

## Research Statement

The main research lines of my research agenda are, first, developing and examining behavioral insights and their interaction with economic incentives, and second, examining the effect of information in choice architecture (warnings), including the evaluation of policies from a behavioral perspective. One of the features of my research is that it is applied in contexts of policy relevance, such as encouraging sustainable behavior, reducing household indebtedness, or evaluating nutritional information. I mainly use field and natural studies, combined with online experiments and, more recently, causal machine learning tools. In this research statement, I will focus on a few papers and how they were fed from my overall research.

Before developing this research agenda, I would like to note that I am a behavioral scientist at an engineering school with a data analytics background and a PhD in behavioral decision research. In Chile, industrial engineering departments are similar to business schools, but their orientation is toward quantitative analysis and applied projects. This context and the little or nil behavioral or related research in the Chilean academic environment presented some challenges yet offered several opportunities; it motivated me to keep collaborating with international colleagues and to promote the behavioral sciences and experimental methods in Chile among my colleagues.

Regarding the research on behavioral insights, the paper “Encouraging pro-environmental behaviour through green identity labelling” (Schwartz, Loewenstein & Agüero-Gaete, 2020), published in *Nature Sustainability*, examines the role of a pro-environmental identity label (“this product is for green shoppers”) in combination with price discounts. Previous evidence had indicated that economic incentives could undermine pro-environmental motivation, but our research showed that this was true only when we used hypothetical decisions (intention to purchase an energy-efficient product). A subsequent incentive-compatible lab experiment showed that price discounts had no sizable effect (although a positive estimate), and in a large field experiment in which we sold reusable bags in a store, price discounts had a positive effect (i.e., they promoted an eco-friendly purchase). On the other hand, the new “identity labeling” had a positive effect in all settings, including in a massive field experiment with an email marketing campaign measuring purchases of energy-efficient appliances. The role of economic incentives does not appear to be a fluke in this type of context. In Schwartz et al. (2021) and Cordova, Imas, and Schwartz<sup>‡</sup> (2022), we created a recycling program in Chile and found that offering an economic incentive increases recycling. Likewise, in Arriagada et al.<sup>‡</sup> (2022), we offered an economic incentive that increased reports of information about public transportation in a crowdsourcing app. In addition to the identity labeling, my colleagues and I have examined other behavioral principles, such as attention to economic or pro-environmental benefits in energy-saving programs (Schwartz et al., 2015) or the mere participation in a study. In Schwartz et al. (2013) we ran a field experiment and found that just telling households that they were participating in a study reduced their energy consumption (Hawthorne Effect) while we sent weekly postcards reminding them about their participation, and a post-survey found that people increased their attention to their energy usage. The book chapter “The interplay between intrinsic motivation, financial incentives and nudges in sustainable consumption” (Schwartz, Milfont & Hilton, 2019) summarizes the previous papers and places them in the context of related literature.

In addition to the previous research examining the role of economic incentives in behavior, the paper “Opting-in to prosocial incentives” (Schwartz et al. 2021), published in *OBHDP*, examines the effect of providing an option to donate an economic incentive (i.e., an optional prosocial incentive). Previous research found that optional prosocial incentives were more effective than standard incentives in promoting prosocial behavior when stakes were low, and since then, several others have found that prosocial incentives were an excellent solution to a potential crowding-out effect. However, all these empirical studies were conducted in lab settings where participants could not opt out. In our study, we set up a recycling program offering different-sized economic incentives and the option to donate it (randomly assigned). Contrary to previous evidence and neoclassical economic theory, we found that optional prosocial incentives discouraged people from recycling. Furthermore, through a conceptual replication in an

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<sup>‡</sup> Authors ordered alphabetically.

online experiment, we also found that conditional on opting-in, when the stakes were small, prosocial incentives encouraged more effort than standard incentives, suggesting the same pattern observed in the lab.

While the previous papers examine the effects and theories behind the role of behavioral insights, or nudges, alone or in combination with economic incentives, I have also focused on how information can change behavior. For example, in the paper “Identifying Food Labeling Effects on Consumer Behavior” (Araya et al.<sup>‡</sup>, 2022), published in *Marketing Science*, we examined the effect of food-labeling warnings on consumer behavior. Several other papers have previously examined this issue, mainly using lab or observational studies with pre-post evaluations. We took advantage of the fact that manufacturers began gradually and asynchronously adding warning labels to unhealthy food products before a mandatory food labeling law came into force. We sent large numbers of research assistants to measure what products were labeled on the shelves in collaboration with one of the largest supermarket chains in Chile. In the paper, we show that this staggered implementation yielded an exogenous variation of the warning labels in specific food categories and that the warnings slightly change purchase behavior for breakfast cereals, but not for chocolates or cookies. Our findings show that the labeling law might not suffice to shape consumer behavior and that other aspects of the law (e.g., a prohibition to sell unhealthy food in schools) might play a critical role, even though the labels were the most publicized element (e.g., in the *New York Times*). This paper illustrates the synergies of having a behavioral and quantitative background.<sup>†</sup> This paper is also in line with my research that uses a behavioral approach to contingent public policies in different areas like elections (Mondschein et al.<sup>‡‡</sup>, 2021), energy solutions (Krishnamurti et al., 2012; Wong-Parodi et al., 2016), and insurance decisions (Collier et al., 2021).

Following the examination of information (warnings), in Schwartz (2022), under review, I examined a new warning in financial decisions: the “statement balance warning.” Previously, the “minimum payment warning” literature had shown a perverse effect on credit card payments due to the anchoring bias, mainly from lab and observational studies. In this paper, nearly 180,000 debtors received different combinations of warnings in a field experiment in collaboration with a credit card issuer. I combined the field experiment with causal random forest methods, a recent causal machine-learning tool, and an online experiment to examine underlying mechanisms. I find that the statement balance warning increases payments and reduces interest, and in which conditions people prioritize paying a higher amount (the statement balance) over a lower amount (minimum payment). This paper was the basis for an upcoming regulatory process that will change all credit card statements in Chile, including the statement balance warning. I have also been fortunate to see other research being applied: I am writing a paper examining new behavioral tools to reduce non-attendance of doctor’s appointments after running a massive field experiment designed to find heterogeneous effects using causal random forests. The partnered medical institution has decided to switch reminder messages based on our findings. My colleagues and I have also recently finished a project with the Ministry of Economy to determine the guidelines for the new alcohol labeling regulation based on an experiment testing different theories on warning labels. I have several other projects under way that will hopefully continue helping me understand bit by bit the role of information and behavioral interventions from a holistic approach, measuring not only targeted outcomes but indirect and spillover effects that might shed light on human behavior.

To download information on papers, CV, and a summary research table, please see [click here](#) or visit [www.daschwar.com/documents](http://www.daschwar.com/documents).

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<sup>‡</sup>Authors ordered alphabetically.

<sup>†</sup>For some economists, it might be more natural to rely only on observational data, but for me, it was clear that the gain was in collecting information in the same way that we would for an experiment. In addition, as I enjoy running experiments, I like to analyze large volumes of data. In this paper, one of my colleagues was in charge of the discrete choice model, and I did the descriptive and reduced-form analysis.

<sup>‡‡</sup>Faculty members ordered alphabetically.