

**BAŞKENT UNIVERSITY
INSTITUTE OF SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY
MASTER IN SOCIAL PSYCHOLOGY WITH THESIS**

**DIFFERENCES IN ANCHORING EFFECT ON WILLINGNESS-TO-
PAY IN THE CONTEXT OF DECISION-MAKING STYLES**

BY

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MASTER'S THESIS

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ANKARA – 2024



BAŞKENT ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
YÜKSEK LİSANS / DOKTORA TEZ ÇALIŞMASI ORJİNALLİK RAPORU

Tarih: 06/06/2024

Öğrencinin Adı, Soyadı: Ümmügülsüm Soysal

Öğrencinin Numarası: 22010443

Anabilim Dalı: Psikoloji Anabilim Dalı

Programı: Sosyal Psikoloji Tezli Yüksek Lisans Programı

Danışmanın Unvanı/Adı, Soyadı: Doç. Dr. Elvin Doğutepe

Tez Başlığı: Differences in Anchoring Effect on Willingness-to-Pay in the context of Decision-Making Styles

Yukarıda başlığı belirtilen Yüksek Lisans tez çalışmamın; Giriş, Ana Bölümler ve Sonuç Bölümünden oluşan, toplam 58 sayfalık kısmına ilişkin, 06/06/2024 tarihinde tez danışmanım tarafından Turnitin adlı intihal tespit programından aşağıda belirtilen filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 12'dir. Uygulanan filtrelemeler:

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Öğrenci İmzası:

ONAY

Tarih: 06 / 06 / 2024

Öğrenci Danışmanı Unvan, Ad, Soyad, İmza:

Doç. Dr. Elvin Doğutepe

to Prof. Dr. Dođan K kdemir

ACKNOWLEDGEMENTS

First and foremost, I would like to express my deepest gratitude to my esteemed thesis advisor, Assoc. Prof. Elvin Doğutepe. She believed in me and trusted me from the beginning of my master's program, always offering her support throughout this long and sometimes difficult journey. She generously shared her knowledge and experience with me and was always there when I needed her. Her advice, critiques, and most of all, her presence, have always improved my mood. I am thankful that I had the chance to work with her on this thesis, which has been informative and fascinating for me.

I am deeply grateful to my instructor, Assoc. Prof. Burcu Tekeş Tolungüç, for giving me her precious time and unconditional support. Furthermore, I would like to thank her for taking the time to participate in my thesis jury.

I would also like to express my gratitude to Assoc. Prof. Zuhale Yeniçeri Kökdemir and Dr. Tuğba Uyar Suiçmez for broadening my perspectives with their valuable comments and for contributing to my thesis proposal.

I would like to extend my gratitude to the esteemed professor of Boğaziçi University, Prof. Dr. Onur Başer, who supported me when I introduced myself and asked my questions through an email during a period when I was struggling and unable to find answers to my questions while writing my thesis in the field of behavioral economics. I convey my respects to all scientists like you.

I would like to express my deepest gratitude and love to my dear husband, Osman Soysal, who continuously supported my decision to pursue a master's degree in a different field after many years. He did everything possible to keep me motivated during this long and challenging journey. I also want to extend my endless love to my dear daughter, Elif Ceylin Soysal, and my lovely son, Eralp İbrahim Soysal, who supported me during the long hours I spent studying with a strong desire to learn.

Furthermore, I would also like to express my infinite gratitude to my broader family and cousins, who have always given me endless support and believed in me. Special thanks to my aunt Hatice Ünal and my aunt Elif Serin, who have been among the strongest female role models in our family and who have continuously supported me to never give up. I am grateful to them for making my life more beautiful with their presence.

I also thank my dear friends Betül Akkaya, Muhammed Refik Tekeli, and Zeynep Öztürk, with whom I have shared almost the same ups and downs on this journey, for their constant support and belief in me. Additionally, I sincerely thank my friend Firuze Ebrar Mullaoğlu for her support through her presence.

ÖZET

SOYSAL, Ümmügülsüm, Karar Verme Stilleri Bağlamında Ödeme İstekliliği Üzerindeki Çıpalama Etkisindeki Farklılıklar, Başkent Üniversitesi, Sosyal Bilimler Enstitüsü, Sosyal Psikoloji Tezli Yüksek Lisans Programı, 2024.

Karar verme, insan davranışının önemli bir yönünü oluşturmaktadır. Çeşitli yanlışlıklar insan kararlarını etkilemekte olup, bireylerin kararlarını başlangıçta sunulan ve çıpa olarak bilinen bir değere doğru yönlendirme eğiliminde oldukları çıpalama etkisi; bu yanlışlıklar arasında önemli olanlardan biridir. Bu çalışmanın amacı, çıpaların ekonomik davranışı nasıl etkilediğini göstermektir. Özellikle, farklı çıpa türleri ve ürün aşinalık düzeylerinin tüketici değerlemeleri (Ödeme İstekliliği) üzerindeki çıpa etkisinin gücünü araştırmaktır. Bir diğer temel amaç ise, bireysel farklılıkların ödeme istekliliği ile ilişkisini ortaya koymaktır. Yaşları 18 ve 30 arasında değişen toplam 308 katılımcının verileri değerlendirilmiştir. Bu çalışmaya katılmak için katılım onayı alındıktan sonra online bir platformda çıpa paradigmasına erişmişlerdir. Daha sonra, çıpanın alaka düzeyi ve de seviyesinin denekler arası değişken, aşinalığın denek içi değişken olarak dizayn edildiği dört deneysel gruptan birine eşit sayıda rastgele atanmışlardır. Daha sonra sırasıyla Karar Verme Stilleri Ölçeğini ve Demografik Bilgi Formunu doldurmuşlardır. Ödeme istekliliği ile ilgili değişkenleri araştırmak için deneysel ve korelasyonel yöntemlerinin birleştirilmiş bir yaklaşımı kullanılmıştır. Sonuçlar, daha yüksek düzeydeki çıpanın çeşitli tüketim malları için Ödeme İstekliliğini anlamlı bir şekilde artırdığını göstermiştir. Ayrıca, alakasız bilgiye maruz kalan katılımcıların, daha yüksek alaka düzeyine maruz kalan katılımcılara göre anlamlı olarak daha yüksek Ödeme İstekliliği belirttikleri bulundu. Sonuçlar ayrıca, daha yüksek düzeydeki aşinalığın Ödeme İstekliliğini anlamlı bir şekilde artırdığını gösterdi. Beklenenin aksine, karar verme stilleri ile Ödeme İstekliliği arasında anlamlı bir korelasyon ortaya çıkmamıştır. Bulgular ilgili literatür bağlamında tartışılmıştır.

Anahtar Kelimeler: çıpalama etkisi, ödeme istekliliği, karar verme stilleri, alaka, ürüne aşinalık

ABSTRACT

SOYSAL, Ümmügülsüm, Differences in Anchoring Effect on Willingness-to-Pay in the Context of Decision-Making Styles, Başkent University, Institute of Social Sciences, Master's in Social Psychology with Thesis, 2024.

Decision-making constitutes a significant aspect of human behavior. A variety of biases affect human judgment, with the anchoring effect being a significant one, where individuals tend to lean their judgment towards a value initially presented, known as the anchor. The aim of this study is to explore how anchors influence economic behavior and specifically, on consumer valuations (Willingness-to-Pay) across different types of anchors and levels of product familiarity. Another key aim is to examine how individual differences in decision-making styles are related to WTP. The sample of the study consists of adults between the ages of 18-30. After getting confirmation of participation to attend this study, they proceeded to access the anchor paradigm in an online platform. They were then randomly assigned in equal numbers to one of the four groups manipulated, with both relevance and level of the anchor as the between-subject variables, and familiarity as the within-subject variable. Then, they completed the Decision-Making Styles Scale, and Demographic Information Form, respectively. A combined approach of experimental and correlational methods was utilized to investigate variables related to WTP. The results indicated that higher levels of anchoring significantly increased the WTP for various consumer goods. Furthermore, participants in the higher irrelevancy condition stated significantly higher WTP than those exposed to relevant information. The results also indicated that higher levels of familiarity significantly increased the WTP. Contrary to expectations, analysis of the correlations between decision-making styles and WTP revealed no significant correlation. These findings have been discussed in the context of the relevant literature.

Keywords: anchoring effect, willingness-to-pay, decision-making styles, relevancy, familiarity of product

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LIST OF ABBREVIATIONS

WTP	Willingness to Pay
WTA	Willingness to Accept

1. INTRODUCTION

Individuals decide on a variety of issues. They make decisions about politics, their personal lives, including their health and careers, and their finances, which may also involve certain other types of decisions and judgments. The process of decision-making often varies depending on the nature of the decision at hand. While certain choices may be simple and appear uncomplicated, others can be challenging, requiring a several steps for resolution. Numerous important aspects impact the process of making decisions. Individual distinctions like age and financial standing, individual values, prior experiences and different cognitive biases all have a significant impact. The decision-making process and its results are greatly influenced by each of these factors (Franken & Muris, 2005; Hastie & Dawes, 2009).

Given that decision-making constitutes a significant aspect of human behavior, understanding and influencing these processes could prove beneficial in devising strategies for changes in behavior. The behavioral and cognitive aspects of decision-making have been widely studied in human behavior research. Behavioral studies investigate the dynamics of decision-making, measuring its influence on people, markets, organizations, and larger social contexts, with a primary goal of comprehending the processes that lead to decision creation (Birnberg & Ganguly, 2012). Cognitive studies investigate how individuals obtain data, assess different factors, weigh risks and benefits, and ultimately reach decisions, with an examination of cognitive shortcuts, heuristics, and biases that might impact decision outcomes, as discussed by Tversky & Kahneman (1974).

1.1. Theories of Decision-Making

Various theories have been proposed to explain the process of judgment and decision-making, all suggesting the existence of several fundamental processing modes that work together and sometimes conflict to arrive at a choice (Gigerenzer & Goldstein, 1996; Schneider & Chein, 2003). Because these theories propose a two-system framework, it would be more accurate to describe them as dual-process systems and they have roots in

various fields, including reasoning and personality (Evans, 2008). The structural similarity among these dual-process models is noteworthy, often suggesting the existence of two separate systems (Stanovich & West, 2000). While some (Smith & M, 2000) characterize the two thinking modes as symbolic and associative, others (Strack et al., 2006; Strack & Deutsch, 2004) prefer to label them as impulsive and reflective. Those thinking modes were termed as Systems 1 and System 2 by Stanovich and West (2000) and Kahneman and Frederick (2002).

System 1 is frequently characterized as operating automatically, swiftly, without effort, unconscious, based on associations, with gradual learning, and influenced by emotions. In contrast, System 2 is depicted as controlled, deliberate, requiring effort, conscious, rule-bound, capable of faster learning, and emotionally neutral. The functions of System 1 can be as automatic as basic perception and are linked with fundamental functioning. System 2 has been characterized as requiring greater computational resources (Schneider & Chein, 2003) and is consequently employed to supervise and intervene over System 1 when the latter necessitates heightened conscious oversight. A typical illustration of this occurrence is evident in the act of tooth brushing. Initially, when teaching a child how to brush their teeth, they must concentrate intently, employing System 2 thinking. However, over time, brushing becomes instinctive, and the child transitions to using System 1 thinking. Nonetheless, if there is tooth pain during brushing, prompting a consideration of which toothpaste is best for fighting cavities, System 2 thinking is employed in the research process. When instructional objectives, standards for attainment, engaging tasks, formal evaluation, targeted feedback, and differentiation are embedded into everyday teaching methods, the probability of these strategies becoming automatic and assimilated into individuals' System 1 cognitive processes rises.

In psychology, there is a widely accepted theory suggesting that human behavior is a product of the interaction of two distinct modes of thinking, particularly evident in the examination of human judgment and decision-making. Systems responsible for decision-related tasks come into play when a decision is required, and both these mechanisms, both separately and collectively, impact the ultimate choice, culminating in the outcome of a complex process (Krämer, 2014). Important insights into the complexities of human decision-making may be gained from contrasting behavioral economic models and rational economic models with dual-process models. Dual-process models emphasize the

interaction of deliberate, analytical reasoning with intuitive, instinctive processes. Kahneman's System 1 and System 2 thinking are two examples of these models (Kahneman, 2011). In response to psychological studies, behavioral economic models identify heuristics and cognitive biases that deviate from the traditional rationality assumptions in economics (Thaler & Sunstein, 2009). On the other hand, rational economic models frequently presuppose that individuals make decisions rooted in stable preferences and complete information, neglecting the subtleties of human cognition and behavior revealed by dual-process and behavioral economic frameworks. Incorporating these viewpoints provides a holistic comprehension of economic behavior, encompassing both irrational inclinations and rational decision-making processes.

1.1.1. Rational decision-making models vs behavioral models

For quite some time, economists have been explaining the relationship between money and human behavior, often with remarkable assurance. The predominant assumption revolves around the idea that humans are inherently rational and highly efficient in their financial dealings. Put simply, it suggests that we possess a clear understanding of the optimal means to acquire wealth. Whether someone is a consumer, producer, saver, or investor, rational economic conduct encompasses the rationality of their financial activities, ensuring alignment of means and behaviors with individual goals, where irrational behaviors are eliminated (Shestakov et al., 2017).

The fundamental basis of traditional economic assumption and models revolves around the concept of the ideal decision maker commonly referred to as economic man. Characterized as *homo economicus*, or "economic man," this ideal decision maker is thought to be faultless, with limitless capacity for information processing and an impeccable comprehension of every facet of the decision-making environment (Becker, 1976). In the role of *homo economicus*, individuals are envisioned to consistently and independently select from the various available options (Thaler, 2015). When people think rationally, they behave in a way that is consistent with expectations and is not influenced by the moral, ethical, psychological, social, or political implications of their actions. These ideals are not seen to have any bearing on a person's behavior in traditional economics.

Furthermore, individuals' mindset compels them to seek avenues for maximizing their self-benefit or by maximizing profits while minimizing costs. Consequently, the pursuit of self-interest serves as the principal motivator of economic behavior among individuals, whether in production or consumption domains (Dimant et al., 2020).

The Efficient Market Hypothesis (EMH) forms the core assertion of the rational decision-making model in economic behavior, built upon three fundamental theoretical claims (Malkiel, 2003; Malkiel & Fama, 1970). The first and crucial claim posits that, given people's rationality, securities are also rationally valued. The second claim is grounded in the notion that individuals carefully consider all accessible information prior to making economic decisions. It revolves around internal coherence, necessitating that each decision is approached systematically to ensure alignment across various subjects. The third claim asserts that decision-makers consistently prioritize their self-interest. Widely adopted in economics is the expected utility model of decision-making under risk, originally proposed by Von Neumann and Morgenstern (1947). Its rationality rests upon the axioms that underlie the maximization of expected utility as the optimal decision-making rule. The primary objective of rational theory is to comprehend markets using mathematical models that assume decision makers are rational (Camerer & Weber, 1992).

Unlike the traditional economic assumptions, individuals exhibit diverse natures with constrained cognitive capabilities, leading to a constant trade-off between the need for quick decisions and the pursuit of accuracy. The model of rational decision-making may be deemed inappropriate for describing and explaining genuine human behavior due to individuals' constraints in cognitive resources, knowledge, and time. For this reason, individuals are unable to behave fully rational (Kahneman, 2003b; Thaler & Sunstein, 2009).

Behavioral economics arises as a distinct discipline by departing from the traditional economic assumption of rational decision-making and incorporating psychological insights to comprehend human behavior within economic contexts. The primary critique of behavioral economics towards traditional economic assumptions revolves around the principle of rationality in economics. In contrast to the notion of perfect rationality, behavioral economics posits that individuals exhibit "bounded" rationality (Simon, 1957).

Simon (1957) introduced the notion of bounded rationality. Simon argues that the concept of perfect rationality does not hold in real-life scenarios. Empirical evidence consistently demonstrates deviations from rationality in individuals' behaviors. Hence, bounded rationality offers a more accurate description of economic behavior. "Bounded rationality" asserts that individuals' rationality is constrained by various factors including environmental constraints, time limitations, and cognitive constraints inherent in the human brain. Herbert Simon first introduced this concept in 1955 in his research titled "Theories of Bounded Rationality" (Simon, 1957). Simon (1972) outlines three factors that limit individuals' rationality. The initial factor posits that individuals possess imperfect knowledge regarding demand and cost functions; instead, their understanding is based on the distributions of these variables. This shift in assumption can present challenges for individuals in identifying the optimal choice. Particularly in situations of uncertainty and risk, the task of reaching the optimal value becomes even more challenging compared to situations with certainty. The second factor constraining rationality is the incomplete information individuals possess about available alternatives. Consequently, the focus shifts from determining the best alternative to deciding how extensively individuals should allocate their resources towards searching for potential actions. The final factor identified by the author as constraining rationality pertains to the complexity of the cost function and environmental constraints. These factors hinder individuals from calculating the optimal choice among alternatives. According to Simon, rather than seeking the "optimum option," individuals strive to find a "satisficing option" (Simon, 1957).

Simon also employs the term "administrative man" as opposed to the traditional economic assumption of "economic man." Simon characterizes the "administrative man" as akin to the traditional "economic man." While the economic man aims to optimize utility by selecting the optimal choice from all available options, the administrative man seeks a satisfactory or "good enough" option. Simon suggests that the administrative man acknowledges his limitations, leading him to prioritize satisfaction over maximization. Consequently, he does not need to evaluate every possible choice. This self-awareness of his limitations simplifies his decision-making process (Simon, 1976). Furthermore, individuals are constrained by various factors, including their unacknowledged abilities, habits, values, reflexes, available information, and acquired knowledge. These elements can restrict their capacity to make entirely rational decisions. Consequently, individuals exhibit "bounded" rationality rather than perfect rationality.

Kahneman and Tversky (1979) introduced the prospect theory as a framework for decision-making under uncertainty, providing a critical perspective on rational decision-making model in economic behavior. According to prospect theory, psychological factors play a significant role in influencing investors' decisions, deviating them from rationality. This aligns with Simon's (1957) claim that rationality is bounded. These components of the context are frequently referred to as behavioral biases and heuristics.

The heuristics and biases method have been mainly attributed for the numerous instances of irrationality that have been brought to light in the area about judgment and decision-making. When making decisions, the brain usually uses shortcuts called heuristics instead of complex thinking. Psychology and neuroscience show that decision-making is mostly fast and automatic, guided by instincts rather than intentional and controlled thinking. This highlights the importance of heuristics in how our brains handle complex decisions (Gilovich et al., 2002). Heuristics are exemplifications of System 1 (intuitive) processes, typically occurring when individuals fail to recognize the necessity of engaging System 2 (reasoning), as outlined by Kahneman (2003a).

1.1.2. Cognitive bias and heuristics

The science of judgmental heuristics, commonly referred to as mental shortcuts or rules of thumb, forms the basis of behavioral economics, which most people naturally rely on (Ariely, 2008). Heuristics and cognitive biases are described as an "intuitive, rapid, and automatic system" (Shiloh et al., 2002). The term "cognitive biases and heuristics" was initially used in the early 1970s by Kahneman and Tversky. Their studies on heuristics and cognitive biases focused on how people make decisions when faced with limited information. Tversky and Kahneman (1974) suggest that heuristics simplify the challenging task of estimating values and evaluating probability by breaking them down into simpler judgmental operations during decision-making. Although these heuristics helpful in easing cognitive load and time constraints, they can also result in significant errors, just like biases and fallacies (Tversky & Kahneman, 1974).

While the terms "bias" and "heuristic" share similarities, they denote distinct concepts. To prevent confusion, it is essential to provide clear explanations of their

respective meanings. A heuristic refers to mental shortcuts that streamline decision-making, enabling individuals to make rapid and effective choices. Bias, on the other hand, arises from the utilization of one or more heuristics. “Cognitive bias is a systematic deviation from rationality in judgment and decision-making common to all human beings which can be due to cognitive limitations, motivational factors, and/or adaptations to natural environments.” (Wilke & Mata, 2012).

Behavioral economics examines the systematic cognitive biases and heuristics evident in individuals' economic behaviors through the application of experimental methods. The behavioral economics literature has examined a wide range of biases and heuristics (Bazerman, 1990; Hogarth, 1987). Three main types of biases and heuristics—the availability heuristic, the adjustment and anchoring heuristic, and the representativeness heuristic—are described in greater detail below. These three main types of mental shortcuts identified by cognitive scientists Amos Tversky and Daniel Kahneman in their original work on biases and heuristics in 1974. They argued that these heuristics result in expected biases and errors in judgment and decision-making.

In their seminal paper from 1974, Tversky and Kahneman introduced the representativeness heuristic as a method for addressing questions like: What is the likelihood that A is part of/related to/derived from B? Tversky and Kahneman proposed that when addressing such questions, decision-makers do not take into account probabilistic or logical connections between A and B. Instead, their judgments are based on whether A is representative of, or similar to, B. This reliance on similarity is a significant aspect of cognition (Medin et al., 1993), making judgments based on similarity relatively effortless. The representativeness heuristic involves making decisions based on the association between two entities, such as events or processes. Indeed, Tversky and Kahneman demonstrated that the representativeness heuristic was able to anticipate human responses across various decision problems, including instances where it led to incorrect conclusions (Tversky & Kahneman, 1974, 1983). As an illustration, people can infer someone's occupation from a quick description of them; they notice particular characteristics that they take to be characteristic of a particular occupation or of those who practice this activity. Furthermore, in employing the representativeness heuristic, individuals tend to prioritize present information over their overall knowledge (Liu & Du, 2016), resulting in departures from rational decision-making and potentially impacting decision quality. The challenge

associated with employing the representativeness heuristic arises from the interchangeable treatment of probability and similarity. This can result in significant errors since assessments of similarity are influenced by distinct factors compared to those affecting assessments of probability (Tversky & Kahneman, 1974). Individuals frequently perceive patterns in a process that is actually random, or they make decisions by considering irrelevant information while disregarding relevant factors (Johnson & Tversky, 1983). However, the representativeness heuristic holds value as it can sometimes yield outcomes that are even superior or more accurate than those derived from complex methods (Gigerenzer, 2008). This straightforward approach can be particularly advantageous in fields like investment and trading, where it often leads to better decisions compared to those made through rational decision-making processes (Liu & Du, 2016).

The availability heuristic influences individuals to estimate the frequency of an event based on how readily an example of it comes to mind (Tversky & Kahneman, 1974). Events that are recent or emotionally significant appear more probable to recur due to the ease with which they are remembered. For instance, participants were tasked with assessing the likelihood of different causes of death in the United States, including stroke and all accidents. Surprisingly, over 80% of college students and league members underestimated the frequency of stroke as a cause of death, despite it resulting in more fatalities than all accidents combined (Lichtenstein et al., 1978). While availability can serve as a useful proxy for probability in situations where disease prevalence or risk factors are unclear, relying solely on availability can introduce bias. For instance, physicians who vividly recall treating patients with bacteremia tend to systematically overestimate the risk of future patients developing bacteremia (Croskerry et al., 2013). Moreover, disaster reports typically include information such as statistics, personal accounts from survivors, and striking imagery. Consequently, when individuals assess the risk associated with cars versus airplanes, the vivid images of airplane catastrophes are more memorable than those of minor car accidents. This effect is further compounded by frequent exposure to news coverage of airplane crashes, which continually heightens their availability in people's minds. This example illustrates two key aspects of the availability heuristic: familiarity and imaginability (Slovic et al., 1982). Apart from the simplicity of recalling examples, another feature of the availability heuristic is salience. Recent events and personal experiences carry more weight for individuals because of their heightened significance, making them more readily available in people's minds.

Tversky and Kahneman (1974) proposed the anchoring and adjustment heuristic, which highlights the tendency of decision-makers to be influenced disproportionately by an initially presented value when making judgments. They suggested that individuals often base their estimates on an initial value, adjusting it either upwards or downwards to arrive at a final estimate. However, these adjustments are frequently insufficient, resulting in judgments biased towards the initial "anchor" value (Ariely et al., 2003). Consider a situation where a stock experiences a significant price decrease. Investors might be inclined to assess the stock's value based on its previous trading range, potentially resulting in a biased evaluation as other essential aspects are overlooked. Similarly, when purchasing a new car, buyers may anchor their judgment on the listed price of a particular model, mentally adjusting for anticipated discounts. However, this approach may lead to a skewed perception of the car's actual value.

1.2. Decision-Making Styles

Making effective decisions is a crucial ability in both personal and professional life. Life involves many decisions, but human decision-making is not a simple process. What influences a person's ability to make good judgments on daily basis? At first, studies about decision-making looked at how people followed standard theories (like Expected Utility Theory) to make optimal decisions. But, recent researches on decision-making seem to think that all decision-makers are not the same and to look at how the situation and circumstances affect the decision process (e.g., Kleindorfer et al., 1993; Payne et al., 1993). Compared to the importance given to the task and situation, Scott and Bruce (1995) mentioned that the characteristics of the decision-maker, which affect decision outcomes, haven't received as much attention until recently. Researchers have now focused more on the traits of decision-makers, and a considerable amount of research is developing under the term "decision-making styles."

Decision-making styles can be thought of in various ways, from simple to complex. As Driver et al. (1990) suggest a decision-maker's style depends on how much information they get and how many options they consider. But other researchers have developed their own instrument for a more detailed understanding of how people decide on their own. According to Scott and Bruce (1995), there are two main ways to understand decision-

making styles. One way is to see them as habitual patterns that people use when making decisions. Another way is to view decision-making styles as the unique way individuals perceive and respond to decision-related activities. The same authors later describe decision-making styles in a subsequent study as "the learned habitual response pattern exhibited by an individual when confronted with a decision situation." It is a habit-based tendency to respond in a specific way in a particular decision situation rather than a personality trait (Scott & Bruce, 1995).

According to Scott and Bruce, five distinct styles of decision-making exist based on this particular criterion. Even though one style is usually more prominent, the researchers argue that people generally show different levels of all five styles (Allwood & Salo, 2012). A rational decision-making approach involves a thorough information search, considering various options, and logically evaluating them. Meaning that, employing logical and systematic methods in decision-making signifies a rational decision-making style. Conversely, an intuitive approach to decision-making entails dependence on feelings and intuitions, attending to subtle nuances of information instead of engaging in a methodical exploration and analysis of data. This means that a person's decision-making style is shaped by intuition, feelings, perceptions, and experiences. Relying on the input and approval of others prior to decision-making defines the dependent style. In other words, individuals adopting this style tend to seek recommendations and direction before crucial decisions. Conversely, the avoidant style involves delay, cancellation, altering course, and dismissing potential outcomes. In simpler terms, an avoidant approach involves trying to avoid making decisions at any cost. A spontaneous decision-maker exhibits speed, quickness, impulsiveness, and a tendency for "snap" or "spur of the moment" judgments. The spontaneous decision-making style is distinguished by a sense of urgency and a preference for expediting the decision process (Scott & Bruce, 1995; Thunholm, 2004).

1.3. Anchoring Effect

A variety of biases affect human judgment, with the anchoring effect being a prominent one, where individuals tend to lean their judgment towards a value initially presented, known as the anchor (Furnham & Boo, 2011). In simpler terms, the anchor represents the incorporation of assessment based on a previously established reference

point (Bahnik et al., 2017; Tversky & Kahneman, 1974). Due to anchors providing guidance in uncertain situations, it turns out that the anchoring effect is a robust phenomenon, impacting judgment and the human decision-making process (Furnham & Boo, 2011). Across various tasks, the average anchoring effect sizes ranged from $d = 1.18$ to $d = 2.43$, indicating strong and robust effects in experimental psychology, as evidenced by a significant replication study conducted across more than 35 separate laboratories (Klein et al., 2014).

The anchoring bias was first identified in psychophysics research by Brown (1953) where one extreme weight influenced people's estimates of others' weights (Chapman and Johnson, 1999). Slovic (1967), investigating preference reversals, initially introduced the concept of anchoring in decision-making. However, in their influential work on judgment under uncertainty, Tversky and Kahneman (1974) proposed the well-known anchoring and adjustment heuristic. According to this heuristic, final judgments are anchored to the beginning of a judge's deliberations, resulting in anchoring bias due to insufficient correction. In the original study by Tversky and Kahneman, a roulette wheel generated a random number, which participants then used to answer a binary question about an unknown quantity. For instance, "does Antarctica's average temperature exceed the number randomly selected from the roulette wheel"? Participants then assessed the actual value of the provided variable (Antarctic average temperature, in this case). The initial binary question significantly influenced the elicited numerical assessments. Notably, participants tended to state larger magnitudes if they received a large random number. The study's methodology, involving comparison and absolute judgment questions, is known as the "standard anchoring paradigm." In the first step, participants compare a target value with an anchor value, and in the second step, they estimate the target value. The anchoring effect skews this estimation of the target value towards the anchor value (Bahnik, 2021).

Anchoring happens even when anchor values are randomly chosen and clearly unhelpful for the main estimate (e.g., Tversky & Kahneman, 1974). The influence can also manifest with seemingly extreme numbers (Chapman & Johnson, 1994; Strack & Mussweiler, 1997). For instance, in a study estimating Mahatma Gandhi's age (Strack & Mussweiler, 1997), an absurdly high anchor value of 140 years had a notable impact. Additionally, research indicates that knowledge and experience often have little effect on anchoring (Cheek et al., 2015; Englich et al., 2006; Engh & Mussweiler, 2001;

Northcraft & Neale, 1987). Moreover, anchoring effects can persist over a considerable period; even a week after considering the anchor value, the effects were still observable (Mussweiler, 2001). Importantly, anchor values can easily influence opinions without much deliberation. For example, anchoring effects can also be caused by unintentionally done anchors, such as a number on a jersey of soccer player (Critcher & Gilovich, 2008) or by subliminally provided anchors (Mussweiler & Englich, 2005). Despite explicit instructions to compensate for potential anchor influence, research has shown that the effect may not diminish, as demonstrated by (Wilson et al., 1997). In their study, the effect persisted even after judges were expressly warned about possible distortion and informed about its direction. Anchoring proves to be a robust phenomenon, as evident from the mentioned instances, but its resilience may depend on the underlying process in a specific judgment (Bahník et al., 2017).

1.3.1. Contexts of anchors

Several studies have highlighted the widespread occurrence of the anchoring effect in human decision-making, following the influential work of Tversky and Kahneman. This effect has been observed across various domains, including time estimation (Thomas & Handley, 2008), evaluations of gambling (Carlson, 1990; Chapman & Johnson, 1994), probability estimates (Chapman & Johnson, 1999; Plous, 1989), general knowledge (Blankenship et al., 2008; Epley & Gilovich, 2001; Jacowitz & Kahneman, 1995; McElroy & Dowd, 2007; Mussweiler & Englich, 2005; Mussweiler & Strack, 1999) and many other areas. Researchers used questions about various topics, like the freezing level of vodka, the height of Mount Everest, the population of Chicago (Epley & Gilovich, 2001), George Washington's age when he is death, Neil Armstrong's age when he is on the moon, Seattle's highest recorded temperature (Blankenship et al., 2008; Wegener et al., 2001), the precise measurement of the Mississippi River's length, as well as the proportion of African countries in the UN (McElroy & Dowd, 2007), and Germany's yearly mean temperature (Mussweiler & Englich, 2005), to examine the anchoring effect. Hence, the impact of the anchoring effect is nearly universal, as illustrated by the diverse range of research findings.

There are some doubts about the generalizability and validity of these findings since many of these studies were conducted in laboratory settings with students (Furnham &

Boo, 2011). In order to overcome these restrictions, researchers have also observed anchoring effects in studies that are more directly related to practical situations: self-efficacy (Cervone & Peake, 1986; Oh, 2020); performance judgments (Thorsteinson et al., 2008); negotiation (Galinsky & Mussweiler, 2001; Loschelder et al., 2013; Neale & Bazerman, 1992); and legal judgments (Englich & Soder, 2009; Enough & Mussweiler, 2001). Researchers also investigated the anchoring effect in "real-world" judgments by asking questions such as bargaining over an employee's bonus amount (Galinsky & Mussweiler, 2001); and assessing the duration of sentences that judges might opt for, whether for imprisonment or probation (Enough & Mussweiler, 2001).

Furthermore, research has shown that anchoring is a common phenomenon in consumer behavior and economics (Ariely et al., 2003). Numerous studies, covering areas like the prices of buying/selling (Green et al., 1998), real estate property evaluation (Northcraft & Neale, 1987), deciding the quantity of purchases (Wansink et al., 1998), and credit card repayments (Stewart, 2009), have experimentally confirmed the anchoring effect in economic contexts. Yoon et al. (2019) discovered that anchoring influences product valuation as well. A considerable amount of experimental evidence now supports the idea that anchors, which are non-informative numerical cues, can impact people's reported valuations of goods. This is notable, considering that most anchoring experiments in the psychological literature primarily focused on how anchoring distorts subjective judgment rather than subjective valuation or preference (e.g., Ariely et al., 2003; Bergman et al., 2010; Fudenberg et al., 2012; Mazar et al., 2010; Sugden et al., 2013). However, since value involves judgment as well, it is expected that anchoring adjustments might also raise or lower valuation.

Schkade and Johnson (1989) were the pioneers in providing experimental evidence for this phenomenon. In an experiment, each participant is usually requested to express their maximum Willingness-to-Pay (WTP) or minimum Willingness-to-Accept (WTA) for a specific item at a clearly arbitrary price. The common finding is that valuations show a positive correlation with the arbitrary "anchor" price. Therefore, using both artificial and real-world scenarios, the results have been proven to exist in real-world assessment tasks (Furnham & Boo, 2011).

1.3.2. Underlying mechanism to the anchoring

Numerous theories have been suggested by researchers to explain the anchoring effect. One of the most widely recognized is the insufficient adjustment theory (Tversky & Kahneman, 1974). These researchers described anchoring as insufficient adjustment from an initial standpoint. "People make estimates by beginning with a starting point that is adjusted to yield the answer in the end [...]." is discussed by them as well. Often, adjustments fall short. The reason for insufficient adjustments is typically because individuals stop the adjustment process prematurely (Epley & Gilovich, 2001).

Estimates derived from different beginning points tend to lean toward the initial standpoint (Tversky & Kahneman, 1974). For example, participants might use the anchor figure as an initial standpoint, assess if the value is very high or low, adjust it accordingly until they reach the first satisfactory answer when questioned "Did Gandhi live to be more or less than 79 years old?" (Mussweiler & Strack, 1999). Only when the anchor value deviates from the acceptable value range, or when it is an unacceptable value on its own, is such an inadequate adjustment possible. This may occur due to the extreme nature of the anchor value or its known inaccuracy. Anchoring effects are not restricted to ideals that are clearly unrealistic and unacceptable anchor values. Since there is no need to make any adjustments for plausible and acceptable anchors initially, it seems impossible to attribute the effects of "insufficient adjustment" to them. Moreover, the anchoring and adjustment account fails to clarify how an anchor influences the percentage of respondents who rate their opinions as higher or lower than the anchor. In other words, individuals should be aware of the anchor's adjustment direction, but the direction will also depend on the comparison issue (Jacowitz & Kahneman, 1995).

According to Kahneman (2011), the effort of mentally adjusting away from an anchor is cognitively demanding. Following this notion, Epley and Gilovich (2006) demonstrated that the ability and willingness to engage in the rigorous process of cognitive adjustment moderate the anchoring effect based on adjustment in estimating tasks. In particular, participants experiencing depleted cognitive resources exhibited less adjustment from the anchor compared to those without depletion, leading to a more pronounced anchoring effect (Epley & Gilovich, 2006). According to this theory, if the anchor is self-generated rather than externally supplied, participants' responses are more likely to align with the anchor inside the acceptable value range (Epley & Gilovich, 2001).

According to the other popular approach, namely the selective accessibility model (Mussweiler et al., 2000) information which aligns with the anchor and is used for the subsequent evaluation may be more readily accessible through anchoring manipulation. Mussweiler and Strack (1999), along with Chapman and Johnson (1994, 1999), propose the selective accessibility model to elucidate anchoring, connecting it with two fundamental concepts in social cognition research: (1) hypothesis-consistent testing; and (2) semantic priming (Bahník & Strack, 2016). In a simplified manner, this model envisions the anchoring process unfolding in two phases: initially, the decision-maker entertains the idea that the target value could be equivalent to the anchor, gathering supporting evidence for this hypothesis; if this leads to a misguided belief that the goal value equals the anchor, they proceed to the second phase, where they assess an alternative potential solution. However, this happens after retrieving information consistent with the anchor during the initial phase. This determines where the decision-maker searches for substitute responses during the subsequent phase (Furnham & Boo, 2011; Strack & Mussweiler, 1997). Additionally, judges assess the target and the anchor by determining the likelihood that the target's value is equal to the anchor value, selectively increasing the accessibility of information compatible with the anchor, especially in the initial phase. For instance, to test the hypothesis that this figure is, in fact, 20°C, the judges questioned if Germany's yearly mean temperature is more or less than a high anchor of 20°C. They do this by recalling information from memory that aligns with this assumption on a selective basis. Judges then heavily rely on easily accessible knowledge to form the final numerical estimate (Higgins, 1996), indicating that the anchor-consistent information gathered earlier significantly influences their estimate.

A recent study that examined a model-derived prediction provides additional support for the selective accessibility model (Bahník & Strack, 2016). In particular, if an anchor prompts the recall of information that would have been deliberated upon for the judgment regardless of the anchor's presence, it ought not to impact the ultimate decision. In Bahník and Strack's (2016) investigation, they employed separate questions for comparative and absolute questions, resulting in an overlap of information. The elimination of the impact of an anchor on an absolute judgment in this study could occur if the comparison question was formulated in a broad category and the absolute judgment target fell into a more narrowly defined subcategory whose features were determined by the anchor value.

The numeric priming concept (Jacowitz & Kahneman, 1995; Wilson et al., 1997; Wong & Kwong, 2000) provides an additional theoretical explanation. It suggests that the anchor improves the mental accessibility of the suggested value, potentially influencing the assessment of the target value. Anchoring can take on numerical and superficial forms, where the influence of the anchor value remains significant irrespective of the context, or the judgment procedures employed (Critcher & Gilovich, 2008; Wilson et al., 1997; Wong & Kwong, 2000). According to this numeric-priming view, anchoring effects could be quite surface-level, suggesting that only the absolute value is stored in memory and holds the primary influence in anchoring (Wong & Kwong, 2000). Although a simple numerical explanation may appear compelling, a comprehensive analysis of anchoring studies suggests that focusing solely on the numeric value of an anchor is not sufficient to fully elucidate the anchoring effects.

A solely numerical interpretation is insufficient to account for why anchoring effects, as observed by Frederic and Mochon (2012), depend on alterations in the response scale or shifts in the comparative judgment's target, as indicated by Bahník and Strack (2016) and Mussweiler and Strack (2001). If the anchoring effects were solely triggered by the anchor value itself, the impact should remain consistent regardless of the semantic content associated with the anchor. But that isn't the case. The anchoring effect relies more on the meaning or context of the anchor rather than just its numerical value (Bahník & Strack, 2016).

From a contemporary theoretical viewpoint, anchoring could be linked to the alteration of a response scale. Frederick and Mochon (2012) propose the scale distortion theory, suggesting that the contrast effects observed in perception also apply to the utilization of response scales. This distortion could be the mechanism behind the anchoring effect. For example, a city with a population of 100.000 might seem significantly larger when contrasted with a small town of 10.000 people. As the metropolis is perceived as subjectively larger than the smaller town, individuals may choose a lower figure when responding to an absolute question about its population. By modifying the response scale for a subsequent judgment, the anchor could influence it in this way. In exploring the scale distortion theory of anchoring, researchers employed consecutive judgments. In these studies, participants were initially tasked with estimating the weight of a giraffe and then that of a raccoon. Following their estimate of the raccoon's weight, participants perceived

the average weight of the giraffe to be 709 pounds. Conversely, those who did not estimate the raccoon's weight forecasted the giraffe's average weight at 1254 pounds. The raccoon's weight served as an anchor, influencing subsequent decisions. This illustrates that participants assigned lower values to the giraffe's weight because bigger numbers on the response scale appeared particularly greater when it is compared to the raccoon's weight estimate (Frederick & Mochon, 2012). There was no anchoring observed when the response scale was altered between the two assessments, as seen in the example where individuals who evaluated the giraffe's weight at an average of 1265 pounds using heaviness scale were not impacted by the anchor. (Frederick & Mochon, 2012).

In the selective accessibility model, the cognitive events take place at a deep level. While the scale distortion theory, proposed by Frederick and Mochon (2012), suggests that judgments are not well-aligned with the response scale, leading to anchoring at a shallow level of cognition (Mochon & Frederick, 2013). Numeric anchors primarily influence the response scale in this approach, distinct from the selective accessibility model, and do not impact participants' beliefs or representations. Researchers supporting this idea present a substantial body of evidence demonstrating that anchors affect the mapping from stimuli to numbers without influencing the beliefs of participants who are anchored (Frederick & Mochon, 2012; Mochon & Frederick, 2013).

1.3.3. Types of anchors

The understanding of the anchoring effect seems to be explained by various processes in diverse situations, with Epley and Gilovich (2001, 2005) suggesting that multiple systems play a role in producing the anchoring effect. The results indicate that when individuals create anchor values themselves, the adjustment process is triggered; in such instances, participants make minor adjustments from values they believe to be approximately accurate. Furthermore, their findings indicate that the introduction of anchors by an experimenter or another external source triggers the mechanism of selective accessibility.

To exemplify the self-generated type, imagine a participant tasked with estimating the water boiling level at the peak of the Everest. The participant might adjust in what they

believe is the correct direction, even if they are unsure of the actual answer to this question. For instance, they may consider an anchor they know to be lower or higher (e.g., "Water boils at 212°F at sea level, so it must boil at a lower temperature"). As the anchor (212°F) is self-generated in this case, Epley and Gilovich (2004) argue that humans adapt to these types of anchors.

Epley and Gilovich (2004) have presented findings supporting the idea that provided and self-generated anchors have distinct influences, with self-generated anchors demonstrating a reliance on effortful adjustment as a mechanism, especially when there is an incentive to enhance accuracy, unlike provided anchors (Epley & Gilovich, 2005). Notably, the differential effect of motivation has led Epley and Gilovich (2006) to propose that the anchoring effects observed in the standard anchoring paradigm are driven by the increased accessibility of anchor-consistent information, rather than insufficient adjustment. This suggests that not all anchoring effects stem from the same psychological mechanism, indicating that while the selective accessibility model may better describe the impact of provided anchors on judgment, the anchoring-and-adjustment hypothesis appears more fitting for understanding how self-generated anchors influence judgment.

Anchors can take the form of verbal, abstract or numbers. The anchoring principle, as evidenced by various studies (Ariely et al., 2003; Mussweiler et al., 2004; Mussweiler & Englich, 2005; Mussweiler & Strack, 1999; Tversky & Kahneman, 1974), is applicable in diverse situations, including instances where anchors are introduced randomly, subliminally, self-generated, or implicitly. Researchers have also investigated the boundaries of the anchoring bias's impact on cognition, with some studies indicating that anchors can be influential even in improbable extreme scenarios (Chapman & Johnson, 1994), and that their effect is more pronounced when presented in a manner consistent with the subject under evaluation, as opposed to a presentation that is not aligned with it (Strack & Mussweiler, 1997). Researchers have also investigated the connection between the relevance of the anchor and the strength of its influence, with the selective accessibility theory suggesting that the degree of overlap between the knowledge needed for the valuation tasks and the anchor determines the intensity of the anchoring effects. Meaning that, the more relevant the anchoring task is to the judgment task, the stronger one can expect the anchoring effects to be (Sugden et al., 2013). Nevertheless, there have been conflicting results concerning the impact of relevance on the anchoring effect, as seen in

Enough and Mussweiler's (2001) study, where they employed a different analytical approach to examine the connection between relevance and anchoring effects in the context of sentencing judgments within complex legal scenarios. The authors concluded that the impact of anchors is independent of the relevance of the anchor value, as their manipulation of relevance had no noticeable effect on sentencing. Conversely, Glöckner and Englich (2015) discovered that the influence of relevance on anchoring had conflicting effects; they showed that relevant anchors had a greater and more substantial impact on sentencing judgments than irrelevant ones. On the other hand, low anchors did not show the effect of relevance.

1.3.4. Moods and individual differences in anchoring

There is variability in susceptibility to the anchoring effect among people (Furnham & Boo, 2011) with individual differences reflecting the unique responses each person exhibits in specific situations or events, consistently distinguishing them from others, as explained by Brandstätter (1993). Furnham and Boo (2011) propose that personality serves as a significant individual difference factor affecting performance, particularly influencing the cognitive processes underlying judgment-making. The Big Five personality traits—extraversion, neuroticism, conscientiousness, agreeableness, and openness—have been the primary focus of personality studies (Eroglu & Croxton, 2010; McElroy & Dowd, 2007). It is not unexpected that certain research has revealed variations in anchoring susceptibility depending on personality attributes, as personality has been demonstrated to influence cognitive processing in judgmental decisions (Furnham & Boo, 2011). Eroglu and Croxton (2010) found that individuals exhibiting high levels of agreeableness and conscientiousness, along with low extraversion, were prone to experiencing anchoring effects. This susceptibility was also noted in individuals demonstrating greater openness to experiences, as highlighted by McElroy and Dowd (2007). Researchers (Furnham & Boo, 2011) propose that the attitudinal approach and the selective accessibility mechanism might shape this attitude with their findings suggesting that those with high conscientiousness engage in more profound information processing, individuals high in agreeableness adopt a more sincere information processing approach, and those with high openness to experience are more susceptible to the influence of anchor qualities. Furnham and Boo

(2011) highlight the necessity for empirical evidence to substantiate these suggested hypotheses.

However, in somewhat contradicting results, Caputo (2014) found a paradoxical finding by demonstrating that individuals with high agreeableness and openness scores were less susceptible to the anchoring effect. Despite generally successful results, Caputo (2014) employed a relatively condensed personality questionnaire, raising questions about its validity and reliability. Furnham et al. (2012) did not find a notable association between openness and susceptibility to anchoring, but they partially replicated Eroglu and Croxton's (2010) findings regarding extraversion, with this effect observed in just one of their experiments.

The second individual difference component influencing performance is affective aspects, specifically the cognitive processes involved in decision-making. Emotions are typically employed as information in judgment situations, either directly or indirectly altering the way individuals receive information (Englich & Soder, 2009). Research has shown that judges in a good mood tend to absorb information more quickly and intuitively, while unhappy judges tend to process material more deeply (Englich & Soder, 2009). Additionally, research investigating the correlation between participants' emotional states and the anchoring effect revealed that people in depressed moods absorb information more laboriously, increasing the likelihood of the anchoring effect (Bodenhausen et al., 2000).

Anchoring tasks display substantial variability in estimations among individuals, and despite a considerable amount of research on individual differences in decision-making, there is limited exploration on personality and the anchoring effect, with most earlier studies concentrating on the average performance of groups.

1.3.5 Anchoring effect for valuations (WTP/WTB)

Consumers consistently diverge from the benchmark of rational economic behavior, as evidenced by Li et al. (2021), and psychological findings indicating that preferences can be influenced by factors like option framing, alterations in the choice context, or the existence of anchors are frequently explained by referencing consumers' limited

information about the options involved and the relatively weak incentives present in the experimental setting. "Comparative static" relationships are essential, yet not entirely adequate, for fundamental valuation, as consumer microeconomics assumes that demand curves for various products, such as shoes, jacket, headphones, and chocolate, can ultimately be linked to the valuation of anticipated pleasures from these items (Summers, 1986).

In the extensive body of anchoring research within psychological literature, the main focus has predominantly been on how anchoring impacts subjective judgment rather than subjective valuation. Given that valuation usually requires judgment, it is not unexpected that the anchoring manipulation can influence it, either increasing or decreasing its magnitude (Ariely et al., 2003).

The economic significance of anchoring is a crucial aspect, given that consumer preferences play a pivotal role in economic theory, influencing economic behavior and forming the basis for demand, which, in turn, impacts market pricing. Demand is an expression of the WTP for economic products, and anchoring becomes important when eliciting economic preferences (Li et al., 2021).

The concept that anchors can impact individuals' stated values of products is now supported by a substantial amount of experimental evidence. Schkade and Johnson (1989) were pioneers in illustrating how asking participants whether their lottery certainty equivalent is above or below an anchor value influences the certainty equivalents they subsequently express. When evaluating people's WTP for public goods, Green et al. (1998) discovered a similar pattern: stronger readiness to pay later on was correlated with higher replies to the initial Yes/No question.

Similar anchors can also directly impact economic behavior, as illustrated by Ariely et al. (2003) in an experiment involving actual purchase decisions. The last two digits of the subject's Social Security number act as an apparently irrelevant anchor, significantly influencing the subject's future WTP for various consumer products. In experiments, participants are generally requested to express their maximum WTP or minimum WTA for a particular good at a seemingly random price, and the common result is that valuations tend to be positively linked with the random "anchor" price, as observed in studies such as

Sugden et al. (2013). A meta-regression study suggested that anchoring effects are typically more prominent in non-laboratory settings when anchors are not randomly selected (Li et al., 2021).

The majority of the evidence confirming anchoring effects on economic assessments, though, comes from a limited range of experimental designs that might not accurately reflect the interactions between businesses and customers in the real world, and these studies have mainly focused on a single type of anchor, with a few exceptions. It's possible that this particular type may not be the most precise representation of the manipulation potential available to businesses, as suggested by Sugden et al. (2013). Recent studies continue to investigate the anchoring effect in economic valuations with different anchor types, experiment types, manipulation types. Even though familiarity didn't influence the anchoring effect, Bavolar (2017) found that the relevance of anchors played a significant role.

1.4. Purpose

In a purchase decision-based experiment, this study aims primarily to understand the connection between anchors and how they directly impact economic behavior. As previously highlighted in the paper's introduction, Ariely et al. (2003) demonstrated that an apparently unrelated anchor, represented by the last two digits of a subject's social security number, significantly influences the subject's later willingness to pay (WTP) for different consumer goods. Research has also shown how robust this impact is significantly.

Furthermore, the resilience of this phenomenon will be highlighted, and the potency of the anchoring effect within the context of Türkiye concerning consumer valuations will be assessed, drawing upon the findings of Ariely et al. (2003). By leveraging the findings from Ariely et al. (2003), the objective is to initially assess the extent of the anchoring effect within Turkish culture concerning consumer valuations. This evaluation aims to understand the robustness of the anchoring effect, even when irrelevant anchors are present.

The second objective of this study is to investigate different types of anchors and their relationship with anchoring effects. As evident from existing literature, anchoring

effects have been observed across diverse domains, involving both relevant and irrelevant anchors, regardless of a clear lack of knowledge about the assessed target. Drawing on earlier research, while certain studies indicate a heightened anchoring effect when the anchor is relevant (Bavolar, 2017), Glöckner and Englich (2015) have demonstrated that the outcomes regarding the connection between anchoring effects and the relevance of the anchor are varied. Glöckner and Englich (2015) discovered that while high anchors were influenced by relevance, low anchors did not demonstrate any impact based on relevance. There is limited empirical support for direct comparison, despite the apparent rationale that relevant anchors from domains linked to the items of interest should have a greater impact on influencing judgments. Consequently, the study's results underscore the need for additional research to comprehensively grasp the question of whether the types and sources of anchors play a significant role.

Another aim of this study is to explore how anchors relate to and directly influence economic behavior. It will be sought to ascertain if there exists a statistically significant distinction in consumers' valuation of willingness to pay for products which they have prior experience with compared to products they have no prior experience with. Most studies exploring price anchoring have involved multiple products, yet the comparison or categorization of these products has received notably less attention. Furthermore, the outcomes thus far have not reached a stage where generalizations can be confidently drawn from the findings. In contrast to anticipated results, Bavolar (2017) demonstrated that the strength of the anchoring effect remains unaffected by prior experience with the product. Related with that, it is important to investigate how prior experience, or familiarity with the product in other saying, could play a role on individual's purchasing experiences. For instance, a study conducted by Wu et al. (2012) showed that familiarity plays an important role on purchasing.

The ultimate aim of this study is to examine the connection between decision-making styles and the anchoring effect, with the goal of identifying a statistically significant relationship. While a few studies in the existing literature have explored the impact of personality traits on anchoring, primarily utilizing the big five personality traits, there is a noticeable absence of research on the association between anchoring effect and decision-making styles. Furthermore, the outcomes of research conducted using the big five personality traits varied significantly, as outlined below.

According to McElroy and Dowd's (2007) research, those who are more open to new experiences are more vulnerable to anchoring effects. Then, in a research that confirmed similar results with a larger sample size, Eroglu and Croxton (2010) found that those who score well on agreeableness and conscientiousness but poorly on extraversion are more likely to be biased toward anchoring. Concerning the correlation between the two, Furnham and Boo (2011) suggested that it may be attributed to the selective accessibility mechanism (Mussweiler & Strack, 1999) and the attitudinal approach (Furnham & Boo, 2011). In this context, individuals with high scores in conscientiousness are inclined to process information more carefully, those with high scores in agreeableness tend to process information with greater sincerity, and individuals scoring higher in openness to experience are generally more sensitive and responsive to the qualities of the anchor. On the contrary, Caputo (2014) presented somewhat conflicting results, revealing that participants with elevated levels of agreeableness and openness are less prone to the anchoring effect. Building on various studies in the existing literature and their findings regarding the interplay between personality traits and decision-making styles, the objective of this study is to investigate the connections between decision-making styles and anchoring effects through an experimental analysis focused on purchasing decisions.

1.5. Hypotheses

The hypotheses related to the study are listed below.

Main Effects of the Level of Anchor, Relevancy, and Familiarity

H1a: Participants exposed to high level of anchor will show significantly higher willingness to pay (WTP) than those exposed to low level of anchor.

H1b: Participants exposed to relevant information will show significantly higher willingness to pay (WTP) than those exposed to irrelevant information.

H1c: There will be a significant difference in WTP between participants presented with unfamiliar products and those presented with familiar products.

Interaction Effects of Manipulations

H2a: There will be an interaction effect between relevancy and level of anchor.

H2b: Participants exposed to irrelevant and high level of anchor will show significantly higher WTP than those exposed to irrelevant and low level of anchor.

H2c: Participants exposed to relevant and high level of anchor will show significantly higher WTP than those exposed to relevant and low level of anchor.

H2d: Participants exposed to irrelevant and high level of anchor will show significantly lower WTP than those exposed to relevant and high level of anchor.

H3a: There will be an interaction effect between familiarity and relevancy.

H3b: Participants exposed to relevant and unfamiliar anchor will show significantly higher WTP than those exposed to irrelevant and familiar anchor.

Decision-Making Styles

H4a: Level of rational decision-making style will positively predict WTP.

H4b: Level of intuitive decision-making style will negatively predict WTP.

2. METHOD

2.1. Participants

To calculate the sample size, power analysis was conducted. While G*Power Software is commonly used for this purpose (Faul et. al., 2007), it does not support three-way interactions for ANOVA. As the study employs a 2x2x2 design with three factors at two levels each, the most suitable technique is determined based on the findings of Heo and Leon (2010). Their research suggests that the sample size required for a three-way interaction is four times that of a two-way interaction, particularly for repeated measures designs. Given the mixed subject design of the study, this approach is adopted. Therefore, with a small-medium effect size of partial $\eta^2 = 0.035$ (equivalent to Cohen's $f = 0.19$; Cohen, 1988), a power of .8, and a standard alpha error probability of $\alpha = .05$, G*Power suggests a sample size of 58 for a two-way interaction in the ANOVA test with between-within interaction. Multiplying this by four, the sample size is targeted to be 232.

Most of the previous studies on the anchoring effect have been conducted on adult samples and these have predominantly been on university students. The participants in this study were undergraduate and graduate students between the ages of 18-30. To ensure an adequate participant pool, the assistance of esteemed department lecturers was sought to distribute the informed consent form online. Data was collected from 345 participants; 37 participants who did not complete all of the study were excluded; 8 participants who were at 2nd, 3rd or 4th year or in graduate level, students at the Psychology Department were excluded from this scope in case they may be familiar with the subject. The data of 308 participants aged between 18 and 30 ($M = 21.75$, $SD = 2.87$) were analyzed. Of these participants, 223 individuals identified as female (72.40%), while 85 participants identified as male (27.60%). Furthermore, the participant size was comparable with previously mentioned anchoring studies (e.g. 55, 132, 90, 53, 44, and 95 students in 6 different experiments in Ariely et al., (2003) or 116 subjects in Wilson et al., (1997)).

2.2. Measures

2.2.1. Informed consent form

Prior to commencing the study, participants were presented with informed consent form, outlining the study's purpose, what to expect during this study and giving them the option to participate voluntarily. The form also assured participants that their responses would be confidential, emphasizing that the questions were designed to avoid discomfort. Participants were informed that they could discontinue the questionnaire if they felt uneasy. Sincerity and honesty were encouraged for the research's quality and accuracy. Participation was voluntary, and the form included the researcher's email for study-related queries. Lastly, participants were requested to confirm their voluntary participation (Appendix 1).

2.2.2. Demographic information form

Participants were provided with a demographic information form which contained questions aimed at collecting socio-demographic details from participants, seeking information such as gender, age, and education level. Additionally, the demographic information form included questions about confounding variables, serving as exclusion criteria (Appendix 2).

2.2.3. Decision-Making Style Scale (DMS)

The Decision-Making Style Scale developed by Scott and Bruce (1995) to measure people's styles as taught, habitual responses people display when faced with a decision-making situation. The original form of the Decision-Making Styles Scale has been structured around five decision-making styles, namely "rational, intuitive, dependent, avoidant, and spontaneous," constituting five subscales. The scale items are scored on a 5-point Likert scale (1: Disagree, 5: Strongly agree). Those five subscales include total 25 items in rational decision-making style (5 items) like "I make decisions in a logical and systematic way.", intuitive decision-making style (5 items) like "When I make decisions, I tend to rely on my

intuition.”, dependent decision-making style (5 items) for example “I rarely make important decisions without consulting other people.”, avoidant decision-making style (5 items) like “I avoid making important decisions until the pressure is on.” and finally spontaneous decision-making style (5 items) for example “I generally make snap decisions.”

The standardization of the scale into Turkish is done by Taşdelen (2002). Confirmatory Factor Analysis (CFA) was conducted to validate the five-dimensional structure of the scale. The original 25-items form was reduced to 24 items by eliminating the 12th item due to redundancy. The 24-items, dimensions and scoring are parallel with original scale. The internal consistency (Cronbach's alpha) coefficients for the five subscales ranged between .76 and .79 (for subscale of rational .76, for intuitive .78, for dependent .76, for avoidant .79 and for spontaneous .79 were found) with an overall internal consistency alpha of .74 for the entire scale (Taşdelen, 2002). In the current thesis, internal consistency (Cronbach's alpha) coefficients for rationality were .83 and for intuitive it was .78¹ (Appendix 3).

2.2.4. Anchor paradigm

2.2.4.1. Relevance. The anchors that have potential relevance for the target can be defined as relevant anchor. A relevant anchor may convey useful information about the underlying properties of the good. Different studies have been conducted in the literature for the relevant anchor type. For example, the anchor was provided as a price paid by a hypothetical person in the study of Bavalár (2017). In the relevant anchor condition for this study, the anchor was presented as the price displayed on advertisement banner on the page where participants come across the products. The participant initially saw this advertisement banner for a comparable product, which also included the product's price. In this way, prior to the real product image being displayed and the WTP amount being requested, the participants were exposed to a relevant anchor with this advertisement banner (Appendix 4).

An irrelevant anchor is evidently unrelated and, as such, lacks validity for estimating willingness to pay for consumer products. While previous studies, including the one by Ariely et al. (2003), commonly used the last two digits of participants' social security

¹ In Decision Making Scale, parallel with the hypotheses, only two dimensions were used; rationale and intuitive decision making.

numbers as an irrelevant anchor, participants in this research were asked to calculate the sum of two numbers, and were provided with a basic calculation operation under an irrelevant anchor condition (Appendix 5). This approach aimed to prevent the introduction of additional security concerns for participants. As the mathematical tests were quite straightforward, all participants could generate the same anchor.

2.2.4.2. Levels. High and low levels of anchor values were both intended to be perceived as plausible prices or valuations. Different calculations have been used in the literature to determine the high and low levels of anchor. In some studies (e.g., Bavolar, 2017; Zong & Guo, 2022), a certain ratio between high and low level was used, in some studies (Brzozowicz & Krawczyk, 2022), a calculation was made from the marketing prices of the products. In this study, another common approach (Wu et al., 2012) was used involving setting the upper limit at the highest price among all products and the lower limit at the lowest price encountered among these items. After deciding on the ten products to be used in the study after the pilot study, through an internet search across popular online shopping websites, price information for these ten products was collected. Consequently, the upper and lower bounds derived from this data were chosen as the high and low anchor points for the current study.

The appendix provided example drawings of two distinct manipulation groups, one featuring a relevant and high level of anchor (Appendix 4), and the other involving an irrelevant and low level of anchor (Appendix 5). In the irrelevant anchor condition (Appendix 5), participants faced a simple math question before the comparison question, involving the previously established level of anchor. The participants were presented with the simple addition operation before addressing all products. To ensure participants provide the correct answer and prevent them from skipping the question, the comparison question and the binary answer field (binary decision: Yes or No) were initially disabled. Only after entering the correct answer, participants were then prompted with the comparison question on the same page.

2.2.4.3. Willingness to Pay (WTP). The participants in the anchoring effect study were presented hypothetical buying scenarios. The procedure used in the standard anchoring paradigm, which consisted of comparison and absolute judgment questions, was employed. First, with the comparison question, participants were asked to compare a target value to an

anchor value, one of the binary answers (binary decision: Yes or No) was taken from them. Second, with the absolute question, participants were asked to express their valuation about products in a variety of anchor manipulation condition, they then stated the maximum amount they were willing to pay. Participants' willingness to pay responses were collected in an open-ended manner (Appendix 4 and 5). The metric value for the given responses was specified in Turkish Lira (TL).

2.3. Procedure

The experimental design, including the products, their descriptions, and pictures, was exclusively created for this study, adhering to the standard anchoring procedure. The study aimed to establish varying levels of independent variables through a pilot study, mirroring approaches seen in existing literature. Following this pilot study, the main research proceeded to further explore these variables.

2.3.1. Pilot study

Prior to the experiment, a survey was administered using an online platform Qualtrics to categorize products as familiar or unfamiliar. Since the participants targeted in the main study were university students between the ages of 18-30, this survey was administered to participants with the same demographic characteristics to measure the familiarity levels of the products.

The survey was featured 20 distinct product images, half of which were recognized as familiar and the remaining half as unfamiliar. Based on the survey results, 5 products receiving the highest scores were designated as familiar, while 5 products with the lowest scores were classified as unfamiliar. The selection of 20 product images was based on the idea of showcasing items that were both economically feasible for a broad range of university students and were commonly recognized or used, encompassing a mix of familiar (e.g., on-ear headphones) and unfamiliar products (e.g., baby sound machine). After participants consent to participate to the study, they rated their perceived familiarity with each product regarding its function, price, and buying experience on a Likert-type scale ranging from 1

(not at all) to 5 (very much), with higher scores indicating higher familiarity (see Appendix 6 for example of pilot study). The 20 items were presented in randomized order. At the end of the study, participants were thanked.

The pilot study was serving an additional aim: establishing the price boundaries for the main study, setting both lower and upper limits. A common approach, observed in related research, involves setting the upper limit at the highest price among all products and the lower limit at the lowest price encountered among these items (Wu et al., 2012). Through an internet search across six popular online shopping websites, price information for these ten products was collected. Consequently, the upper and lower bounds derived from this data was chosen as the high and low anchor points for the current study.

2.3.2. Main study

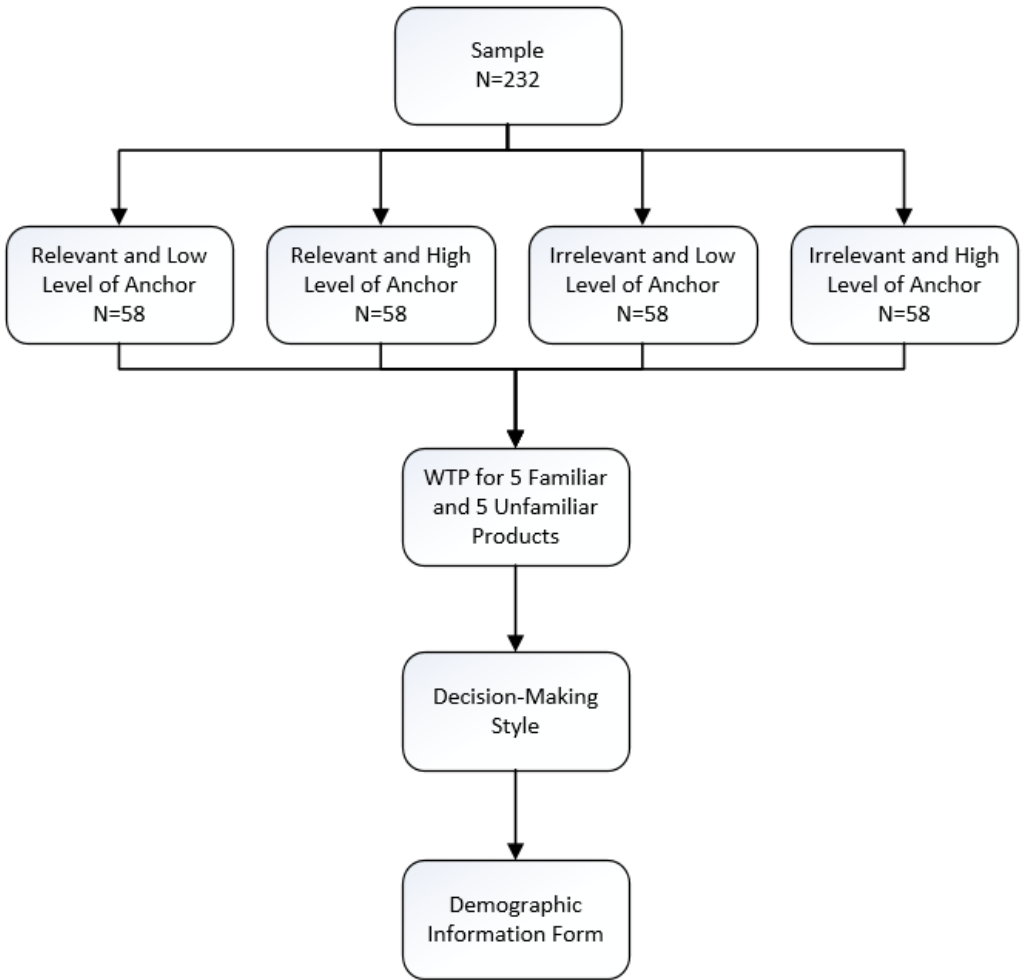
After obtaining ethical permission from the Başkent University Social and Human Sciences and Art Ethics Committee (see Appendix 7 for ethics approval), the experimental study was done with the targeted participants. Since the targeted participants in this study were undergraduate and graduate students between the ages of 18-30, the assistance of esteemed department lecturers was sought to distribute the informed consent form online, to ensure an adequate participant pool. All materials and questions in the study was given by using the Qualtrics and Qualtrics links was sent to participants' student through the school website page used for the courses.

Participate who agreed to be involved in this study signed the informed consent form. Moreover, after getting confirmation of participation to attend this study, they proceeded to access the anchor paradigm. They were then randomly assigned in equal numbers to one of the four groups manipulated according to both relevance and level of the anchor. Each participant assessed their Willingness to Pay (WTP) for identical sets of products, consisting of 5 familiar and 5 unfamiliar products (Figure 2.1.).

Familiar and unfamiliar products were individually showcased to participants on separate pages, each featuring appropriate visuals. Each page displayed both a product-

related anchor and an image of the product in question. Following the standard anchor paradigm, participants were required to respond to two questions, encompassing both comparison and absolute judgment, for each product (see Appendix 4 and 5 for example of main study).

Figure 2.1.
Flowchart of the Study



After WTP values were taken for all 10 products that the participants encountered, these participants filled out online questionnaires that included a section for the Decision-Making Styles scale and demographic information form through Qualtrics. Responding to queries regarding the anchor paradigm and completion of the questionnaire packs required

approximately 10-15 minutes. At the end of the study, a thank you note was displayed for their participation in the study.

2.4. Design and Data Analysis

The study employed a mixed-subject design incorporating both within-subject and between-subject designs. A combined approach of experimental and correlational methods was utilized to investigate phenomena related to WTP. In the experimental part, three independent variables were considered: relevance of the anchor (relevant vs. irrelevant), familiarity of the product (familiar vs. unfamiliar), and the level of the anchor (high vs. low). For the correlational part, two predictors were identified: rational decision-making style and intuitive decision-making style. The dependent variable was WTP.

In terms of data analysis, it was checked whether the data were normally distributed and whether they met the homogeneity assumption hence, statistical assumptions were verified prior to conducting the analyses. In the experimental part, to assess the impact of relevance, level of anchor, and familiarity of the product on WTP, mixed ANOVA was employed. For the hypotheses of H1a, Hb and H1c, main effects were considered. Post-hoc analyses were conducted to examine interaction effects for the hypotheses of H2a, H2b, H2c, H2d, H3a and H3b. For the correlational part, linear regression was employed for hypotheses of H4a and H4b.

3. RESULTS

In this chapter, the results of the thesis are presented. For the analyses, JASP statistical software (JASP Team, 2024) was used. The statistical programme is free and open source licensed programmed designed and supported by psychological methods department of University of Amsterdam.

In the experimental part of the thesis, there are three independent variables: level of anchoring (high vs. low), relevancy of information (relevant vs. irrelevant), and familiarity (familiar vs. unfamiliar), and one dependent variable: willingness to pay (WTP). In the correlational part, there are two predictors, rational decision-making style and intuitive decision-making style, while the predicted is WTP.

The study employs a mixed design, incorporating both within-subject and between-subject designs. Therefore, the dependent variable is presented either for the familiar condition (WTP-Familiar) or the unfamiliar condition (WTP-Unfamiliar). For hypotheses 4a and 4b, an average score of WTP-Familiar and WTP-Unfamiliar is used to form WTP-Average.

Moreover, the range of the dependent variable was extremely wide. For instance, the WTP score for one product ranged from 150£ to 40.000£. To control this extreme range and ensure homogeneity for the ANOVA tests for Hypotheses 1, 2, and 3, a logarithmic transformation (base 10) was applied to the dependent variable of WTP (including WTP-Familiar, WTP-Unfamiliar, and WTP-Average; West, 2021). All analyses were conducted using these logarithmic values.

3.1. Pilot Study

In order to determine the 5 most familiar and 5 least familiar objects, a pilot study was conducted. Four questions from Wu et al.'s (2012) study were utilized, and mean scores were calculated to determine a familiarity score. The mean scores, ranging from the least familiar

to the most familiar, are presented in Table 3.1. Accordingly, five most familiar (backpack, on-ear headphones, smart phone, training shoes, sunglasses) and five least familiar objects (feeding bottle cleanser, turning cutting tool, UV camera, baby sound machine, air cleanser) were used in the main study based on their familiarity scores.

Table 3.1.

Familiarity mean scores of objects

Name of Objects	Mean Scores	SD
Feeding bottle cleanser	1.25	0.54
Turning cutting tool	1.26	0.78
UV camera	1.53	1.10
Baby sound machine	1.59	1.25
Air cleanser	1.59	1.25
Treat dispenser	1.62	1.26
Physiotherapy Tens Machine	1.76	1.06
Voice recorder	1.85	1.37
3D printer	1.91	1.33
DSLR microphone	2.66	1.42
Coffee machine	4.43	0.90
Smartwatch	4.48	0.80
Office chair	4.49	0.68
Thermos bottle	4.62	0.94
Perfume	4.83	0.90
Backpack	4.86	0.64
On-ear headphones	4.92	0.65
Smart phone	4.93	0.59
Training shoes	4.93	0.91
Sunglasses	4.94	0.62

3.2. Descriptive Statistics

Descriptive analyzes of the main variables of the study are presented in Table 3.2. In the table, number of participants (in each condition), mean scores, and standard deviations are presented. Moreover, Table 3.3. shows bi-variate correlations among variables.

Table 3.2.*Descriptive analyses of variables*

Dependent Variable	Relevancy Condition	Level of Anchoring	N	Mean	SD	Min	Max
WTP-Familiar	Irrelevant	High	81	3.88	0.28	2.96	4.43
	Relevant	High	77	3.79	0.33	2.79	4.40
	Irrelevant	Low	85	3.18	0.47	1.63	4.30
	Relevant	Low	65	3.04	0.39	1.86	3.95
WTP-Unfamiliar	Irrelevant	High	81	3.63	0.36	2.47	4.26
	Relevant	High	77	3.55	0.50	2.20	4.37
	Irrelevant	Low	85	2.58	0.43	0.66	3.49
	Relevant	Low	65	2,53	0.37	1.08	3.37
WTP-Average			308	3.37	0.53	1.78	4.29
Rational D. M.			308	4.16	0.58	1.00	5.00
Intuitive D. M.			308	3.71	0.70	1.00	5.00

Note. WTP-Familiar = Willingness to Pay for Familiar Products, WTP-Unfamiliar = Willingness to Pay for Unfamiliar Products, WTP-Average = Willingness to Pay for All Products, Rational D. M. = Rational Decision Making, Intuitive D. M. = Intuitive Decision Making

Table 3.3.*Bi-variate correlations among variables*

Variable	WTP-Familiar	WTP-Unfamiliar	WTP-Average	Rational D. M.	Intuitive D. M.
1. WTP-Familiar	-	-	-	-	-
2. WTP-Unfamiliar	.74 ***	-	-	-	-
3. WTP-Average	.97 ***	.87 ***	-	-	-
4. Rational D. M.	-.05	.02	-.03	-	-
5. Intuitive D. M.	-.04	.01	-.03	.22***	-
6. Sex	-.07	-.08	-.08	.02	.05
7. Age	.03	-.06	.01	.15**	.11*
8. Education Level	-.02	-.07	-.04	.09	-.05
9. Economic Status	.01	-.03	-.02	-.03	.07

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Note. Sex (1 = Female, 2 = Male), Educational Level (1 = Bachelor 2 = Master, 3 = PhD), Economic Status (1 = 0£-5.000£, 2 = 5.001£-10.000£, 3 = 10.001£-15.000£, 4 = 15.001-20.000£, 5 = 20.000£ and above).

Note. Correlations for 1, 2, 3, and 7 are results of Pearson's correlations, and correlations for 4, 5, 6, 8, and 9 are results of Spearman's correlation.

Note. WTP-Familiar = Willingness to Pay for Familiar Products, WTP-Unfamiliar = Willingness to Pay for Unfamiliar Products, WTP-Average = Willingness to Pay for All Products, Rational D. M. = Rational Decision Making, Intuitive D. M. = Intuitive Decision Making

3.3. Main Study

3.3.1. Assumption testing

To assess the impact of familiarity, relevancy of anchoring, and level of anchoring on WTP, a mixed model analysis of variance (ANOVA), or statistically speaking repeated measures (rm-ANOVA) is planned. Before proceeding with the analyses, the assumptions of ANOVA are verified.

The first assumption, independence of data, is met as each observation is independent of the others. Next, the normality of the dependent variable distribution is assessed using the Shapiro-Wilk test. Results, as shown in Table 3.4., indicate that neither WTP-Familiar nor WTP-Unfamiliar meet the normality assumption. However, as noted by Blanca et al. (2022), violations of normality assumptions typically do not lead to Type-I errors, particularly in repeated measures ANOVA designs. Therefore, this assumption is considered violated for this analysis. Moving on to the equality of variances, Levene's test is employed. The results indicate $F = 2.18, p = .09$, suggesting that the assumption of equal variances is met. For hypothesis related to decision making styles, a linear regression is planned to be used. The assumptions of linear regression (linearity, independence of errors, equal variances) are met by checking scatter plots. However, normality assumption is not met since WTP-average does not distribute normally. This assumption is violated based on the Schmidt and Finan (2018), suggesting that large sample size can eliminate the negative effect of violation. Since the required sample size for simple linear regression based on G*Power analysis (Faul et. al., 2007), with a power of .8, middle effect size $R^2 = .03$ (Cohen, 1988), and a standard alpha error probability of $\alpha = .05$, the required sample size is 19. Therefore, the current sample size is determined that it is large enough to violate the assumption.

Following to assumption testing, hypotheses are tested. To investigate the effect of familiarity, relevancy of anchoring, and the level of anchoring on WTP, mixed ANOVA is employed.

Table 3.4.*Results of Shapiro-Wilk*

Variable Name	Shapiro-Wilk	p
WTP-Familiar	0.96	< .001
WTP-Unfamiliar	0.97	< .001
WTP-Average	0.96	< .001

3.3.2. Main effects of level of anchoring, relevancy, and familiarity

In order to check the main effects of level of anchoring, relevancy of information, and familiarity of products on WTP scores, a mixed ANOVA is used. According to the results of rm-ANOVA, main effect of level of anchoring on WTP was significant, $F(1, 304) = 503.08$, $p < .001$, $\eta^2 = 0.62$. WTP scores in low level of anchoring condition ($M = 2.96$, $SD = 0.38$) was lower than high level of anchoring condition ($M = 3.76$, $SD = 0.31$). These results suggesting a support to Hypothesis 1a.

Main effect of relevancy of information on WTP was significant, $F(1, 304) = 5.16$, $p = .02$, $\eta^2 = 0.02$. WTP scores in relevant information condition ($M = 3.34$, $SD = 0.55$) was lower than irrelevant information condition ($M = 3.40$, $SD = 0.51$). These results don't suggesting a support to Hypothesis 1b.

Main effect of familiarity on WTP was significant, $F(1, 304) = 281.67$, $p < .001$, $\eta^2 = 0.48$. WTP scores in unfamiliar condition ($M = 3.09$, $SD = 0.66$) was lower than familiar condition ($M = 3.49$, $SD = 0.52$). These results suggesting a support to Hypothesis 1c. Figure 1 shows plot for mean scores of WTP based on the relevancy, level of anchoring, and familiarity of product. Moreover, see Table 3.5. for all the information for main effects of manipulations on WTP scores.

Figure 3.1.

Mean WTP Scores of Manipulation Groups Anchoring, Relevancy, and Familiarity

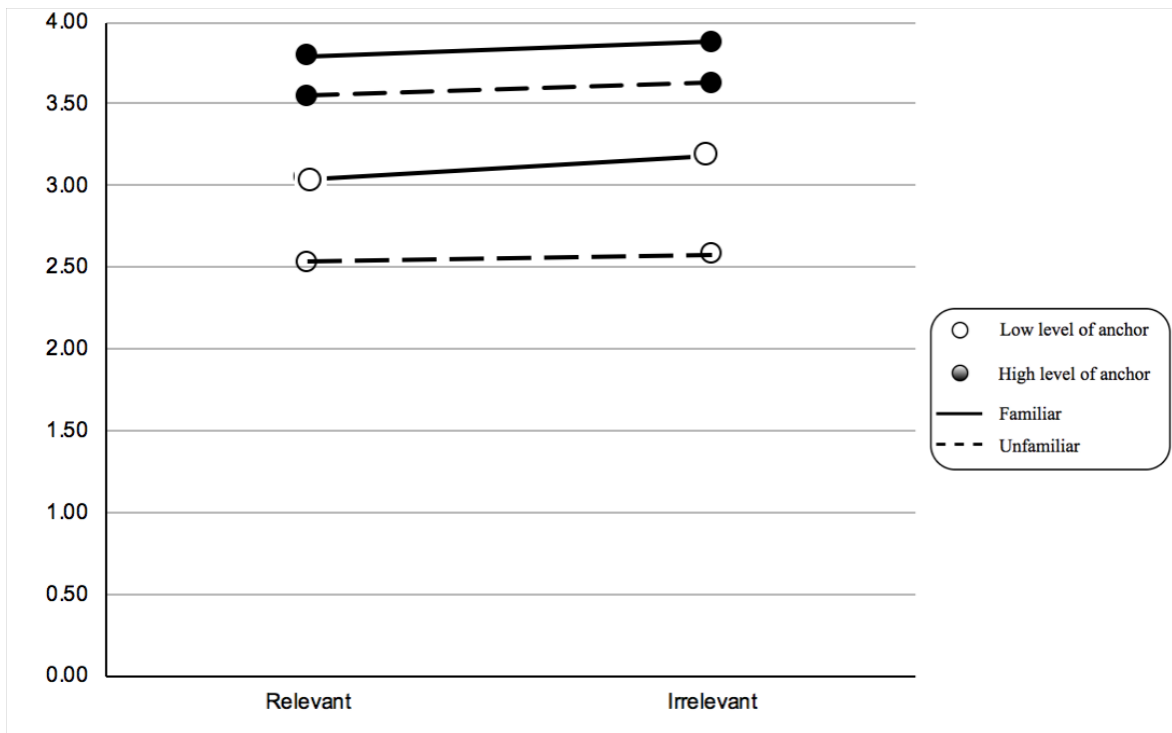


Table 3.5.

Main effects of Manipulations on WTP

Variable	df	<i>F</i>	<i>p</i>	η^2	<i>M</i>	<i>SD</i>
Level of anchoring	1	503.08	<.001	0.62		
High level					3.76	0.31
Low level					2.96	0.38
Relevancy of information	1	5.16	.02	0.02		
Relevant					3.34	0.55
Irrelevant					3.40	0.51
Familiarity	1	281.67	< .001	0.48		
Familiar					3.49	0.52
Unfamiliar					3.09	0.66

3.3.3. Interaction effects of manipulations

To test Hypothesis 2, the interaction effect between the relevancy of information and the level of anchoring was examined. The results indicated no significant interaction effect between relevancy of information and level of anchoring, $F(1, 304) = 0.02, p = .90, \eta^2 = 0.01$. This suggests that Hypothesis 2a is not supported. Consequently, due to the absence of a significant interaction effect, post-hoc analyses were not pursued. Therefore, Hypotheses 2b, 2c, and 2d are also not supported.

To test Hypothesis 3, the interaction effect between the relevancy of information and the familiarity was examined. The results indicated no significant interaction effect between relevancy of information and familiarity, $F(1, 304) = 1.34, p = .31, \eta^2 = 0.01$. This suggests that Hypothesis 3a is not supported. Consequently, due to the absence of a significant interaction effect, post-hoc analyses were not pursued. Therefore, Hypotheses 3b is also not supported. As displayed in the previous section, Figure 1 shows plot for mean scores of WTP based on the relevancy, level of anchoring, and familiarity of product. The figure also illustrates that there is no interaction effect.

3.3.4. Hypothesis related to decision making

To test the relation between rational decision-making style and WTP, a simple linear regression analysis is conducted. Based on the results, model is not significant, $R^2 = 0.01$, $F(1, 306) = 0.17, p = .68$, suggesting that rational decision making does not positively predict WTP, $\beta = -0.02, t = -0.41, p = .68$.

To test relation between intuitive decision-making style and WTP, a simple linear regression analysis is conducted. Based on the results, model is not significant, $R^2 = 0.01$, $F(1, 306) = 0.17, p = .68$, suggesting that rational decision making does not negatively predict WTP, $\beta = -0.02, t = -0.42, p = .68$.

4. DISCUSSION

Decision-making encompasses a multitude of topics in various aspects of life, including finance. One of the most significant judgments in consumer behavior is the decision about the price to pay for a product, or the maximum Willingness-to-Pay (WTP) (Ariely et al., 2003; Yoon et al., 2019). Understanding the dynamics of decision-making processes can be helpful in developing methods for behavior improvements, creating changes in the market, and gaining a better understanding of consumer behavior (Kahneman, 2011).

To enable this, there are economic models that explain economic decision-making. The predominant model is rational economic model with an assumption that people are essentially efficient and rational when it comes to their financial transactions. However, behavioral economics suggests that people are "bounded" in their rationality (Simon, 1957).

As opposed to this widely predominant assumption in rational economics models, empirical evidence consistently demonstrates deviations from rationality in individuals' behaviors. Psychological factors play a significant role in influencing investors' decisions, deviating them from rationality. These components are frequently referred to as behavioral biases and heuristics (Kahneman & Tversky, 1979). In the existing literature, the anchoring and adjustment heuristic stands out as one of the most prominent and thoroughly examined heuristics (Tversky & Kahneman, 1974). Therefore, literature widely studies the effect of anchoring and adjustment heuristic on economic behavior (e.g., Ariely et al., 2003; Bergman et al., 2010; Fudenberg et al., 2012; Mazar et al., 2010; Sugden et al., 2013).

The principal aim of this thesis was to explore the impact of different types anchors on economic behavior. More specifically, the purpose of this study, designed as an experiment based on purchase decisions, was to examine how differences arise depending on the relevance of the anchor, familiarity with the products, and the level of anchoring when determining the maximum price that consumers who have been exposed to anchoring are willing to pay for a product. The study also investigated the relationship between the

highest price these consumers, who are subjected to anchoring, are prepared to pay for a product and the degrees of rational and intuitive traits found using the decision-making style scale.

In this section of the study, the aim was to discuss and evaluate the results of the analyses conducted to test the hypotheses and answer the research questions, supported by relevant literature. According to the results obtained from formulated and tested hypotheses, the main effects of manipulations were first evaluated in the discussion section. Then, the interaction effects between main variables and results were evaluated. Afterwards, the results of the correlational analysis for the predictive roles of two subscales of decision-making styles, rational decision-making style and intuitive decision-making style on price valuations were discussed. Finally, the strengths, limitations, suggestions for future research, and implications of the study for microeconomic programs related to consumer behavior and market competitiveness were discussed.

4.1. Effect of Level of Anchor on WTP

Beginning with the study's objectives, the initial goal was to understand the connection between level of anchors and how they alter economic behavior. To do so, the initial goal was to test that manipulating the level of anchors could alter consumer' subjective valuation for decision on a maximum amount of payment. The result of Hypothesis 1a showed that exposure to the high levels of anchoring leads to higher willingness to pay for various consumption goods, while exposure to the lower levels of anchoring leads to lower willingness to pay. In simpler terms, prior to determining the maximum price people are willing to pay for a product, consumers tend to suggest a higher amount when presented with a high numerical anchor value compared to when they are presented with a low numerical anchor value.

The anchoring effect one of the most robust phenomena in the area of judgment research and its presence has been demonstrated in a variety of domains and cultural conditions with numerous variations. This expectation was grounded in previous research findings and aimed to extend this understanding to context of Türkiye. With this result confirmed in Hypothesis 1a, the present study extended the number of countries studied. It

shows that the effect of level of anchoring on price has been confirmed in Türkiye. This result is in align with the majority of previous studies which have investigated the anchoring effect (e.g., Ariely et al., 2003; Bergman et al., 2010; Simonson & Drolet, 2004).

Considering the literature, there are studies that both support and do not support the effects of the level of anchoring. For instance, Fudenberg et al. (2012) re-performed the Ariely et al. (2003) study and indicated that there was very weak effect of the level of anchoring. However, given the preponderance of studies that support the effect of anchoring levels on decision-making, it is plausible to expect a great effect on willingness to pay (WTP). For example, a meta-analysis conducted by Li et al. (2021) examined 53 studies in this field, revealing that the level of anchoring is a manipulation that alters WTP with a moderate overall effect.

On the other hand, it is important to highlight the plausibility of the level of anchoring manipulation. For instance, the study by Sugden et al. (2013) suggests a contextual nature of the anchoring effect: if the level of anchoring is implausibly high, the manipulation effect does not work. In this thesis, the prices were researched from different websites for each product to determine minimum and maximum values. Therefore, this potential confounding effect has been eliminated, allowing the effect of anchoring to be observed.

To conclude, the effect of the level of anchoring on WTP is a widely studied topic, especially since Ariely et al. (2003). The body of research suggests that a high level of anchoring increases WTP compared to a low level of anchoring. This result aligns with many other studies, such as the 53 studies included in Li et al.'s (2021) meta-analysis. However, it is important to exercise caution, as the range of the anchor might be a significant indicator of whether the manipulation will work or not (Sugden et al., 2013).

4.2. Effect of Relevancy of Anchoring Information on WTP

Although the results of Hypothesis 1a showed that initial valuations of products were strongly influenced by the level of anchors, the question of how different types of anchors shows different effects is an important question to test. Therefore, the second objective of this study was to investigate whether relevancy of anchoring changes the WTP.

A substantial amount of research demonstrates how individual evaluations and judgments are influenced by irrelevant and random anchor values. For instance, a random number obtained from an individual's social security number alters WTP (e.g., Ariely et al., 2003; Critcher & Gilovich, 2008; Tversky & Kahneman, 1974). Therefore, investigating the effect of the relevance of anchor on WTP was the primary goal of Hypothesis 1b.

Hypothesis 1b was designed to illustrate that the WTP would be higher when consumer encounter relevant information about the products' price compared to irrelevant information. Or in other saying, Hypothesis 1b tests whether consumers would react differently to an anchor value that is presented as irrelevant compared to one that is relevant when determining the maximum amount, they are willing to spend for a product.

However, the manipulation of relevancy of anchoring in this thesis yielded a contrary outcome, when consumers were exposed to relevant anchoring information about the product's price, their maximum willingness to pay was significantly lower compared to when they encountered irrelevant anchoring information. These results suggest an interesting point of view considering the existing literature on relevancy of anchoring and decision making.

Considering the effect of relevancy of anchoring on decision making, without any direction given, result of this thesis is comparable with previous findings in the literature, which often suggest that the relevance of the anchor alters decision making process (Glöckner & Englich, 2015). In their study, Glöckner and Englich found that individuals exposed to relevant information allocated more time to sentencing a person of interest compared to those exposed to irrelevant information. Consequently, the hypothesis of this thesis posited that participants exposed to relevant anchoring would exhibit a greater willingness to pay compared to those exposed to irrelevant anchoring. However, results indicated the opposite.

The apparent contradiction in the direction of this effect may stem from the nature of the decision being made. In Glöckner and Englich's study, participants were tasked with sentencing a person of interest. Therefore, receiving anchoring from a relevant source (such as a prosecutor or judge) may have signaled trust and provided an illustrative example for

similar situations, leading to higher decision-making numbers in that study. However, in this thesis, the relevancy pertained to a product banner, which did not inherently necessitate trust or an illustrative example. Consequently, while the relevancy of anchoring did alter willingness-to-pay (WTP), it did so in a direction contrary to Glöckner and Englich (2015), underscoring the prominence of the nature of the decision in influencing the direction of this effect.

4.3. Effect of Familiarity of Product on WTP

Examining if there is a substantial difference in anchoring effects based on people's familiarity or unfamiliarity with the products was the study's other major goal. Most studies exploring price anchoring have involved multiple products, yet the comparison or categorization of these products has received notably less attention. Furthermore, the outcomes thus far have not reached a stage where generalizations can be confidently drawn from the findings about whether there exists a statistically significant distinction in consumers' valuation of willingness to pay for products which they have prior experience with compared to products they have no prior experience with. Product categories were established in the study's pilot study based on consumers' buying experiences, product functionalities and prices, and other factors. Products were classified as familiar (like on-ear headphones) or unfamiliar (like Baby sound machines) based on the findings.

Investigating the effect of familiarity of product on determining the maximum amount a consumer is willing to spend for a product was the goal of Hypothesis 1c. Consumers' familiarity to product was expected to play an important role in this situation because product familiarity plays a significant role in the consumers' decision-making process. For Hypothesis 1c, the results indicated that the difference in WTP between participants presented with unfamiliar products and those presented with familiar products was significantly different. Hypothesis 1c confirmed through statistical analysis. Moreover, according to the results of these statistics, those with high levels of familiarity showed the significantly higher WTP than those with low levels of familiarity.

This outcome is parallel with the findings from several studies in the literature. For instance, Wu et al. (2012) investigated the impact of internet buyers' familiarity with the

product on WTP scores. In result, they found that participants who were in the familiar products condition were willing to pay more compared to participants who were in the unfamiliar products conditions. This could be attributed to the fact that individuals with lack of experience were more susceptible to judgmental bias as they tended to seek external sources of information when making decisions. Additionally, the results indicated that individuals who are less familiar with the target product were not willing to pay high amount of money.

4.4. Interactions Between Relevancy of Anchoring Information and Level of Anchoring

Hypothesis 2 is designed to illustrate that not only the effect of the level of anchoring and the relevancy of information but also their interaction significantly alters WTP. To accomplish this, Hypothesis 2a first tests the interaction effect between the relevancy of anchoring information and the level of anchoring. However, no significant interaction effect was found. Consequently, hypotheses focusing on significant points of this interaction (Hypotheses 2b, 2c, and 2d) could not be tested.

To further elaborate, Ariely et al. (2003) planned to test the anchoring effect specifically for the irrelevant group. Given that the effect of anchoring is potent across many studies (for example, the meta-analysis by Liu et al. (2021)), this effect could persist with irrelevant information as well. Therefore, it was expected to find a higher WTP for participants in the irrelevant high-level anchor condition compared to the irrelevant low-level anchor condition for Hypothesis 2b.

Moreover, Glöckner and Englich (2015) illustrate that the effect of relevancy and the level of anchoring only exists together for the relevant group, suggesting that individuals are sensitive to cues when they are relevant; thus, the level of anchoring can be observed for the relevant group. This formed the basis for Hypothesis 2c.

Lastly, consumers could react differently to an anchor value that is presented as irrelevant compared to one that is relevant when determining the maximum amount, they are willing to spend on a product. Hypothesis 2d was designed to illustrate that the

anchoring effect becomes more pronounced when consumers encounter relevant information about the product's price compared to irrelevant information. More directly, WTP scores were expected to be higher for relevant and high levels of anchoring compared to irrelevant and high levels of anchoring.

However, these expected results could not be checked due to the lack of an interaction effect between the level of anchoring and the relevancy of information, leaving this line of research incomplete. Moreover, this result raises questions regarding Glöckner and Englich's (2015) findings, challenging the existence of an interaction effect between the relevancy of information and the level of anchoring, or the existence of this effect in the context of Türkiye.

To conclude, in anchoring research, the selective accessibility hypothesis explains how the impact is enhanced by the relevance of the anchor value, which increases the relationship between the information needed for the valuation task and the anchor (Sugden et al., 2013). Glöckner and Englich (2015) found that the impact of relevance on anchoring had conflicting outcomes. They demonstrated that relevant anchors had a stronger and more pronounced influence on sentencing judgments compared to irrelevant ones. However, they also observed that low anchors did not exhibit the effect of relevance. Due to a non-significant interaction effect, these nuanced points could not be further analysed or discussed. Therefore, it indicates a need for further exploration into the underlying mechanisms of anchoring effects in different contexts.

4.5. Interactions Between Relevancy of Anchoring Information and Familiarity

To understand the effect of manipulations in a more complex nature, this thesis also examines other interactions of manipulation on WTP. In Hypothesis 3, the interaction effect between the relevancy of anchoring information and familiarity was first tested. However, there was no significant interaction effect. Therefore, Hypothesis 3b could not be tested as it focuses on a specific point of interaction.

No studies were found that specifically focus on the interaction between the relevancy of information and the familiarity of products. Thus, this part of the thesis was

exploratory, aiming to further investigate the dynamics of different anchoring effects and their impact on WTP. Based on the current literature that explains the effect of the relevancy of anchoring (Glöckner & Englich, 2015) on decision-making and the familiarity of products on WTP (Wu et al., 2012), an interaction effect was expected. However, this was not the case.

4.6. Relation between Decision-Making Style and WTP

Hypothesis 4a and Hypothesis 4b aimed to investigate the predictor role of decision-making style on maximum amount consumers are willing to spend on a product. The hypothesis 4a proposed that as the level of rationality, as determined by the decision-making style scale, increased, the maximum WTP for a product among consumers would also increase. Conversely, Hypothesis 4b suggested that as the level of intuitiveness in decision-making increased, the maximum WTP for a product would decrease. However, contrary to the hypotheses, analysis revealed no significant predictor effect. This observation confirms that Hypothesis 4a and Hypothesis 4b are not supported.

Previous research has extensively investigated the impact of personality traits on susceptibility to anchoring, primarily utilizing the Big Five personality traits, and significant relationship have been identified. However, the specific relation between decision-making styles and the willingness to pay has not been examined in existing literature. Therefore, having a first examination was another goal of this thesis. Consequently, no literature was found that either confirmed or objected the findings of Hypothesis 4a and Hypothesis 4b. But, Hypotheses 4 were formulated based on inferences drawn from prior studies concerning the correlation between personality traits and decision-making styles.

One of the most important fieldwork results in the formation of Hypotheses 4 was, that individuals with diverse personality traits exhibit different susceptibilities to anchoring. Some studies indicated that individuals vary in their susceptibility to anchoring, with certain individuals exhibiting a greater susceptibility to the phenomenon compared to others (Furnham & Boo, 2011). Given the established influence of personality on cognitive processing in judgmental decisions (Furnham & Boo, 2011), it is unsurprising that studies

have revealed differences in anchoring susceptibility based on personality factors. Eroglu and Croxton (2010) discovered that individuals who exhibit high levels of conscientiousness, but low levels of extraversion tend to display a stronger bias toward anchoring. Correspondingly, McElroy and Dowd (2007) observed similar tendencies among individuals with elevated levels of openness to experience. Furnham and Boo (2011) proposed that the correlation between these personality traits and anchoring susceptibility could be attributed to mechanisms such as selective accessibility (Mussweiler & Strack, 1999) and the attitudinal approach (Furnham & Boo, 2011). In this context, individuals who exhibit high levels of conscientiousness tend to engage in more meticulous information processing, while those with higher scores in openness to experience typically demonstrate greater sensitivity and receptiveness to the characteristics of the anchor.

Decision-making styles are greatly influenced by personality traits. Numerous researches using various sample groups have been conducted on decision-making styles and personality traits. A rational decision-making approach in the decision-making styles scale is defined as "a thorough information search, considering various options, and logically evaluating them" (Scott & Bruce, 1995), similarly, conscientiousness in personality traits is defined as by Costa & McCrae (1992) "being hardworking, persistent, neat, well-organized, orderliness, responsibility, dependability and goal-oriented" (Camps et al. 2016). Literature studies to explain the correlational relationship between these two different types of traits, which are similar in definition, also confirm this assumption. A 2017 study by Bayram and Aydemir (2017) focused on personality traits and the decision-making styles of university students in Türkiye. The research drew various conclusions, including a strong connection between conscientiousness, and with rational decision-making styles.

Another style included in the decision-making styles scale is intuitive decision-making style. In contrast to rational decision-making style, the intuitive approach is defined as "dependence on feelings and intuitions, attending to subtle nuances of information instead of engaging in a methodical exploration and analysis of data" (Scott & Bruce, 1995). This means that a person's decision-making style is shaped by intuition, feelings, perceptions, and experiences. It has similar definitional characteristics with "Extraversion" in personality traits. Extraversion is characterized by a tendency to be self-confident, dominant, active, and excitement seeking, and a higher need for stimulation (Bakker et al.,

2006). Literature studies to explain the correlational relationship between these two different types of traits also confirm this assumption. Allwood and Salo (2012) found that extraversion personality had a positive relation with intuitive decision-making style.

To conclude, research on decision-making seem to think that all decision-makers are not the same and to look at how the situation and circumstances affect the decision process as well as the personality (e.g., Kleindorfer et al., 1993; Payne et al., 1993). Formulating from personality literature and decision making, Hypotheses 4 tested the premise that individuals' decision-making styles vary thereby their decisions. Although Hypothesis 4a and Hypothesis 4b were not confirmed, the research provides a first insight on relation between decision making styles (being rationale decision making and intuitive decision making) and willingness to pay. Although further research is necessary to determine the exact relationship between decision-making styles and the willingness to pay, the literature already provides insightful viewpoints on the factors influencing consumer decision-making behaviors.

4.7. Recommendations, Limitations and Implications of the Study

The decision-making process can vary significantly depending on the nature of the issue at hand. While some decisions may appear straightforward and easy to make, others can be more complex and require multiple steps to resolve. Decision-making is basically a process that has a specific starting point and from that point onwards involves a variety of tasks, activities and opinions, leading to a final outcome. Moreover, this process consists of specific stages, and numerous important aspects impact the process of making decisions (Franken & Muris, 2005; Hastie & Dawes, 2009).

In consumer decision-making, the prevailing view is that it encompasses the process from the initial inclination to purchase a product to the final decision. Economists have long sought to explain the connection between money and human behavior, often with considerable confidence. The prevailing notion suggests that humans are inherently rational and quite proficient in their financial transactions. Consumers as decision makers are thought to be faultless, possessing a limitless capacity for information processing and an impeccable comprehension of every facet of the decision-making process (Becker,

1976). Studies based on the traditional economic assumption have been prevalent for relatively many years. However, unlike the traditional economic assumptions, individuals are unable to behave fully rational (Kahneman, 2003b; Thaler & Sunstein, 2009).

Studies in behavioral economics have shed light on the understanding that in consumer decision-making processes, individuals are influenced by the emotions and thoughts they experience while solving the purchase problem and reaching their final decisions. Therefore, behavioral economics emerges as a unique field by diverging from the traditional economic premise of rational decision-making and integrating diverse perspectives beyond rationality to understand human behavior within economic frameworks.

To fully grasp decision-making, analyzing only "choices" or "preferences" isn't enough. In behavioral economics, the heuristics and biases framework are largely credited with revealing numerous instances of irrationality in judgment and decision-making. Compared to studies based on traditional economic assumptions, behavioral economics studies, which have been conducted more recently, should be conducted in many countries and cultures around the world and their number should be increased in order to increase the reliability of the results.

The results of this thesis present several notable strengths by bringing a new perspective to the current research literature. Firstly, it provides insight to understand the connection between anchors and how they directly impact economic behavior in a purchase decision-based experiment within the context of Türkiye. Secondly, although there have been studies on the relationship between anchoring and WTP in Türkiye, this thesis stands as one of the pioneering studies which encompasses a broad utilization of paradigms related to the adjustment and anchoring heuristic, including relevancy, familiarity and the level of anchor. In doing so, it introduces a novel methodology to measure the familiarity of products used. Thirdly, through this thesis, the connections between decision-making styles and anchoring effects are explored via a correlational analysis focused on purchasing decisions, a perspective which has not been previously examined. Thus, it is aimed to establish a correlational relationship that explains interpersonal differences. Fourthly, the thesis contributes insights through a mixed-method design, encompassing both experimental and correlational elements.

This study has made significant contributions to the existing literature, yet it also has its limitations. Instead of a laboratory setting, the anchoring manipulation was administered to participants through a website (Qualtrics) to increase accessibility, which may have led to some variables being uncontrolled. One such variable is the potential influence of the hypothetical bias (Murphy et al., 2005). In this study, hypothetical questions were utilized to measure customers' willingness to pay (WTP), where participants' responses did not have any financial consequences. The decision not to utilize incentive mechanisms, such as the Becker-DeGroot-Marschak (BDM) mechanism, resulted in this variable remaining uncontrolled. The BDM mechanism, commonly used in experimental economics to elicit WTP values, is known for its capacity to mitigate anchoring biases by prompting participants to reveal their maximum WTP through a bidding process. The absence of the BDM mechanism in this study may limit the generalizability of the results. Future research endeavors could consider integrating the BDM mechanism to offer a more comprehensive understanding of anchoring effects in consumer decision-making contexts, thereby addressing this study's limitations.

Another noteworthy limitation of this thesis is that one of the manipulated variables is the familiarity or unfamiliarity of the products and therefore the study was conducted with a certain age group as participants. In many of the laboratory research reported in the literature, anchoring investigations involved university students and a certain age range. For this study, information was also collected from students at universities in the 18–30 age group. Moreover, it is among the very first attempts to measure the degree of familiarity with the products, as demonstrated by the pilot research carried out beforehand with participants who had similar demographics. While this attribute can be perceived as a strength in terms of its contributions to the field, it simultaneously introduces a limitation due by restricting the generalizability of the results.

The absence of Willingness-to-Accept (WTA) manipulation in the study design poses a notable limitation. While the literature discusses WTA study designs, wherein participants are presented with questions regarding their willingness to sell a product for a specified amount (the anchor) and their minimum acceptable selling price, this study did not explore anchoring effects on WTA. The existing literature indicates that tasks related to WTP are more prevalent and potentially more reflective of consumer preferences than

decisions related to WTA. However, prior studies have also investigated the impact of anchoring effects on WTA.

Research conducted by Fudenberg et al. (2012) and Sugden et al. (2013) has underscored disparities in anchoring effects between WTA and WTP, suggesting that these effects might be more pronounced for WTA, particularly in cases where individuals have greater experience in purchasing goods rather than selling them. Because participants in the study likely are likely more familiar with making purchasing decisions, their responses to WTP tasks may be less susceptible to arbitrary influences and potentially more accurate than their responses to WTA tasks. Consequently, the omission of WTA manipulation could restrict the comprehensive understanding of how anchoring effects manifest in WTA and their significance for consumer decision-making. Therefore, future research endeavors may be necessary to systematically explore the distinctions in anchoring effects between WTA and WTP.

Another important limitation of this study is the absence of an examination of the relationship between cognitive abilities and the anchoring effects. Cognitive psychology has long been engaged in studying heuristics and biases, focusing on issues of rationality rather than cognitive capacity (Gilovich et al., 2002; Tversky & Kahneman, 1974, 1983). However, a relationship between cognitive capacity and individual variations in cognitive biases could be examined. Thinking biases are universal. However, their influence on decision-making may differ between people, due to the coexistence of heuristic processing and analytical thought processes. These observations are in line with dual-process theories of cognition, which underpin theorizing in the heuristics and biases field. Some studies indicate significant influences of cognitive abilities on behavioral biases, while others have not found significant associations. For instance, Bergman et al. (2010) found weaker anchoring effects among individuals with higher cognitive ability, while Oechssler et al. (2009) observed no significant difference in anchoring across different cognitive reflection test groups. Thus, further research is warranted to systematically investigate the distinctions in anchoring effects among groups with varying cognitive abilities.

This study's findings about the anchoring effect on WTP have significant implications for advertising approaches and consumer behavior research. This study

highlights the significance for initial pricing methods in influencing consumers' perceptions and purchase decisions by showing that exposure to price may have a substantial impact on individuals' WTP. In order to direct consumers toward greater WTP and eventually increase revenue, marketers might make use of this understanding by carefully choosing anchor pricing.

These results may also be used by consumer protection organization for microeconomic programs and policymakers to better understand and maybe control pricing strategies that guarantee equitable treatment for all customers. All things considered; this study underscores the crucial part that cognitive biases play in economic decision-making. It also provides the basis for future research into the ways in which different kinds of anchors—such as reference pricing or promotional discounts—can influence consumer behavior in various circumstances.

Existing literature has employed various independent variables, sometimes yielding inconsistent outcomes. Further research is necessary to explain decision-making processes in economic behavior more comprehensively, demonstrating that consumers often deviate from rationality, contrary to traditional economic models.

4.8. Conclusion

The primary aim of this study was to illustrate how consumers closely align with the concept of "bounded rationality" in their behavior. Specifically, this thesis was conducted to explore the effects of anchoring and thereby heuristics, and their direct influence on WTP, a widely studied topic in behavioral economics.

It is aimed to demonstrate how manipulating anchor levels could distort an individual's subjective valuation, particularly when determining the maximum amount, they are willing to pay for various consumer goods. The findings revealed that prior to establishing the maximum price they are willing to pay; consumers tend to propose a higher amount when presented with a high numerical anchor value compared to when presented with a low numerical anchor value. These results are consistent with the findings of

numerous previous studies exploring the anchoring effect, aiming to extend this understanding to the context of Türkiye. (e.g., Ariely et al., 2003; Simonson & Drolet, 2004).

Another aim of this study was to explore whether there are differences in the impact of various types of anchors on anchoring effects. The goal was to determine whether consumers are more influenced by anchors providing relevant information or by numerical anchors presented randomly, unrelated to the product. Contrary to expectations, when consumers were exposed to relevant anchoring information about the product's price, their maximum willingness to pay did not significantly increase compared to when they encountered irrelevant anchoring information. These findings challenge previous literature, which often suggests that the relevance of the anchor enhances the anchoring effect (Glöckner & Englich, 2015; Sugden et al., 2013).

Given that many studies in the existing literature do not classify products whose prices are determined as familiar or unfamiliar, this study aimed to fill this gap in knowledge. Specifically, it sought to contribute to the limited body of research on this subject. In essence, another key goal of this study was to investigate whether there is a notable variation in anchoring effects based on individuals' familiarity or unfamiliarity with products. Similar to findings from certain literature (e.g., Wu et al., 2012), this study's results revealed a significant difference in willingness to pay between participants exposed to unfamiliar products and those exposed to familiar ones.

In contrast to prior research on decision-making, this study attempted to highlight the diversity among decision-makers and how their individual traits lead to notable disparities in decision-making. The significance of this study is to provide a greater contribution to consumer behavior programs by examining the unique association between decision-making styles and the anchoring effect, which has not been explored in earlier research in the literature. Contrary to the hypotheses, analysis of the correlations between decision-making styles and WTP revealed no significant correlation. Although the assumptions were not confirmed, this study provides insightful information about the complex interactions between personality characteristics, sensitivity to anchoring, and decision-making styles.

In conclusion, decision-making is a crucial part of how people behave, and learning about and affecting these processes could help in creating plans to change behavior. This thesis illustrates how the anchoring and adjustment heuristic impacts decision-making in economic situations. The results contribute to the evidence that consumers often make decisions that aren't entirely rational, deviating from what might be considered rational choices.

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APPENDICES

APPENDIX 1: CONSENT FORM

Değerli Katılımcı,

Bu araştırma Başkent Üniversitesi Sosyal Bilimler Enstitüsü Sosyal Psikoloji Tezli Yüksek Lisans Programı öğrencisi olan Ümmügülüm Soysal tarafından Doç. Dr. Elvin Doğutepe danışmanlığında yürütülmektedir. Araştırma kapsamında Türkiye'de yaşayan üniversite öğrencilerinin tüketim ürünlerine ilişkin fiyat değerlemesi davranışlarının incelenmesi hedeflenmiştir. Bu doğrultuda 18-30 yaş aralığında üniversite öğrencisi olan bireylerin katılımına ihtiyaç duyulmaktadır.

Yaklaşık 15 dk. sürmesi beklenen çalışmada katılımcılara sunulacak farklı görseller ile karar verme süreçleri ölçülecektir. Gerçek bir alışveriş davranışında olduğu gibi ürünlerin her biri için belirleyeceğiniz satın alma kararlarınızı; sizin için önemlerine ve onlara ne kadar yatırım yapmak isteyeceğinize göre değer biçerek yapmanız önemlidir. Daha sonra ise sunulan ölçek sorularını tek tek ve dikkatli okuyup kendinize en yakın gelen seçeneği işaretlemeniz beklenmektedir.

Herhangi bir kimlik bilgisi gerekmemekte olup, cevaplarınız anonim olarak ve etik standartlara göre saklanacaktır. Çalışmada yer alan hiçbir soruyu boş bırakmadan ve gerçeği yansıtır olarak yanıtlamanız verdiğiniz yanıtların değerlendirmeye alınması açısından önemlidir. Toplanan veriler bireysel olarak değil, toplu analizlerle incelenecektir.

Çalışmaya katılım isteğe bağlıdır. Çalışmada yer alan sorular kişisel olarak rahatsız edecek maddeler içermemektedir; fakat herhangi bir rahatsızlık durumunda katılımcılar çalışmayı yarıda bırakabilirsiniz.

Araştırma veya araştırma sonuçları ile ilgili bilgi almak isterseniz g*****@hotmail.com e-posta adresinden araştırmacılara ulaşabilirsiniz. Katılım ve katkınız için teşekkür ederiz.

Çalışmaya katılmayı onaylıyorsanız, onaylama seçeneğini seçerek çalışmaya başlayabilirsiniz.

☐ Katılıyorum

☐ Katılmıyorum

APPENDIX 2: DEMOGRAPHIC INFORMATION FORM

Demografik Bilgi Formu

1. Biyolojik cinsiyetiniz:

Kadın ☐ Erkek ☐

2. Doğum yılınız:

3. Okumakta olduğunuz derece nedir?

Lisans ☐

Yüksek lisans ☐

Doktora ☐

4. Bölümünüz ve sınıfınız nedir?

Bölüm:

Sınıf:

5. Aylık kişisel harcama miktarınızı yaklaşık olarak belirtiniz.

0-5.000 TL ☐

5.001-10.000 TL ☐

10.001-15.000 TL ☐

15.001-20.000 TL ☐

20.000 TL' den fazla ☐

APPENDIX 3: DECISION-MAKING STYLE SCALE

Karar Verme Stilleri Ölçeği

Yönerge; Aşağıda bireylerin önemli kararları nasıl aldıklarını tanımlayan ifadeler verilmiştir. Lütfen her ifade için, o ifadeye ne düzeyde katıldığınızı ilgili seçeneği işaretleyerek belirtiniz ve maddelerin tümünü yanıtlayınız. Yardımlarınız için teşekkür ederim.

	Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katlıyorum	Kesinlikle Katlıyorum
1. Karar vermeden önce emin olmak için bilgi kaynaklarımı iki kere kontrol ederim.					
2. Karar vermeden önce doğru gerekçelerim vardır.					
3. Mantıklı ve sistematik bir yolla karar veririm.					
4. Karar vermem dikkatli düşünmemi gerektirir.					
5. Karar verirken belirli bir amaca yönelik değişik seçenekleri göz önünde bulundururum.					
6. Kararlarımı verirken içgüdülerime güvenirim.					
7. Bir karar verirken sezgilerime güvenme eğilimindeyimdir.					
8. Genellikle doğruluğunu hissettiğim kararlar veririm.					
9. Kararlarımı verirken benim için akılcı bir nedenden daha çok, verdiğim kararın doğruluğunu hissetmem daha önemlidir.					
10. Karar verirken içimden gelen duygu ve tepkilere güvenirim.					
11. Önemli kararlar alırken başkalarının yardımına sık sık ihtiyaç duyarım.					
12. Eğer başkalarının desteğine sahipsem önemli kararları almak benim için daha kolaydır.					

13. Önemli kararlarımı alırken başkalarının tavsiyelerinden yararlanırım.					
14. Önemli kararlar ile yüzleştiğim zaman birinin bana doğru yolu göstermesi hoşuma gider.					
15. Üzerimde baskı hissetmediğim sürece önemli kararlarımı almaktan kaçınırım.					
16. Mümkün olduğunca kararlarımı ertelerim.					
17. Önemli kararları alma aşamasına gelinceye kadar karar vermeyi sık sık ertelerim.					
18. Önemli kararlarımı, genellikle son dakikada veririm.					
19. Üzerinde düşünmek beni rahatsız ettiği için pek çok kararı ertelerim.					
20. Genellikle ani kararlar veririm.					
21. Kararlarımı, çoğunlukla o anda veririm.					
22. Çabuk karar veririm.					
23. Kararlarımı, sıklıkla düşünmeden veririm.					
24. Kararlarımı verirken, o anda doğal olan ne ise onu yaparım.					

APPENDIX 4: EXAMPLE ITEM 1 FROM MAIN STUDY

Relevant and High Level of Anchor Condition



15.000 TL

- 1 Adet +

Sepete Ekle

Beğen

Listeye ekle

Karşılaştır



Yukarıda yer alan ürünü sayfanın başında yer alan reklamda gördüğünüz ürünün fiyatı olan 15.000 TL'ye almayı kabul eder misiniz?

☐ Evet

☐ Hayır

Yukarıdaki yer alan ürün için ödemek isteyeceğiniz en yüksek tutar kaç TL'dir? İlgili tutarı aşağıda yer alan alana lütfen giriniz.

→

Comparison Question

Absolute Question

APPENDIX 5: EXAMPLE ITEM 2 FROM MAIN STUDY

Irrelevant and Low Level of Anchor Condition

Sayın katılımcı çalışmada ilerleyebilmeniz için lütfen aşağıda yer alan toplama işleminin doğru cevabını verilen boşluğa giriniz.

$$100 + 50 =$$

$$100 + 50 = 150$$



Yukarıda yer alan ürün online alışveriş mağazalarında yer alan ve kendi sınıfında sahip olduğu özelliklere ilişkin ortalama bir memnuniyet puanına sahiptir. Yukarıda yaptığınız toplama işlemi sonucu olan "150" TL'ye bu ürünü almayı kabul eder misiniz?

→ **Comparison Question**

☐ Evet

☐ Hayır

Yukarıdaki yer alan ürün için ödemek isteyeceğiniz en yüksek tutar kaç TL'dir? İlgili tutarı aşağıda yer alan alana lütfen giriniz.

→ **Absolute Question**



APPENDIX 6: EXAMPLE ITEM FROM PILOT STUDY



	1) Hiç	2) Biraz	3) Kararsızım	4) Çok	5) Çok Fazla
Yukarıdaki ürüne ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün işlevine ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün fiyat aralığına ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün satın alma deneyimine ne kadar aşinasınız?	☐	☐	☐	☐	☐



	1) Hiç	2) Biraz	3) Kararsızım	4) Çok	5) Çok Fazla
Yukarıdaki ürüne ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün işlevine ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün fiyat aralığına ne kadar aşinasınız?	☐	☐	☐	☐	☐
Yukarıdaki ürünün satın alma deneyimine ne kadar aşinasınız?	☐	☐	☐	☐	☐

APPENDIX 7: ETHICS APPROVAL

Evrak Tarih ve Sayısı: 15.04.2024-331664



T.C.
BAŞKENT ÜNİVERSİTESİ REKTÖRLÜĞÜ
Akademik Değerlendirme Koordinatörlüğü



Sayı : E-62310886-605-331664
Konu : Ümmügülsüm Soysal'ın Etik Onayı

15.04.2024

SOSYAL BİLİMLER ENSTİTÜSÜ MÜDÜRLÜĞÜNE

İlgi : 02.03.2024 tarih ve 320443 sayılı yazımız.

Enstitüsünüz Psikoloji Ana Bilim Dalı öğretim üyesi Doç. Dr. Elvin Doğutepe danışmanlığında, Sosyal Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Ümmügülsüm Soysal tarafından yürütülecek olan "Karar Verme Stilleri Bağlamında Ödeme İstekliliği Üzerindeki Çıpalama Etkisindeki Farklılıklar (Differences in Anchoring Effect on Willingness-to-Pay in the context of Decision-Making Styles)" adlı çalışma değerlendirilmiş ve bilgilerinize ekte sunulmuştur.

Prof. Dr. Sadegül AKBABA ALTUN
Kurul Başkanı

Ek: Değerlendirme Formu

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu : BSN5KUFKSS

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Sayı : 17162298.600- 77
Konu : Bilimsel Çalışma

25 Mart 2024

İlgili Makama

Üniversitemiz Sosyal Bilimler Enstitüsü Psikoloji Ana Bilim Dalı öğretim üyesi Doç. Dr. Elvin Doğutepe danışmanlığında, Sosyal Psikoloji (Tezli) Yüksek Lisans Programı öğrencisi Ümmügülsüm Soysal tarafından yürütülecek olan "Karar Verme Stilleri Bağlamında Ödeme İstekliliği Üzerindeki Çıpalama Etkisindeki Farklılıklar (Differences in Anchoring Effect on Willingness-to-Pay in the context of Decision-Making Styles)" adlı çalışma değerlendirilmiş ve yapılmasında bir sakınca olmadığı tespit edilmiştir.

Bilgilerinize saygılarımızla sunarız.

Başkent Üniversitesi Sosyal ve Beşeri Bilimler ve Sanat Alan Araştırma Kurulu

Ad, Soyad	Değerlendirme	İmza
Prof. Dr. Gözen Güner Aktaş	Olumlu/ Olumsuz	
Prof. Dr. Sadegül Akbaba Altun	Olumlu/ Olumsuz	
Prof. Dr. Fatih Çetin	Olumlu/ Olumsuz	
Prof. Dr. Hasan Tahsin Fendoğlu	Olumlu/ Olumsuz	
Prof. Dr. Filiz Kalelioğlu	Olumlu/ Olumsuz	
Prof. Dr. Hidayet Hale Künüçen	Olumlu/ Olumsuz	
Prof. Dr. Özcan Yağcı	Olumlu/ Olumsuz	

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