TAOIST PHILOSOPHY AND DECISION MAKING:
INTERPRETING THE PHENOMENON OF
MAXIMIZATION PARADOX

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WHY TAOIST PHILOSOPHY?

1. INTRODUCTION
We make decisions everyday, and we always want to make right decisions
and avoid wrong decisions, such as choosing a good job, and selecting a
good major. Then, what a right decision is, for example, what is a good
job? And what is a good major?
We may think that there is the best answer for each of these questions.
However, it does not, based on Taoist philosophy.
1. INTRODUCTION

There is not an absolute right or wrong decision from the whole perspectives, though there is if we only look things at one or two aspects in a short period.

However, it is not easy for us to understand the truth. Taoist philosophy not only describes the truth but also explains the reason of why there is not the absolute right or wrong decision.

2. TAOIST PHILOSOPHY

Taoist philosophy is a great philosophy in China, which is also an influential philosophy in the world. This philosophy was originally proposed by Lao Zi (571-500BC). Tao Te Ching consists of 5000 words in 81 chapters.

Lao Zi said: “rain cannot last for the whole morning, and winds cannot last for the whole day”. (飘风不终朝，骤雨不终日)

This is the evidence of natural change.

All things change, nothing is eternal but change.
EAST SUNRISE WEST RAIN

HEAVEN AND EARTH CHANGE, AND SO DO PEOPLE

When we were born, we have 14 billion brain cells. The reducing speed of the brain cell is a hundred thousand a day after 18 years old.

LIFE TRACK

ENLIGHTENING TO DECISION-MAKING

Since nothing is eternal but change, there is not the absolute right or wrong decision.

Today, it is a good job, tomorrow it might be not; today, it is a good major, tomorrow it might be not.

Time has changed, and everything has changed. When it comes, embrace it; and when it leaves, let it go.
DIALECTICAL
Have you ever wondered why life comes in opposites? Why everything you value is one of a pair of opposites? Why all decisions are between opposites? Why all desires are based on opposites? What is the reason? Is the opposite the natural principle or man-made?

ONLY WANT ONE FISH
If right or wrong is just different aspects of one thing, how do we determine which one is right or wrong?

HOW DO WE DETERMINE WHICH FISH WE WANT?
Lao Zi said: “When people know beauty as beauty, there arises ugliness”. (天下皆知美之为美斯恶已)

WHICH ONE IS GOOD?
Lao Zi also said: “When people know good as good, there arises evil”. (皆知善之为善斯不善已)
ENLIGHTENING TO DECISION-MAKING

For seeking to accentuate the positive and eliminate the negative, we have forgotten entirely that the positive is defined only in terms of the negative. The opposites might indeed be as different as day and night, and the essential point is that without night we would not even be able to recognize day. To destroy the negative is, at the same time, to destroy all possibilities of enjoying the positive.

ENLIGHTENING TO DECISION-MAKING

The root of the whole difficulty is our tendency to view the opposites as totally set apart and divorced from one another. The point is the line distinguishes the opposites as well as joins them.

ENLIGHTENING TO DECISION-MAKING

Since nothing is absolute but relative, there is not the pure right decision. From one side it is good, from the other side it might be not; from one side, it is bad, from the other side it might be not. Everything is dialectical, and everything has two sides.

NON-INTERFERENCE

Lao Zi said: “The Tao of heaven blesses, but does not harm. The way of people is to do what he can but do not contend.”

天之道，利而不害

人之道，为而不争

“Tao never does, yet through it everything is done.”
ENLIGHTENING TO DECISION-MAKING

Do what you can and leave the rest to God's will.

3. MAXIMIZATION PARADOX

About half a century ago, Simon (1955, 1956, 1957) introduced an important distinction between maximizing and satisficing. To maximize is to seek the best and requires an exhaustive search of all possibilities. To satisfice is to seek “good enough,” searching until encountering the first acceptable one.

UNIVERSALITY OF TAOIST PHILOSOPHY

“Heaven spreads a boundless net, and none could escape through its meshes.”

MAXIMIZER AND SATISFICER

Schwartz et al. (2002) divided people into maximizers and satisficers based on Simon’s classic theory, and found that the decision process is quite different between these two kinds of decision makers.
MAXIMIZERS ARE LESS HAPPY

Shortly after Schwartz et al. (2002), various studies found that maximizers are less happy and less optimistic than satisficers. The result of the Maximization Scale was consistently positively correlated with regret and negatively correlated with happiness.

DESCRIPTION OF THE PHENOMENON

Maximizers invest more time when making decisions, explore more options, and compare more choices, but they feel more negative about what they have chosen.

This phenomenon is described as maximization paradox.

THEORETICAL INTERPRETATIONS

Polman (2010) argued that the maximization paradox occurs because maximizers not only maximize the likelihood of realizing a positive outcome, but, in so doing, also maximize their likelihood of realizing a negative outcome.

THEORETICAL INTERPRETATIONS

Dar-Nimrod et al. (2009) described the maximization paradox as a pattern whereby maximizers tend to sacrifice resources to attain additional options, which ultimately reduces their satisfaction.
THEORETICAL INTERPRETATIONS

Iyenag and colleagues (2006) argued that compared with satisficers, maximizers incur search costs, and opportunity costs. As a result, no matter how well they do, maximizers feel worse than satisficers.

INSUFFICIENT INTERPRETATIONS

We believe that these researchers provide part but insufficient interpretations of the maximization paradox. They do not answer the fundamental question of why maximizers and satisficers do differently?

HOW WOULD LAO ZI VIEW THE MAXIMIZATION PARADOX?

According to Taoist philosophy, only when one distinguishes beauty does one create the ugliness. Only when one distinguishes good does one create evil. Then, why maximizers and satisficers seek differently? The gist is that maximizers and satisficers possess the different beliefs in whether there is an objective best.

HOW LAO ZI WOULD VIEW THE MAXIMIZATION PARADOX?

According to Taoist philosophy, when people do not distinguish things as valuable, they remain focused on the oneness of all things and do not become confused in the material world.
**WHAT WE ARE CONCERNED?**

We are concerned with the **fundamental reason** of why maximizers consistently attempt to maximize their chances and invest heavily, but satisficers do not.

**4. ROLE OF BELIEF IN DECISION-MAKING**

Imagine that if you do believe in an objective best, then, what would happen? Otherwise, if you do not believe in an objective best, what would happen?

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**IMPORTANT GAP IN MAXIMIZATION LITERATURE**

However, in so far literature, few research focus on how “belief” influences maximization tendency. We attempt to further clarify the maximization paradox by introducing “belief” that the **best is either objective or subjective**. This work addresses an important **gap** in maximization literature.

**DECISIONS CANNOT BE MADE WITHOUT BELIEFS**

This omission is striking because decisions cannot be made without decision makers’ beliefs; they either believe that the best is objective or that the best is subjective.
BELIEF IN OBJECTIVE BEST VERSUS OBJECTIVE BEST

If people believe that the best is objective regardless of their own preference, then they have a belief in an objective best. A belief in an objective best differs from the objective best per se.

OUR BASIC ASSUMPTION

We assume that the belief that there is an objective best motivates maximizers to expend considerable efforts to identify it.

OUR RESEARCH QUESTION

Whether belief in an objective best plays an important role in connecting maximizing to the maximization paradox (i.e., expending more effort but feeling more regret)?

HYPOTHESIS 1

We hypothesize that the maximization paradox appears for maximizers because they believe that the best is objective, and the belief mediates the relationship between a maximizing tendency and the maximization paradox.
HYPOTHESIS 2
We also hypothesize that belief in an objective best leads to the maximization paradox for randomly chosen decision makers.

HYPOTHESIS 3
We further hypothesize that the presence of a dominant option eliminates the effect of belief in an objective best on the maximization paradox.

5. EXPERIMENTS

EXPERIMENT 1
In this experiment, participants were asked to select the best course from 10 given courses, and then they indicated their belief in an objective best and their regret about their selections. After a 10-min distraction, they were asked to complete the Maximization Scale.
RESULTS

Table 1. Decision Time, Belief in an Objective Best, and Regret of Maximizers and Satisficers

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<th>Maximizers</th>
<th>Satisficers</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>95% CI</td>
</tr>
<tr>
<td>Decision time</td>
<td>10.15</td>
<td>(9.03, 12.28)</td>
</tr>
<tr>
<td>Belief in an objective best</td>
<td>2.73</td>
<td>(2.41, 3.06)</td>
</tr>
<tr>
<td>Regret</td>
<td>0.036</td>
<td>(0.034, 0.038)</td>
</tr>
</tbody>
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MEDIATING EFFECT OF BELIEF

Figure 2A. The statistics above the horizontal arrow indicate the direct effect of maximizing tendency on decision time, not accounting for belief in an objective best as the mediator. The statistics below the horizontal arrow indicate the indirect effect of maximizing tendency on decision time, with belief in an objective best included as the mediator.

Figure 2B. The statistics above the horizontal arrow indicate the direct effect of maximizing tendency on regret, not accounting for belief in an objective best as the mediator. The statistics below the horizontal arrow indicate the indirect effect of maximizing tendency on regret, with belief in an objective best included as the mediator.

EXPERIMENT 2A & 2B

In this experiment, we examined whether the manipulated belief in an objective best leads to longer decision time and more regret.

In experiment 2A, participants were asked to complete an objective or subjective manipulation and then to choose the best picture among five.
In experiment 2B, we replicated the procedure conducted in experiment 2A, but changed the materials of the decision task from 5 to 30 pictures.

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<tbody>
<tr>
<td></td>
<td>M</td>
<td>95%CI</td>
</tr>
<tr>
<td>2A</td>
<td>(48.81, 65.71)</td>
<td>(10.46, 10.01)</td>
</tr>
<tr>
<td></td>
<td>(2.04, 2.70)</td>
<td>(1.54, 2.11)</td>
</tr>
<tr>
<td>2B</td>
<td>(118.72, 162.77)</td>
<td>(187.42, 227.43)</td>
</tr>
<tr>
<td></td>
<td>(2.36, 3.26)</td>
<td>(2.81, 3.15)</td>
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Experiments 2A and 2B show that the effect of belief in an objective best is robust across assortment size.
EXPERIMENT 3

In Experiment 3, we attempt to examine whether the presence of a dominant option serves as a moderator between belief in an objective best and the maximization paradox.

RESULTS

A 2 (Belief: Objective versus Subjective) × 2 (Presence of a Dominant Option: Yes versus No) ANOVA of decision time revealed an interaction between the presence of a dominant option and belief ($F(1,131) = 5.14, p = 0.025, \eta^2 = 0.04$). As predicted, a belief in an objective best led to a longer decision time only when there was no dominant choice (no-dominant-option condition: $M_{objective} = 74.88$ seconds, $M_{subjective} = 57.45$ seconds, $p = 0.024$; one-dominant-option condition: $M_{objective} = 23.11$ seconds, $M_{subjective} = 30.06$ seconds, $p > 0.25$).

Similarly, an ANOVA of regret also revealed an interaction between the presence of the dominant option and belief ($F(1,131) = 4.50, p = 0.036, \eta^2 = 0.03$). As expected, participants with beliefs in an objective best felt more regretful in the absence of a dominant option ($M_{objective} = 2.79$, $M_{subjective} = 2.06, p = 0.007$) than in the presence of a dominant option ($M_{objective} = 1.2$, $M_{subjective} = 1.27, p > 0.25$).
6. DISCUSSION AND CONCLUSION

We explore the role of belief in an objective best in the maximization paradox. Across three experiments, controlled laboratory settings were used with three different scenarios. Substantial and robust influences of belief in an objective best on the decision process and subjective feelings were found.

MAIN FINDINGS

Experiment 1 demonstrates that belief in an objective best serves as the fundamental mechanism that connects maximizing and the maximization paradox. Experiments 2A and 2B show that randomly chosen decision makers spend more time on the decision-making process and feel more regret about the decision outcome once they believe that the best is objective. Experiment 3 demonstrates that belief in an objective best leads to maximization paradox only when the objective attributes created ambiguous trade-offs across choice options but not in situations in which a clearly dominant option exists.
ALTERNATIVE INTERPRETATIONS

First, Polman (2010) interpreted the paradox as maximizing both positive and negative outcomes. Our experiments fixed the number of choices and found that participants felt more regret as long as we manipulated their belief in objective best, even if they were not allowed to search for more options. Thus, maximizing positive and negative outcomes may not be the essential reason for maximization paradox.

ALTERNATIVE INTERPRETATIONS

Second, Dar-Nimrod et al. (2009) described the maximization paradox as a pattern whereby maximizers tend to sacrifice resources to attain more options, which ultimately reduces their satisfaction. In our experiment, regardless of whether individuals were maximizers or satisficers, once they held a belief in an objective best, they felt more regretful. The gist is that satisficers also felt more regret when they held a belief in an objective best. Thus, suggesting that believing in an objective best is the underlying reason of regret.

ALTERNATIVE INTERPRETATIONS

Third, Iyengar et al. (2006) argued that maximizers invest heavily, which incurs more costs. Hence, maximizers feel worse than satisficers no matter how well they do. As our understanding, maximizers feel worse not only because of the cost but also because they cannot identify which one worth it.

BELIEF THE PARADOX

Through the three experiments, we demonstrate that it is the belief rather than the objective best, leads to maximization paradox. A belief in an objective best motivates maximizers to identify it, for which they expend considerable effort but they do not really know where it is. That is the reason why they feel regret regardless of their decisions.
CONCLUSION: WHERE IS TAO?

Tao is abstract, empty and formless, but it can be embodied in concrete things, so its use is inexhaustible for it is deep, bottomless, endless, boundless, whence come all concrete things.
In one word, we cannot see Tao, but Tao is everywhere, which governs the universe and our life.

TAOIST PHILOSOPHY AND DECISION MAKING

Tao says nothing is eternal but change, so there is not the absolute right or wrong decision.
Tao says nothing is absolute but relative, so there is not the pure best decision.
Tao says only when does not interfere can all things develop freely, so just follow the Tao.
Do your best and leave the rest to God’s will.

If you want to find a job, do your best in the process, but leave the result to God’s will.

REFERENCE: