Journal of Economic Behavior & Organization 119 (2015) 512–526

Contents lists available at ScienceDirect

Journal of Economic Behavior & Organization

journal homepage: www.elsevier.com/locate/jebo

An experiment on aspiration-based choice☆

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ARTICLE INFO

Article history:
Received 27 January 2015
Received in revised form
11 September 2015
Accepted 12 September 2015
Available online 28 October 2015

JEL classification:
D010
D11
D12
C91

Keywords:
Experiment
Choice
Aspiration
Phantom
Similarity
Reversal

ABSTRACT

This paper experimentally studies the influence of aspirations on choice. Motivated by the theoretical model of Guney et al. (2015), we consider choice problems which may include unavailable alternatives. In a choice problem, an aspiration is the most desired alternative there (available or not). In our design, we endogenously derive both aspirations and a subjective similarity notion that operates between an aspiration and other alternatives. We find that (i) choice reversals are more likely when an unavailable aspiration alternative is added into the environment than when an unavailable non-aspiration alternative is added, (ii) an available option is more likely to be chosen when there is an unavailable aspiration that is similar to it compared to when there is no such option in the environment, (iii) choices are better explained by a similarity-based procedure when the subjective similarity notion that is derived in a separate part of the experiment is used rather than the Euclidean distance.

1. Introduction

People possess aspirations regarding almost every aspect of life ranging from consumption (e.g. luxury products) to partner search (e.g. ideal mate). Moreover, as also pointed out in Hedgcock et al. (2009), preferred options might often be unavailable. This unavailability may stem from a variety of sources: in a standard consumer setting, a product might be simply unaffordable or sold out; in a political context, a candidate may exit the race; and in marketing, companies may pre-announce products which are not yet available on the market. The fact that aspirations may sometimes be unavailable does not prevent them from having an impact on agents' decisions. Our goal in this paper is to experimentally investigate this impact on choice behavior.

Consider the following anecdotal example to illustrate what we mean by an aspiration and how we think it may influence choices. Say, a customer enters a shoe store, looks at all the shoes set out in the store, and finds a pair she likes best. We think

☆ We are indebted to Andrew Caplin and Andrew Schotter for their support and guidance throughout the project. We thank Alejandro Corvalan, Biliana Guner, Guillaume Fréchette, Vicki Morwitz, Efe Ok, Mehmet Ali Soytas, and Neslihan Uler for their helpful comments and suggestions; Anne Stubing for her administrative support at every stage of this project; and Anwar Ruff for his programming support. We also thank anonymous referees for their extremely useful suggestions that led to a substantial improvement of this paper. The financial support of the Center for Experimental Social Science (C.E.S.S.), the C.V. Starr Center for Applied Economics, and Russell Sage Foundation (RSF Project #98-10-13) are gratefully acknowledged.
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http://dx.doi.org/10.1016/j.jebo.2015.09.012
0167-2681/

of that pair as her current aspiration since it is her ideal pair in the store and she would choose it absent any restrictions. But, what if her size is sold-out or the pair is unaffordable for her? In such a circumstance, the customer may then look for an available pair that is similar to her unavailable aspiration. There is no guarantee, however, that the most similar pair will be the same as the available pair that gives her the highest utility. Therefore, unattainable aspirations, by promoting a similarity-based choice behavior, may very well lead the decision maker to behave in a way that cannot be explained by the standard theory. Indeed, the marketing and psychology literatures present some *indirect* evidence for such effects. It is found that choice shares[1] of the two alternatives change significantly depending on whether or not a third alternative that is highly desirable but unavailable exists in the choice environment (Farquhar and Pratkanis, 1992, 1993; Highhouse, 1996; Pettibone and Wedell, 2000). When such an option exists, the choice share of the alternative that is "similar" to it is observed to increase significantly.

In a choice environment where some of the observed alternatives are unavailable, we think of an *aspiration* as the alternative that the decision maker would choose, i.e. the agent's first best option, if all alternatives in that choice problem were available.[2] Thus, an agent's aspiration varies with the available and unavailable alternatives that she faces, as in the case of different aspirations in different shoes stores. Additionally, the aspiration in a choice environment is the agent's universally best alternative only when the universally best option is present in the choice environment, which typically is not the case.

Notice that different agents may form different aspirations in the same environment. However, studies in the psychology and marketing literatures typically work with "highly desirable" alternatives that are uniform across all agents rather than specific to each agent. For example, a highly desirable option might be considered as an alternative with the highest liking rating averaged across all subjects (Min, 2003) or an exogenously introduced alternative that asymmetrically dominates one of the two other options which have equal choice shares initially (Pettibone and Wedell, 2000). Neither method guarantees that the candidate option is an aspiration for *each individual*. This makes it impossible to distinguish whether the observed impact is due to the unavailable alternative being an aspiration or perhaps just due to the presence of an unavailable alternative.

Another issue in most studies in the literature is that the "similarity" (distance) between options is determined by an objective measure (e.g. the Euclidean distance), which depends on the options' physical characteristics. Yet, in reality, the Euclidean distance may not coincide with a decision maker's notion of similarity or serve as an appropriate proxy. For example, the Euclidean distance between pairs of a black leather and a brown suede shoes is not meaningful since color and material are attributes that cannot be naturally represented in the Euclidean space. Additionally, agents' perceptions of distance may be subjective and thus, the similarity between any two options may not be perceived the same by all as opposed to the literature where typically the same distance function is assumed to be employed by each subject.

Motivated by both real life circumstances and the indirect evidence in the literature, we study the effects of possibly unavailable aspirations on choice through an individual decision making experiment that is free of the issues above. Our aim is twofold. First, we explore whether unavailable aspirations really affect choices. Second, we examine whether unavailable aspirations act on choices through the channel of a subjective similarity notion. More specifically, using well-defined measures of endogenously determined aspirations and similarity notions, we aim to answer the following questions: (1) Do unavailable aspirations affect choices by leading to choice reversals and how do the effects of unavailable aspirations and unavailable options that are not aspirations compare? (2) How does the presence of an unavailable aspiration influence the odds that the most similar option is chosen? (3) Which of the subjective and Euclidean distance can better explain the tendency to choose the option closest to the unavailable aspiration?

To address these questions, we design an experiment that is composed of two parts. Part 1 contains choice tasks where either all options are available or some options are displayed with an "unavailable" tag and are unchoosable. In Part 2, we use a variation of the Becker et al. (1964) mechanism to derive, for each subject, a willingness to exchange price. We interpret this price as a subjective distance that reveals how similar an agent perceives her aspiration is to her other options.

Our experimental results show that a significant number of choice reversals, i.e. an agent changing her choice, occur when an unavailable alternative deemed as an aspiration is introduced into the environment. Moreover, we find that the odds of choice reversal are significantly higher when the introduced unavailable option is an aspiration compared to the case when it is not. These two findings, taken together, provide evidence that unavailable aspirations influence agents' choice behavior. Additionally, we find that the odds that the alternative subjectively closest to the unavailable aspiration is chosen increase significantly when the unavailable aspiration is present in the environment relative to the case it is not. Furthermore, compared with the Euclidean distance function that is widely used in earlier studies, the subjective distance function we derive for each individual better explains the tendency to choose the option closest to the unavailable aspiration. The last two findings provide support for a subjective similarity-based choice behavior.

The role of preferred unavailable options is of substantial practical interest. As also pointed out in Farquhar and Pratkanis (1992), it is not difficult for firms or policy makers to introduce unavailable products that would act as aspirations for people.

[1] The choice share of an alternative in a set is the percentage of agents who choose it from that set.

[2] When all alternatives are available, an agent's aspiration is the alternative that she chooses. In the case of unavailability, our definition of aspiration imposes no restriction on when a decision maker learns about the unavailability of alternatives. The shoe store example is consistent with our definition both when the set of unavailable shoes is revealed to the customer at the outset or later.