not only can choices be conditioned by structure but that the very nature of choice might be conditioned and shaped by structure in terms of how the individuals who must make choices perceive the moral questions that these choices raise.

Additionally, the Foreign Language Effect (FLe) revealed that while making a decision in L1, bilinguals have other emotional responses than making decision in L2. According to Lazar et al. (2014), there were low emotional effects when making moral judgments in L2 and, therefore, more utilitarian results in L2 than L1. This phenomenon shows how language can regulate affective interest and, consequently, control the beliefs about free will and moral responsibility.

3.7.2 How Culture Shapes Perceptions of Free Will

Language, norms and values which are part of culture determine an individual perception of free will through culture. Some suggest that language determines ways of thinking; for instance, languages that use more relational terms will make people tend to perceive actions as connected rather than sequenced (Boroditsky, 2011). At times languages can impact the viewpoints of various people in response to free will.

Social norms can be identified as acceptable behaviors in specified cultures. Thus, in cultures where collectivism is evident, people are expected to show low levels of perceived personal control. On the other hand, cultures that endorse the values of personal control, and individualism may preserve the higher level of perceived control beliefs (Triandis, 2018).

Cultural parameters, such as legends, which people hear from their ancestors, also structure particular views on free will. For example, myths and folklore always highlight or teach lessons of being the results of people choosing to do something willingly or have to do it unwillingly (Seligman et al., 2005). These fictions reaffirm the cultural expectations concerning free will and their perception.

4. Neuroscientific and Psychological Perspectives on Free Will

4.1 Brain Studies Related to Decision-Making Processes

Over the past years, free will has received considerable attention from neuroscientists, including those using neuroimaging approaches to capture the brain activity while overarching free-will decisions. Frith & Haggard (2018) talk about how Benjamin Libet in 1980s conducted perhaps the most well-known experiment and showed that the activity of the brain associated with a decision takes place 300-500 milliseconds before a person becomes aware of the desire to act. Libet's experiment showcased a readiness potential (RP), which meant that actions may be predetermined in the brain even if one is not consciously aware of it yet (Schurger et al., 2012). In this experiment, participants were told to flex they wrist when they felt the urge to flex it. While they did this, Libet and his team measured the participants' brain activity using an EEG. The results of this experiment showed a readiness potential in which brain activity started before the awareness hit their brain of wanting to move their wrists. This is called the readiness potential (RP), which is an electrophysiological interference prior to voluntary movements and indicating that actions might be unconsciously prepared even if one is not aware of this (Schurger et al., 2012). Although this is still considered a major discovery and a pivotal experiment, it also faces a lot of backlash and criticism for oversimplifying the subject and not truly reflecting the complexity of everyday decision-making processes (Libet, 2004). This experiment is way too simple to change our notion of free will completely, it really only being about the urge to move the wrist and not more complicated situations that humans encounter every day when needing to make a decision.

With the improvement of the neuroimaging technology like functional magnetic resonance imaging (fMRI), the researchers are now able predict decisions before these decisions go through

the consciousness stage. For instance, Soon et al. (2008) noted that flow of activity in brain could well predict the decision of a subject ten seconds before he or she was aware of such a choice. The viewpoint that rational decisions are made just before an action is taken is also put into question by these discoveries indicating that conscious decisions could simply be more or less accurate guesses made after the fact based on previous subliminal messages.

However, various investigations have shown that integration between various networks in the brain is essential in decision-making. The frontal lobes, which are a part of the brain that has the most advanced thinking processes, responds both in the parietal lobes which is also known to be having something to do with sensory and attention. These interactions are 'necessary for the perception of agency, and for the experience of making choices' (Haggard & Eimer, 1999). Knowledge of these neural processes helps in explaining how decisions are made and how much they are even freewill decisions.

Besides the above-mentioned basic research, lots of advanced studies have been conducted to examine effects of emotional and motivational aspects on decision making. For instance, the amygdala, which is a part of the brain correlated to the emergence of emotions, influences choices whenever people have to make decisions based on risks or probabilities (Kahneman & Tversky, 1979). The fact of rational thinking along with those influences that stem from emotions and other biochemical factors ties the problems of personal decision making and the problems of the freedom of the will tighter.

Related neural studies have also explored the social contexts of decision makings. Research shows that choices elicit different neural mechanisms that social pressure can modify (Loewenstein et al., 2005). For example, when people are choosing in groups or when adjusting to sociopsychological influence their brain responses might not be the same as in decision made

independently. This suggests that free will is not only a constructed product of self-cognition, but of social interaction.

Building on this topic, another study examined the neurobiology of social decision making (Rilling et. al., 2008). In this study, participants' behavior was tested in complex social environments where they had to navigate various decision-making processes. Using game theory and neuroscience, this study brought to light significant neural mechanisms that take part in social decision making. The key area that this study highlighted was the difference in decision making brain activity when other people are involved in the process. They found that the area of the brain called caudate nucleus is responsible for managing social prediction errors during reciprocal exchanges, helping us learn and decide on what to do based on prior experiences of trust and/or betrayal. If someone has treated us in an unfair way before, another area of the brain called the anterior insula becomes active and warns us to not trust that person again.

While our brain tries to protect us from these negative experiences from happening again, our hormones at times can do the exact opposite. Hormones like oxytocin can help calm the fear of betrayal and make us trust people again when we're in their presence, and therefore make different decisions that have different outcomes. This shows that social bonds can be affected by chemical changes in the brain (Rilling et. al., 2008). Overall, this study highlights the affect that social situations can have on our decision making. It concludes that our choices at the end of the day are determined both by our own thoughts and feelings as well as the social situations we find ourselves in, resulting in a compromised sense of free will.

4.1.1 Empirical Arguments Against Free Will

Empirical arguments against free will point to evidence from neuroscience and psychology that suggests our actions are influenced by unconscious factors or predetermined brain activity. Experiments by Benjamin Libet, for example, revealed brain activity occurring before conscious decisions, indicating that our brains might "decide" before we're aware of it. Libet et al. (1983) conducted a pivotal study exploring the timing between brain activity and conscious intention in voluntary movements. The study centered on the "readiness-potential" (RP), a slow brainwave that appears before voluntary acts, which was observed to occur up to a second before the conscious intention to move. The aim was to examine the timing of RP onset in relation to the moment when participants reported the intention to act (W-time), providing insights into the mechanisms of voluntary action and the concept of free will.

Using electroencephalography (EEG), the researchers recorded brain activity while subjects made self-initiated voluntary movements. Six right-handed college students participated, observing a revolving spot on a cathode-ray oscilloscope (CRO) and indicating when they felt the urge to move. Muscle activation was simultaneously recorded with electromyography (EMG). The experiment aimed to determine the lag between RP onset and the conscious intention to move. Results showed that the RP onset typically preceded conscious intention by several hundred milliseconds. In more spontaneous movements, the RP began about 350 milliseconds before the reported intention, while in preplanned movements, the gap was about 800 milliseconds. This suggests that brain processes related to voluntary actions start before we consciously decide to act.

The implications of these findings challenge the traditional notion of free will, indicating that unconscious brain activity can initiate voluntary actions before conscious awareness.

However, the study faced limitations such as a small sample size, reliance on recall, and potential biases in timing accuracy. Despite these issues, the work by Benjamin Libet has significantly influenced discussions in neuroscience, psychology, and philosophy, sparking debates on the role of consciousness in human behavior. Some other experiments were made by other scientists trying to replicate Libet's results. For example, Soon et. al. (2008) in their study with fMRI *Unconscious Determinants of Free Decisions in the Human Brain* found that "the outcome of a decision can be encoded in brain activity of prefrontal and parietal cortex up to 10 seconds before it enters awareness". The experiment done in this study was also very simple, with the participants being asked to press one of two buttons, whichever one they choose. fMRI was used to measure when humans' brains were made aware and how it compared to the time the decision was made. While the results of this study supported Libet's previous arguments and made people question how truly free our choices are, it still lacked the complexity and depth to be considered absolute.

Critics of these findings question the interpretations and suggest alternative explanations for the observed brain activity, arguing that the results don't necessarily indicate a lack of free will (Trevena et al., 2010; Banks et al., 2009). Specifically, these critics argue that merely pressing a button when one "feels the urge to act" overly simplifies free will in a conceptual sense and ends up missing the bigger picture. The problem is with the design of these experiments, which severely limit the choices available to any given participant, which is not the case in real life. Soon et. al. (2008) found in their study that they can predict participants' decisions only 60% of the time which is barely better than picking randomly. In another experiment by Schultze-Kraft et. al. (2016), it is shown that people are able to stop and change their decisions even after the brain has prepared for the act. This was shown in an experiment where participants were able to take their feet off the pedal when they were faced with the light change, even when their brain was prepared to keep

pressing it. These results suggested that people still have control over what they do and can change their actions even if their brain had prepared for otherwise initially. If these brain signals were automatic and unstoppable once started, then participants wouldn't have been able to take their feet off the pedals.

Another critic of Libet's findings comes from the W-time angle; stating that it may not be a direct measure of intentions, but instead an inferred timing that's influenced by experimental conditions (Banks & Isham, 2009; Dominik et al., 2017). In other replications of the study, W-time was inconsistent and showed variability with introspective training and the presence of RP (Schlegel et al., 2013), as well as some findings suggesting that the difference in W-times may be caused by prior training on movement initiation (Dominik et al., 2017; Sanford et al., 2020).

4.2 The Implications of Neuroscience for Traditional Views on Free Will

Free will and its neuroscientific consequences have stirred quite vivid debate by questioning the existing conventional notions about this topic. According to many neuroscientists, if decisions originate at the subliminal level of the human brain, then free will, which is a human ability to make decisions independently cannot hold up its logical validity (Clayton, 2018). Skeptics of free will argue that people's feeling of decision-making is only an illusion due to the brain workings (Gazzaniga, 2011).

Nevertheless, some other scholars have posed that neuroscience does not diminish free will, but rather reconceives it. According to Eddy Nahmias (2014), although actions may be triggered by unconscious reasons, consciousness does have a contribution to make in decisions made through things like 'veto power' whereby an individual can prevent him or herself from acting in a particular way. The concept of veto power was explored in a study done by Schultze-Kraft et al.

(2016) in which participants were observed to be able to utilize a veto even after the start of the readiness potential. This meant that individuals were able to stop a movement from happening when a stop signal was perceived, even if the movement had already been decided neurologically. This was the case for up to 200 milliseconds before the execution of the movement, implying a "point of no return". These findings suggest that even though early brain signals can indicate preparation, other factors through conscious intervention can still trigger some signals which can ultimately affect our movement up a certain threshold, and therefore decision making.

In addition, Peter Tse (2013) has previously suggested a model known as 'criterial causation,' whereby though the neural activity is prior to conscious experience, it doesn't rule out the action control. He thus contends that it is true that decisions influence the future actions through rewiring of synapses, that is altering of neurons' response to the stimuli associated with the past activities and choices.

If neuroscience tells us that many decisions are made subconsciously, then this calls into doubt how we can blame or credit it for actions that were performed. There are calls for an in-depth consideration of the culpability in view of the new knowledge in neuroscience. For instance, if a person took part in the crime because of some conditions beyond their awareness, it may have been caused be extreme pressure from the environment, thus leaving out the question; should they be penalized and punished for their crime?

4.3 Determinism vs. Free Will in Light of Neuroscientific Findings

According to determinism, all events in this world including the actions of human beings are predestined by antecedent factor controlled by laws of nature. Research from free will has indicated that people are able to make choices without being influenced by various pressures. Although there are some studies showing that many actions are consequent of unconscious neural

events, it does not necessarily imply that all human actions are predetermined. Marcelo Fischborn (2016) argues in his paper that libertarian free will may be threatened by the deterministic claims that neuroscience and psychology support, although the extent to which Libet-style experiments have done so remains uncertain. Although some experiments may show the ability to predict decision outcomes before conscious decision making, these types of experiments only have an accuracy of around 60%, which is not high enough to make such a strong claim (Fischborn, 2016). Some researchers use a compatibilist approach claiming that while decision making is predestined by prior causes, an individual will still be able to make a meaningful choice (Kane, 2005).

Although there are some studies showing that many actions are consequent of unconscious neural events (Libet et al., 1983), it does not necessarily imply that all human actions are predetermined. Even though the debates that have been triggered by the development of Libet-style experiments may suggest that our brains decide to act before we consciously decide to do so may challenge the idea of libertarian free will by reducing conscious autonomy, these arguments have not yet successfully fully proven that all of our actions are completely predetermined by unconscious processes (Fischborn, 2016). Some researchers take what is known as a compatibilist approach of claiming that while decision making is predestined by prior causes, an individual will still be able to make a meaningful choice (Kane, 2005).

Neuropsychology engages with philosophy and poses essential topics of moral responsibility. If actions are said to be determined by unconscious processes, then how can individuals be held responsible for their actions? Some surveys show that endorsing free will leads to more personal responsibility and prosocial behavior (Vohs & Schooler, 2008). Gregg D. Caruso (2019) argues that fostering skepticism about free will is actually healthy in the sense that free will belief is not always beneficial as it can lead to punitive motivations, social inequities, and harsh

treatment of others. This argument challenges the idea that free will skepticism always leads to unethical behavior, claiming that actually letting go of the idea of fate and destinity can have more positive effects on society as a whole.

Furthermore, there is a question of how cultural meaning systems impact one's experiences of self-authoring or self-regulating, or how people understand their own decision-making processes. Some Libet-style experiments show that how people perceive autonomy and control may be influenced by differences in cultural contexts, possibly challenging the universal application of free will principles across various cultural frameworks (Fischborn, 2016). Apparently, in the cultures most developed through individualism people seem to be more likely to regard themselves as "super ego agents", enjoying the freedom of choice to some extent. While Western cultures may encourage separate independent decisions in a particular relationship, there are cultures that may support cooperation and coordination of people, such as collectivist societies like China or Japan, where communal goals, needs, and overall harmony often play a bigger role compared to individual choice (Loewenstein et al., 2005). Naming these cultural dimensions brings an additional level to the argument on free will so Brierley's notion is beneficial in this sense.

While wading through the sea of neuroscience and philosophy, we start to appreciate the heuristic value of examining agency through a lens of psychological mechanisms and their biological substrates. Fischborn's argument highlights that while contemporary studies on neuroscience and free will have yet to fully prove deterministic impacts on libertarian free will, they still have the potential to discover brain processes that may shape our understanding of free will as a whole, implying a complex interplay of both personal autonomy as well as deterministic factors that come into play when making a decision (Fischborn, 2016). When personal freedom

ideas are incorporated into philosophical debates with reference to neuropsychology, it might make people be more enlightened about how they behave.

4.4 Psychological Approaches to Free Will

Discussions on the concept of free will have been hard and fast in psychology, with researchers drilling down into the cognitive processes that underpin decision-making, the development of beliefs about free will with age, and differences among individuals in beliefs about free will (Sheldon, 2024). In this section, I discuss these psychological approaches to this notion of free will and discuss how the human mind approaches the free will question.

4.4.1 Cognitive Processes in Decision-Making

The free will debate at its core is about how humans make decisions. So, if cognitive psychologists have studied flipping a coin behind the scenes, figuring out the mental processes that underpin our choices, we all stand to benefit. A key finding in this area is that unconscious processes play a part in decision-making. Fortunately, or unfortunately, research has shown that much, perhaps most, of what we do is influenced outside our conscious awareness; in other words, decision-making isn't free will as traditionally assumed, a conscious, deliberative process.

This is receiving the attention of the Nobel Committee, and in particular, the work of Daniel Kahneman and Amos Tversky has been particularly influential. Moutoussis et al. (2021) also highlighted heuristics and biases research by showing that human decision-making is based on mental (cognitive) shortcuts that, in turn, cause systematic errors. Here it is implied that we are unlikely, all the time, to be the product of a careful, logical deliberation; instead, our choices may be influenced by biases in our cognition or by our environment.

Several other parts of decision-making research concern executive functions. Planning, working memory, and cognitive flexibility unite to comprise a set of higher-order cognitive

processes that are integral to making complex decisions. Stronger executive functions have been linked to more self-control, fewer decisions made that don't fit with long-term goals, and possibly a firmer sense of free will.

Our understanding of the decision-making process has also been contributed by research in neurosciences. When the famous experiments by Benjamin Libet (showing that brain activity linked to a decision occurs before conscious awareness of making that decision) began to raise the specter that free will is an illusion (Moutoussis et al., 2021), it triggered a fierce debate on what free will is. Some conceive these findings as evidence against the existence of free will, but others see them only to indicate the intricate interaction between the conscious and unconscious in decision-making.

4.4.2 Development of Free Will Beliefs Across the Lifespan

Sheldon (2024) characterizes free will as an evolved functional capacity within the mature human mind, offering numerous adaptive benefits throughout life. Individuals conceive and experience free will in different ways during their lifetime. This evolution occurs as free will enables effective responses to momentary contingencies and facilitates imagining long-term futures. To understand how beliefs about free will develop and how they change as children become adults, developmental psychologists have studied how people reason about the free decisions of an external agent. Several studies that were done suggest that our perception of free will and control actually come from the idea that we possess freedom and control over our lives and actions, which impacts the way we perceive autonomy and decision making across different life stages and cultural contexts (Monroe and Malle, 2010; Cusimano and Goodwin, 2019).

Young children have a strong free will belief, seeing their own actions and others as freely chosen, research has indicated. But this belief appears to be intimately connected to the

development of the theory of mind, the ability to recognize that other people and ourselves have thoughts, desires, feelings, and beliefs (Sheldon, 2024). At the same time that children acquire a more sophisticated understanding of other people's thoughts and intentions, they also acquire a more sophisticated understanding of the concept of free will. As children get older, this initial idea of autonomy is comprimesed due to the constraints that societial norms and expectations that are more evident (Kushnir et al., 2015; Monroe et al., 2015).

Questions of identity and autonomy can arise during adolescence and affect beliefs about free will, with Sheldon (2024) pointing out that this period is characterized by an increased desire for independence, aligning with the creative process model as well as the goal breakthrough model, which involves exercising free will as a basic psychological need. As this increased desire for independence grows, teenagers also have to face more social and environmental influences than ever before, shaping their understanding of free will so that it balances personal autonomy with percieved external contraints (Sheldon, 2024; Stroessner & Green, 1990). The time of an increased desire to be independent and self-determined can promote beliefs of personal agency, while it is also a period of time when many adolescents begin paying closer attention to social and environmental forces surrounding behavior. According to Sheldon (2024), this can result in a somewhat more complex idea about free will.

Through life experience, education, and cultural influence individuals' beliefs as adults over free will change. While higher levels of education are tied to more of a deterministic worldview, which has the potential to undermine facile assumptions of 'free will'. Other studies argue that cultural factors such as individualism and collectivism can help shape these perceptions, influencing the way individuals harmonize their sense of free will and control with cultural norms and expectation (Au et al., 2012; Clark et al., 2014; Chopik, 2016). Sheldon (2024) on the other

hand suggests that the free will process is influenced by broad goals and narrative identities, integrating recent arguments about free will as a uniquely human adaptation. However, this relationship is complicated and will vary among different cultural contexts.

In later life, issues with a sense of agency may arise because of physical or cognitive decline. Sheldon (2024) emphasizes the importance of autonomy for well-being, noting that autonomy can enhance the psychological need for exercising free will even in older adulthood, while other studies consistently show that our perceptions of free will and control decrease as we get older due to social as well as physical limitations and constraints (Robinson & Lachman, 2017; Lascanoet al., 2015; Monroe et al., 2015). We know that well well-being of older adults is enhanced by having a sense of control over, and autonomy toward, their life. This underscores the real-life importance of free will beliefs beyond philosophical debate.

4.4.3 Individual Differences in Free Will Beliefs

There are significant individual differences in people's convictions about free will, and psychological research on this point has continued to emphasize the significance of these findings. The impact of these differences depends on a whole range of variables including personality traits and cognitive styles as well as cultural background. Some research suggests that perceptions of free will and control can be influenced greatly by individual characteristic differences like locus of control, as well as differences in life experiences (Monroe & Malle, 2010; Conrad & Chopik, 2019).

Locus of control is one of the personality traits most often studied for its relationship to free will beliefs. This refers to the degree to which individuals feel they have control over the outcomes of the decisions that they make in life (Robinson & Lachman, 2017). People with an internal locus of control believe there is more control over our lives and decisions, and often

believe in free will much more strongly (Sheldon, 2024). Those with an external locus of control may conversely be more likely to attribute events to external factors thereby giving rise to weaker free will beliefs.

There are also ways that cognitive styles matter like the difference between thinking analytically and thinking intuitively. Some studies suggest that analytical thinkers tend to question the element of free will more, most likely due to their awareness of deterministic factors that influence their actions (Monroe et al., 2015; Stroessner & Green, 1990), while other studies have even discovered that people who think analytically are less likely to believe in free will than others, maybe because they are more aware of all the forces at play in the actions of human beings (Sheldon, 2024). Free will beliefs are influenced by cultural backgrounds; individualistic cultures are often placed higher than collectivistic cultures on valuing personal agency and free will as cross-cultural studies have shown, emphasizing autonomy over social constraints (Cheng et al., 2013; Sarkissian et al., 2010).

The other important factor which makes the difference is religious beliefs. Many religious traditions focus on personal responsibility and moral agency that can reinforce a belief in free will. However, the relationship between religiosity and belief in free will is not so simple: some religions claim predestination and divine determinism. Studies suggest religious practices can enhance perceptions of control, although others highlight how some religious tenets might limit the perceived autonomy due to doctrinal constraints (Baumeister et al., 2010; Jackson & Bergeman, 2011). Free will beliefs can also be influenced by socioeconomic factors. According to some of the research, there is a belief that those from higher socioeconomic backgrounds have a stronger belief in free will because they have a greater sense of control over their life circumstances (Savchenko, 2022). This relationship, however, can differ among different cultural and social

contexts, where resources and relative opportunities modulate the perceived autonomy (Clark et al., 2014; Ross & Mirowski, 2013).

Free will beliefs have also been investigated with respect to many other psychological outcomes in recent research. For instance, they are related to how individuals value personal autonomy and responsibility, which can directly influence behavior and mental well-being (Paulhus & Carey, 2011). Past research shows that those who have a stronger belief in free will are more satisfied and have better academic and work performance as well as having more prosocial behavior (Maoz & Sinnott-Armstrong, 2022). Experimentally decreasing belief in free will, however, has been shown to increase cheating behavior and decrease helpfulness. The broader implications suggest that believing in free will aligns with psychological functions that hold individuals accountable and motivated, supporting social cohesion and personal growth (Chopik, 2016; Alquist et al., 2013).

Beyond philosophical debate, these findings point to the practical implications of free will beliefs. According to them, believing in free will may have the effect of fulfilling psychological functions that include holding people responsible and motivated (Maoz & Sinnott-Armstrong, 2022). These studies, however, tend to test belief, not fact, in free will, and so leave open the question of what free will might be in its own right.

The contributions of psychology to our understanding of free will has focused on how individuals come to think perceive, develop, and react to a notion of the person as an agent of one's actions. Through examining constructs like autonomy, self-efficacy, and perceived control, psychologists illuminate the intricate interworking between beliefs about free will and behavior (Drewelies et al., 2017; Soto et al., 2010). Through the study of the cognitive processes involved in decision-making, the development of free will beliefs across the life span, and the individual

differences in these beliefs, psychologists have done much to address the age-old philosophical question of free will. Since research in this area is in its infancy, the results may still help explain the intricate interworking between our beliefs about free will and our behavior, emotions, and even sense of well-being.

5. The Real-World Impact of Free Will Belief

5.1 Effects on Moral Responsibility and Accountability

Free will is connected to notions of moral responsibility and personal liability as demonstrated through this research. When people think they have free will they are inclined to accept the responsibility for the decisions they make. It is especially important in legal proceedings because accountability is so necessary. The legal principle that people are to blame for their actions hinges massively on the belief that they were acting as independent agents (Lavazza, 2016). When free will is reduced or negated there are implications as to why people should be made to answer for their actions.

It has been found that persons who believe in free will accept greater responsibility behaviors. For example, Baumeister et al. (2011) discovered that, when the people's faith in free will was reduced, they acted more aggressively and inappropriately thus show that orientation by personal control suppresses destructive behavior. On the other hand, if people are made to have a doubt concerning their free will, they may not be under strong pressure to be responsible (Vohs and Schooler, 2008). This interplay brings out the role which free will beliefs plays towards the outcome of morality and societal coherence.

They are not limited to the acting behavior, but encompass everyday practices of the society and the legal paradigm. In cultures where people believe in free will there is always a tendency to emphasize on punishment for criminal actions. If society as a whole adopts this deterministic outlook wherein actions are thought to be freely determined by genes or the environment this can have implications on the way justice is meted out (Morse, 2007). Knowledge of determinism could

increase the application of other attempts at restoration that can replace punitive practices within the framework of justice.

5.2 The Relationship Between Free Will Beliefs and Mental Health

In recent years many researchers have been drawn to the relationship between free will belief and mental health. Those individuals who possess strong convictions about their capacity for personal agency—believing in their ability to make choices and exercise control over their lives—consistently report higher life quality and greater life satisfaction (Khairani et al., 2023). However, reduced ideas about free will cause hopelessness and despair, which relates to different mental health disorders which include depression and anxiety (Seligman et al., 2005).

Another study of Genschow et al. (2021) established that manipulation of belief in free will hampered participant self-control. This decrease of self-regulation can also cause an increase in mental diseases since a person starts behaving inadmissibly trying to use substances or being aggressive. Furthermore, beliefs about free will can affect the type of coping strategies; whereas those with autonomous perceptions of free will are inclined towards proactive coping than those with perceived selves as passive.

The consequences for therapy and treatments in mental health are therefore considerable. A common goal of therapists is to help clients increase perceived control because such a belief is influential in enhancing people's lives. Non-hospitalized interventions that are especially notable include cognitive-behavior approaches that are based on the concept of personal control as well as the concept of learning change through personal preferences (Beck, 2011). If clients allow external events and deterministic mind sets to make them doubt the agency, then therapeutic interventions are likely to be compromised.

Secondly, the cultural values contribute to perceptions of the freedom of choice of and consequences of mental health. Nisbett and Masuda (2003) argue that in collectivist culture there is less focus on self- efficacy, which may mean that there are different facets to mental disorder. Such cultural dimensions are crucial in order to develop mental health interventions that address clients' beliefs about agency.

5.3 Impacts on Social Justice and Legal Systems

Free will beliefs are relevant to social justice and the law in huge ways. In criminal justice system many concepts like guilt, punishment and rehabilitation are based on supposition that an individual has free will. If the overall attitude of society changes in a way where behavior is solely thought to be genetic/environmental this affects justice. For example, Morse (2007) believes that many scholars say that the idea about the effect of determinism can contribute towards the more of a rehabilitation instead of punishment approaches in conjunction with the legal systems. If offenders are seen as mere individuals exercising free will and not creatures of their environment this perspective may well help promote a renewed vision of justice that focuses on rehabilitation rather than retribution.

On the other hand, reduced rates of thinking about free will may result to reduced strictness of an individual actions towards other people. If society goes with the notion that individuals lack control over actions because of environmental factors it might erode the very essence of moral desert (Nadelhoffer & Monroe, 2022). The problem in this area therefore is to manage these views in a way that will yield a more even and just legal aspect.

People's outlook on justice can be shaped by circulating belief systems about the freedom of the will. It might be found that there is a higher tolerance for severe punishment for criminal conduct in societies where the perception of personal control is more powerful. On the other hand,

if determinism becomes prevalent as the solution to the free will debate then people will demand that individuals be offered treatment rather than punishment.

The social justice movements place themselves within narratives that matter by means of specific calls to individualism. This suggests that whenever people feel they can make a difference through activism, or through the ballot, they are liable to partake in social justice issues more strenuously (Nielsen, 2019). On the other hand, dejection of beliefs in agency results in social indifference or a feeling of hopelessness about the social matters.

5.4 Consequences of Diminished Belief in Free Will for Societal Norms

Decreased belief in free will could in fact lead this society in certain social issues that it has embraced to change dramatically. Accordingly, a meta-analysis of research has suggested that when people are primed into believing that they are less in control, they more likely to behave in an antisocial manner including cheating or aggressive behaviors (Vohs & Schooler, 2008). This implies that “free will” acts as the driving force towards ‘‘right” behavior.

It also should be established that the decline in beliefs about specific outcome, or in other words, a decrease in personal perceptions of agency, can contribute to the erosion of related types of trust within communities. People who feel undescribed by self-control are less likely to respond for their conduct toward others. Such change in position can cause high levels of strain and little cooperation within the communities (Genschow et al., 2021). Trust is fundamental for stronger social relations as the lack of it may be a severe problem in responding to common challenges.

Furthermore, populists wonder whether decreasing people’s belief in free will changes culture by obscuring the messages behind success and failure meanings. For the concerned cultures, that is, where individualism has been observed, the role of self- inefficiency has typically been

associated with achievement and goals. If such beliefs are lost, the social orientation towards success may then shift towards perceiving outcome being due to external causes rather than individual mere effort (Khairani et al., 2023). This change could shift shifting motivational patterns in communities and effect educational and career choices.

Further on, desacralization of free will might have implications for the sphere of interpersonal interaction. In connection with perceived behavioral control, specific feelings of powerlessness arising from the implementation of decisions can drive people away from society or make them self-absorbed due to helplessness. Such withdrawal leads to cycles of isolation, which in turn reduces people's interaction even more in the existing communities.

5.5 Experimental Studies on Free Will Beliefs

The quest to understand free will has shifted from the strictly philosophical into the arena of empirical investigation. Innovative methodologies have been developed by researchers in a variety of fields; psychology, neuroscience, experimental philosophy – to investigate how people understand and experience free will, and what it means for people to believe it. This section explores the experimental work done on free will beliefs, key findings from these studies, with criticisms and limitations of these experimental approaches.

5.5.1 Methodologies Used to Study Free Will Beliefs

Studies of free will beliefs have been conducted using a wide variety of empirical methods. A common approach is to use self-report questionnaires. The Free Will and Determinism Scale (FAD-Plus), created by Delroy Paulhus and Jasmine Carey, is perhaps the most common way to assess a person's beliefs in free will, scientific determinism, fatalistic determinism, and unpredictability (Ewusi-Boisvert & Racine, 2018). By quantifying individual differences in free

will beliefs and correlating these beliefs with other psychological variables, this scale allows researchers to examine the relation between free will beliefs and several other psychological variables.

Another methodology is an experimental manipulation of free will beliefs. These studies aim to treat participants with certain priming techniques such that their beliefs about free will are temporarily altered (Ewusi-Boisvert & Racine, 2018). For example, you might have people read texts that claim to support or deny the existence of free will, or you would show them advertising where subliminal messages promote or condemn the existence of free will. Manipulations of these are then measured in terms of their effects on subsequent behavior or decision-making.

As seen before, neural correlates of free will beliefs and decision-making processes have also been studied with neuroimaging techniques. Features of brain activity associated with volitional actions were studied using Functional Magnetic Resonance Imaging (fMRI) and Electroencephalography (EEG) during decision-making tasks.

Behavioral experiments have been designed to probe how people sense their agency and control over their actions. For example, the 'Libet experiment' and its variations record participants' intention to perform a simple action while their brain activity is being tracked. In these studies, the relationship between neural activity which precedes action, and conscious intention is explored (Ewusi-Boisvert & Racine, 2018). To investigate the effect of free will beliefs on decision-making and on moral judgments researchers have also used economic games and moral dilemmas. Because these paradigms allow observation of actual behavior in controlled settings, the effects of free will beliefs measure closer to an ecologically valid measure.

5.5.2 Key Findings from Behavioral Experiments

Several important findings from experimental studies on free will beliefs have shown us what free will beliefs are and what they convey. Probably the most robust finding is the relationship between belief in free will and prosocial behavior. In a study, Kathleen Vohs and Jonathan Schooler found that people who believe in free will do more helping and don't cheat or act aggressively (Ewusi-Boisvert & Racine, 2018). By contrast, experimentally reducing belief in free will enhanced cheating behavior, but not helpfulness.

Personal accountability has also been related to free will beliefs in research. Individuals who are more likely to believe in free will also perform better than individuals who are less likely to do so on tasks that involve attributing blame to themselves and others for negative actions and for biting the bullet in terms of accepting punishment for wrongdoing. In this way, free will beliefs are doing crucial work to support systems of moral responsibility and social cohesion.

There have been interesting results from studies of the relationship between cognitive processes and free will beliefs. For example, underneath the scope of the illusion of free will, Davide Rigoni and others have shown that inducing belief in the illusion leads to a reduction in readiness potential (i.e. a measure of neural preparation for voluntary movement) and longer reaction time in simple decision-making tasks (Ewusi-Boisvert & Racine, 2018). The results suggest that free will belief influences basic cognitive and motor processes.

Moreover, experimental manipulations of free will beliefs were also shown to affect self-control and goal-directed behavior. People who have been led to doubt an ability to be free of will are often less able to distance themselves from impure thoughts, resist temptation, or even muddle through when they struggle. That means that belief in free will can be a psychological resource to aid effortful self-regulation.

Studies of the neural basis of volition and decision-making have also been pursued using neuroimaging. While these studies have not eliminated the free will argument for sure, it has driven evolution into complex brain activity patterns including prefrontal and parietal cortex. These researchers explain these findings as supportive of certain accounts of free will that they call naturalistic, but others see the findings as compatible with a variety of other philosophical positions on free will.

The intuitions of laypeople concerning free will and moral responsibility have been studied in research in experimental philosophy. The results of these studies have been that people frequently have complex and sometimes inconsistent views about free will (Ewusi-Boisvert & Racine, 2018). For instance, even when being asked abstract questions many agree on incompatibilist notions of free will, but in concrete cases of moral responsibility, they tend to take a compatibilist view.

5.5.3 Criticisms and Limitations of Experimental Approaches

Experimental studies that have studied free will beliefs to such a large extent have ameliorated our understanding of free will belief; however, they are not unproblematic. One of the main problems is the operationalization of free will. Ewusi-Boisvert & Racine (2018) point out that defining and measuring free will in experimental studies often fails to capture the full complexity of the philosophical ideas at play. Then there are critics who question the definition and measurement of free will that many experimental studies use may not fully represent the full complexity of the philosophical idea (Ewusi-Boisvert & Racine, 2018). Simplified questionnaires or brief experimentally manipulated conditions may prove incapable of addressing the complex debates around free will that appear in philosophical discussions.

The second limitation involves the lack of ecological validity in laboratory experiments. Free will beliefs are the subject of many studies conducted in artificial contexts that do not capture

accurately real-world processes of decision-making. A long-standing debate concerns whether findings from these controlled environments are generalizable to complex real-life situations.

Opponents of free will beliefs also criticize the use of self-report measures to measure free will beliefs. Such measures may be subject to social desirability bias and actual response bias, which skew participants' responses away from their true beliefs or behaviors (Ewusi-Boisvert & Racine, 2018). Social desirability bias and actual response bias may influence participants' responses, and may not reflect true beliefs or behaviors. Another question is whether these measures make sense on a cross-cultural basis because while concepts of free will and personal agency tend to be important in many cultural contexts, they aren't necessarily all that salient in all of them.

The question of the durability of the effects of experimental manipulations of free will beliefs is raised as an ethical question concerning experimental manipulations of free will beliefs. Ewusi-Boisvert & Racine (2018) highlight concerns that reducing belief in free will could affect participants adversely, although such effects are often reported as temporary. However, some researchers fear that lowering belief in free will come at a high price to themselves and participants (Ewusi-Boisvert & Racine, 2018). Additionally, the long-term impact of these manipulations remains uncharacterized, some studies have reported temporary effects.

Free-will neuroimaging studies have their own set of challenges. Brain activity patterns that are thought to correlate with free will are fiercely contentious among researchers, with different people interpreting the same data as indicating different things. Furthermore, these studies typically concern the performance of simple motor actions or decisions, maybe not the sophisticated, deliberative picks that frequently are at the focal point of discussion concerning free will (Wisniewski et al., 2022). Free will beliefs have also been criticized as leading experimental studies of free will to potential confounds. For example, changes we try to induce in belief in free

will might have indirect effects on other psychological variables, such as mood or self-efficacy, which might explain observed behavioral changes.

Secondly, controversy also continues as to the relevance of experimental results for the philosophical question of free will, and finally, the third is the ongoing dispute about the implications of experimental results for the philosophical question of free will (Wisniewski et al., 2022). Although these studies have produced interesting information about how beliefs about free will crystallize and what the results might be, many philosophers insist that empirical work departing from what is regarded as 'metaphysically fundamental' ways in which free will and determinism can be compatible is not metaphysically fundamental enough to be worth the investment.

Even if the limitations of experimental studies on free will beliefs stand, these studies substantially enhanced our understanding of how people frame, constitute, and experience agency, choices, and responsibility. Breaking philosophy, psychology, and neuroscience into new territory, this research has bridged philosophy, psychology, and neuroscience to reveal new avenues into one of the longest-running questions in human thought. Methods to investigate the complex interplay between beliefs about free will and embodied experience in the world have come of age as methodologies continue to mature and interdisciplinary collaborations multiply.

6. Conclusion

6.1 Summary of Key Findings

The discussion on free will has been a long ongoing debate that cover subjects in broader inquires more than purely personal choice, such as metaphysics, ethics, neuroscience, laws of nature, substance, time, as well as the complex interplay between causal and reason-based events. The question goes beyond whether we have free will or not and becomes a multidimensional argument on the bigger picture that is how the universe around us functions. These discussions are not only limited to Western philosophy, covering over two millennia and various frameworks of research, with the work of more ancient thinkers such as Plato, Aristotle, and Augustine, all the way to more modern researchers like Benjamin Libet and Alfred Mele. Many cultures around the world have also contributed in their own ways to the topic, studying and understanding all these different perspectives is crucial to get a better understanding of the concept as a whole, rather than just looking at it from the limited Western perspective. The findings of this thesis highlight the interconnected nature of free will with moral responsibility, neuroscience, cultural influence, and various psychological and environmental factors.

Central to all the discussions on free will is the question of whether humans possess the ability to make decisions independently from deterministic causal factors. One of the core debates within the free will realm of contemporary philosophy lies the tension between compatibilists, who believe free will can coexist with determinism, and incompatibilists, who believe that true freedom is only achievable in an indeterministic universe. Libertarians on the other hand argue that individuals have the power to initiate actions autonomously and that they’re not fully determined,

while hard determinists as well as incompatibilists defend the idea that everything is predetermined by causal events that we have no control over.

The idea of sourcehood also plays a big role in this debate, which is defined as being the true originator of one's own actions to be able to be held morally responsible. Compatibilists and libertarians have contrasting opinions on this as well; with compatibilists arguing that sourcehood can exist within a deterministic framework: suggesting that even if everything does follow a set pattern, such as dominos falling, individuals can still be perceived as the true originators of their actions. While on the other hand libertarians believe that for individuals to be the true originators of their actions, there is a necessity of indeterminacy for genuine agency. Thus, the debate comes down to whether individuals can be the true originators of their own actions in a world where everything is predetermined, or if some randomness is needed for true free will.

Neuroscientific research about free will, pioneered by Benjamin Libet, show a readiness potential (RP) that is an unconscious brain activity that happens before the conscious decision or action takes place. This can occur up to a second before the physical action sets motion, challenging traditional views of conscious choice. While initial findings on this suggested a lack of free will, as the choice was already made neurologically before we were aware of it, the notion of "veto power" shows that individuals are able to prevent an action from happening if a stop signal is perceived, even after the start of readiness potential. This indicates that even though the process starts on a neurological level, other factors such as environmental intervention can affect the outcome, preserving a meaningful sense of agency.

Looking at things from a psychological perspective, some experimental studies have provided valuable insights into how our belief in free will affects our cognition as well as behavior. Free will belief has shown to be a significant factor in psychological well-being, motivation, and

prosocial behavior, with individuals who display a high sense of free will belief having better academic and work performance, and an overall higher life satisfaction. On the contrary, people who exhibit decreased belief in free will have shown to display increased dishonesty and aggression, as well as decreased levels of helpfulness. These findings suggest that free will belief serves as a psychological function, fostering a sense of accountability and motivation.

From a societal and legal perspective, free will belief also influences moral and legal systems, especially when it comes down to responsibility and punishment. Currently, almost all laws in place are made on the assumption that people possess free will. If free will is truly an illusion like some researchers argue, then the foundations of moral and legal responsibility and punishment may a require re-evaluation of exactly under what conditions individuals can be held accountable of their actions. Some researchers put forward the idea that if people's actions are really caused by things outside of their control, then a shift toward rehabilitation instead of punishment could better benefit society as a whole.

Other studies have focused on how cultural differences and backgrounds influence beliefs on free will. These studies have indicated that while individuals from Western cultures are more inclined to endorse free will beliefs, highlighting their need for autonomy and self-determination over social constraints, individuals from more collectivist cultures like China or Japan are more inclined to prioritize communal harmony and interdependence, viewing agency as a more context-based situation. Other factors, such as religious and socioeconomical statuses also come into play when we study these differences in free will beliefs, with people from higher socioeconomical statuses tending to stronger beliefs when it comes to personal control and choice. Language also is seen as a factor when it comes to perceptions of free will and moral responsibility, with bilingual individuals showcasing different decisions made depending on the different languages they're

utilizing in that moment. The Foreign Language Effect (FLe) uncovers how individuals tend to make more utilitarian decisions if they're speaking their second language, rather than more emotionally driven, which is the case for their native tongue.

6.2 Proposed framework for understanding the relationship between free will belief and life satisfaction

This paper has explored how free will belief is influenced by cultural, psychological, neurological, and social factors. It also investigated the way this belief influences our decision-making and moral reasoning, as well as how it correlates with our overall life satisfaction. Although previous research has shown that free will belief has many positive effects including increased prosocial behavior, work/school motivation, psychological well-being, and perceived control, the specifics of how these underlying mechanisms remain unclear. In this section of the paper, I will be providing a more comprehensive framework for conceptualizing how free will belief influences overall life satisfaction by using the insights I have gathered through this research. The framework that I propose highlights the three interconnected mechanisms, these are: perceived control, meaning-making, and moral agency as the primary mediators of the relationships between free will belief and life satisfaction.

The positive relationships that is found between perceived control and well-being is a significant indicator that belief in free will enhances one's sense of control, often leading to increased self-efficacy, personal responsibility, as well as greater resilience in face of challenges that life throws at us. Individuals who believe in free will are more likely to exhibit an internal locus of control, which means that they attribute both their success as well as failures to their own efforts rather than blaming external circumstances that are outside their control. Higher levels of happiness and lower levels of stress are reported by people who have a strong sense of internal

locus of control (Ryan & Deci, 2000). Motivation and perseverance are also closely related to free will belief, with free will believers being able to engage in proactive goal setting as well as problem solving at a higher level than those who do not believe in free will. Another study shows that this belief also leads to better impulse control and decision-making skills, both of which contribute to overall life satisfaction (Baumeister et al., 2009). All this means that this perceived control feeds our psychological resilience and strengthens our well-being, reinforcing the idea that we have power over controlling and shaping our future.

Meaning making refers to the process of the way individuals interpret, understand, and make sense of life events, as well as how they approach existential questions. Belief in free will has shown to also contribute existential meaning, which is a significant component of life satisfaction. A big part of living a meaningful life is believing that the decisions you are making and the life you are living has a purpose, which is what this belief encourages. The Self-Determination Theory (SDT), pioneered by Deci and Ryan (1985), states that autonomy, or so-called independence of external influences, is crucial for psychological well-being. This goes hand in hand with being an active author in one's life and their story, instead of being a passive observer in stories written by others. People who believe in free will are more likely to see themselves as these active authors.

Lastly, since we cannot talk about free will without mentioning moral responsibility, it will be the final primary mediator that I mention. The understanding that individuals are morally responsible for their actions encourages social trust, ethical behavior, as well as contribute to overall well-being. Free will belief leads to endorsing higher levels of personal responsibility, and therefore holding oneself accountable for both successes and failures. This leads to people having greater levels of self-respect and dignity. Having more personal accountability also has its positive

effects on the society as a whole, as it promotes social cohesion. Even when we look at it from a legal perspective, we can see that reinforcing moral responsibility would contribute to a sense of fairness, which would result in an overall healthier society. If people believe that they are being treated equally as others, and are given the same opportunities, it would contribute to their life satisfaction as well.

In this section, I propose a framework that showcases how free will belief influences life satisfaction through three interconnected mechanisms: perceived control, meaning-making, and moral agency. These three mechanisms when they come together show how our belief in free will influences our overall well-being and life satisfaction. In the future, as I will discuss in the next section, researchers should focus on studying these mechanisms using both experimental and longitudinal tools in order to get a better understanding of the causal relationships they may have with each other.

It's important to note that this tripartite method does not aim to single out each of these mechanisms but to treat all of them as mutually reinforcing elements. To give an example of this, we can say if someone feels as though they have control over their life and decisions (perceived control), they are more likely to believe that their actions and choices have meaning (meaning-making), leading them to have a stronger sense of responsibility both towards themselves as well as others (moral agency). Correspondingly, having a strong moral compass can help individuals make decisions that are more in line with their personal values and beliefs, which would reinforce their meaning-making skills, and enhancing their sense of agency as well. When all of these mechanisms come together, they create a feedback loop that can either enhance or diminish overall life satisfaction, depending on how they're utilized. This new proposed framework can help us

understand the complex psychological architecture of well-being, and provide a more holistic approach to enhancing it both in individuals and in societies.

6.3 Implications for well-being and future research directions

In this last section of the paper, I will go over the ways in which free will belief has psychological and social implications and how these findings can be used in different settings such as in therapy, education, and public policy. I will then outline directions for future research that can integrate these findings to fit into our daily lives in a way that they promote well-being.

When it comes to practical implications for well-being, therapists can emphasize agency and control in their therapy sessions, especially if they're using Cognitive Behavioral Therapy (CBT) techniques. They could do this by incorporating discussions about free will into their sessions and highlight ways to be more self-efficient and morally responsible. Positive psychology interventions can also help with enhancing the growth mindset and motivation that free will belief has shown to positively influence. We can say pretty similar things about education. Schools should include teachings on self-determination, decision-making, and personal accountability with the aim of making them feel more capable of making the right decisions and taking control over their lives. In later education, such as in universities, professors should aim to provide both sides of the free will argument and present a more balanced perspective on the subject, which would encourage critical thinking. Legal systems and policy makers should also reconsider the way certain policies and punishments are made, as we have discussed the ways in which free will belief can influence moral responsibility and decision-making.

Although there has been significant progress in research related to free will belief and its effect on our psychology as well as behavior, there's still some key areas that are lacking in this

research. One of these key areas is the lack of longitudinal studies exploring this subject. Most of the studies done up to this point are based upon short term experimental manipulations, studies in the future should focus on following the effects of free will belief in long term well-being. In neuroscience, although there have been many studies on free will and our brain processes during decision making, in the future, research should focus more on how conscious deliberation interacts with unconscious processes during decision-making processes. There can also be more studies done using different cultural variants to see if the effect of free will belief on well-being culture specific, or universal. Lastly, since we can conclude that the belief in free will has a positive effect on our well-being and life satisfaction, there can be more experimental studies done on if enhancing free will belief through education and/or therapy can be found to be useful and lead to measurable improvements in motivation as well as mental health.

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