**Restricted Funds Proposal – Spring 2017**

**Section 1**

Applicant’s Name: **Adam Morris**

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Program: **Psychology**  
Advisor: **Fiery Cushman**

Year in program: **2**

Application history (prior awards received from Restricted Funds): **None**

Is this related to my overall research program? **Yes**

Title of Project: **Choice set construction**

Amount Requested: **$3,500**

Other sources of funding: **None**

**Section 2**

Humans are bombarded with decisions that, from a computational perspective, seem immensely complicated. Imagine a psychology student – Sally – deciding where to eat lunch. Sally has certain preferences (e.g. she likes Mexican food, she dislikes walking long distances) and constraints (e.g. she’s deathly allergic to walnuts, she only has an hour to eat) that she should factor into their decision. Ideally, she would carefully evaluate all her options, and choose the one that maximizes her preferences. For example, she might score each option based on how close it is to William James Hall, how Mexican its cuisine is, the likelihood that it uses walnuts, etc., and then choose the option with the highest score. This kind of planning over a well-defined set of options has been intensively studied, and we have some understanding of how it could be accomplished (cite).

But in any real-world decision, there are an enormous number of potential options. There are hundreds of restaurants in Harvard Square alone, and thousands in the greater Boston area. Sally couldn’t possibly evaluate each restaurant – she would die of starvation before she finished. And the problem is even worse than this. Sally has more options than just restaurants; she could also grow some crops herself, or catch a wild animal to eat, or steal food from the communal refrigerator, or pray to her deity for nourishment. In principle, Sally has to evaluate all these options too. Her position seems hopeless.

Yet, even when faced with overwhelming number of options, people are able to make effective decisions with speed and ease. How? This question is the focus of my proposed project. Intuitively, people don’t consider all these options – they construct a small set of “relevant” options to evaluate, and ignore all the rest. For instance, Sally might only evaluate Darwin’s, Felipe’s, and Otto, and choose among them. The process by which people narrow down the infinite set of potential options to a small set of relevant choices is known as *choice set construction*.

My goal is twofold. First, I want to provide rigorous experimental evidence that people spontaneously construct choice sets when faced with complex decisions. Second, I want to understand how the choice sets are constructed. They’re not just random – people seem systematically more likely to consider some options (e.g. going to Darwin’s or Felipe’s) than others (e.g. catching a wild animal, or stealing from the refrigerator). Moreover, different people seem to naturally consider different options, depending on their past experience. I want to elucidate the features of experience that make certain options more likely to make it into people’s choice sets, and model the computational principles underlying choice set construction.

To that end, I propose two experiments. The first has two stages. In the first stage, participants will be exposed to a series of pseudowords. Each word

**Section 3**

Budget proposal – please itemize

(If applicable, include a summary of how prior funding was spent)

**Section 4**

**1**) Copy of “**Approval from the Committee on the Use of Human Subjects in Research**,” or information on “pending” status, AND

**2**) Copy of certificate of [CITI (Collaborative Institutional Training Initiative)](https://www.citiprogram.org/default.asp?language=english) <https://www.citiprogram.org/default.asp?language=english>

**Section 5**

Dr. Cushman does not have funds that could support this work.