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# See it to believe it. Experimental evidence on status-good consumption among the youth \*

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## Abstract

We ran a field experiment in which 20-year-olds choose between a socially visible and a non-socially visible good after a friend randomly received one of these goods or an unknown good. We find no differences in choices when the friend received the non-socially visible good instead of the unknown one. However, we find differences when the friend received the socially visible good instead of the other two. Consistent with a status-consumption interpretation, the sign of those differences depends on the socioeconomic position of the decision maker compared to her friend. Those in a disadvantaged position consume more and those in an advantaged position consume less of the socially-visible good when their friend received that good instead of the other two. We further find that treatment effects vary by gender in a way that reinforces the status consumption interpretation of our results. Boys experience a worse subjective social position and consume more of the socially visible good after a friend received that good. On the contrary, girls improve their subjective position when a friend received the socially visible good, and this offsets any effect on their consumption decision.

*Keywords:* consumption, status goods, field experiment, inequality

*JEL codes:* D12, C93, D62, D31

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\*The experiment is registered in the Registry for Randomized Controlled Trials operated by the American Economic Association: RCT ID AEARCTR-0003392.

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## Resumen

Realizamos un experimento de campo en el que jóvenes de 20 años eligen entre un bien socialmente visible y uno no socialmente visible, después de que un amigo recibió al azar uno de estos bienes o un bien desconocido. No encontramos diferencias en las elecciones cuando el amigo recibió el bien no socialmente visible en lugar del desconocido. Sin embargo, encontramos diferencias cuando el amigo recibió el bien socialmente visible en lugar de los otros dos. De manera consistente con una interpretación basada en el estatus-consumo, el signo de esas diferencias dependerá de la posición socioeconómica del tomador de decisiones en comparación con su amigo. Cuando el amigo recibe el bien socialmente visible, los tomadores de decisión que están en una posición de desaventajada (aventajada) consumen más (menos) de dicho bien. Además, encontramos que los efectos del tratamiento varían según el género de una manera que refuerza la interpretación de estatus-consumo de nuestros resultados. Los varones experimentan una peor posición social subjetiva y consumen más del bien socialmente visible después de que un amigo recibió ese bien. Por el contrario, las mujeres mejoran su posición subjetiva cuando una amiga recibe el bien socialmente visible, y esto compensa cualquier efecto sobre su decisión de consumo.

*Palabras claves:* consumo, bienes que generan estatus, experimento de campo, desigualdad  
*Códigos JEL:* D12, C93, D62, D31

# 1 Introduction

The idea that social status concerns affect consumption decisions has a long history in the social sciences (Veblen, 1994; Duesenberry, 1967; Bourdieu, 1984; Frank, 1985). In economics, status-motivated consumption is relevant for a broad set of issues, including fashion cycles (Pesendorfer, 1995), taxation (Frank, 1985; Abel, 2005), finance (Abel, 1990), macroeconomics (Gali, 1994; Ljungqvist and Uhlig, 2000) and crime (Mejía and Restrepo, 2016). Despite its long history and broad scope of influence, the evidence in favor of the status consumption hypothesis is still scant (Charles et al., 2009; Bertrand and Morse, 2016; Bursztyn et al., 2018).

Three aspects characterize the anatomy of status-motivated consumption and must be jointly observed to disentangle status consumption from other sources of consumption externalities. The first refers to the characteristics of the goods that derive status. Status is a set of shared beliefs ranking individuals in society (Weber, 1968; Ridgeway, 2014). In order to modify those beliefs, the consumption of status goods should be socially visible and associated with a higher position in society (Veblen, 1994; Duesenberry, 1967; Frank, 1985). The second aspect is that individuals compare themselves against a reference group when making status-motivated consumption decisions. Existing examples include neighbors (Kuhn et al., 2011), people with similar sociodemographic characteristics (Charles et al., 2009; Kaus, 2013), and even the whole society (Brown et al., 2011). The third aspect refers to how the social position of the consumer may generate opposite patterns of status-motivated consumption. Poorer consumers could imitate the consumption of wealthy individuals (Duesenberry, 1967; Veblen, 1994; Hirschman and Rothschild, 1973). On the contrary, wealthier individuals could try to differentiate themselves from the consumption patterns of the poor (Leibenstein, 1950).

Empirically studying status consumption faces a fundamental identification challenge. The observation of an individual and her reference group consuming the same good can be explained by several reasons beyond status-motivated consumption. First, consumption decisions depend on unobserved tastes and shocks which are likely to be correlated between the consumer and her reference group (Manski, 1993). Secondly, correlated consumption decisions among peers could be due to complementarities in consumption, such as the network effects of using phones with the same operating system (Bailey et al., 2022). Finally, under imperfect information or incomplete preferences, an individual may take the consumption decision of a peer as a signal that the good can be also useful for her.

This paper presents evidence of status-motivated consumption among the youth with

an experiment that precisely defines the three aspects of its anatomy enumerated above. In the experiment, subjects assign ten tickets between a lottery for a socially visible good and a lottery for a non-socially visible good. Both goods have a market value of 350 dollars. The socially visible one is a piece of jewelry and the non-visible one is a mattress. The two goods emerged from a series of focus groups conducted before the experiment with a similar population of youngsters. Jewelry appeared in the focus groups as a socially visible good associated with a high socioeconomic position. The mattress was also associated with a high socioeconomic position but with no social visibility. We further validated the choice of jewelry with Heffetz (2011)'s list. In that list, jewelry appears as the most visible good, only second to vehicles, which are not relevant in our population. The same stark difference in the social visibility of the two goods appeared in a questionnaire included in the experiment.

Subjects in the experiment allocate their lottery tickets between the two goods after a close friend randomly received 30 tickets for either the non-visible good lottery, the visible good lottery, or a lottery with an unknown good as its prize. By keeping constant the characteristics of the reference group, this randomization structure addresses the first and most fundamental of the three identification challenges mentioned in the previous paragraph. The choice of the two goods also sought to minimize the concerns associated with the second identification challenge mentioned above. Mattress and jewelry have minimum complementarities in consumption across peers, including network effects. The experimental design addresses the third challenge by directly assigning the type of good to the reference group without letting them make any choices. This procedure cancels any signal that otherwise might have been present if the reference group had chosen the good.

We construct each pair of decision maker and close friend by first contacting the latter and asking her to name the former. Having a decision maker and her reference group who are close friends implies a precise definition of the second aspect of the anatomy of status-motivated consumption.<sup>1</sup> We show that participants in the experiment have similar socioeconomic characteristics to the average of the metropolitan area for that age. The experiment thus benefits from the advantages of a controlled experimental design while being implemented in a real setting.

The experiment yields light on the third aspect of the anatomy of status-motivated consumption by calculating separate treatment effects depending on the relative position

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<sup>1</sup>As in Clark and Senik (2010) and Friehe et al. (2018), in our experiment subjects play an active role in defining their reference group. This constitutes an advantage compared to studies defining the reference group based on people with similar observable sociodemographics (Clark et al., 2008; Clark and D'Ambrosio, 2015; Ferrer-i Carbonell, 2005).

of the decision maker compared to her friend. We measure this relative position by gathering information on the level of education achieved by the parents of both members of the pair.

In our experimental results we find no differences in decision makers' choices when her friend received the tickets for the non-visible good instead of the unknown good. We do find several differences when the friend received the tickets for the visible good instead of the other two. In line with a status consumption interpretation, the sign of these differences depends on the socioeconomic position of the decision maker compared to her friend. Decision makers in a worse position assign 0.8 more tickets to the visible good when their friend received tickets for that good instead of the other two. On the contrary, decision makers in a better position assign 1.4 fewer tickets to the visible good when their friend received tickets for that good instead of the other two. These are large effects considering an average of 4.4 and a standard deviation of 2.9 in the number of tickets assigned to jewelry. The experimental design and results thus feature the three aspects of the anatomy of status-good consumption mentioned above. This joint presence of the three aspects supports a status-consumption interpretation of the findings.

The status interpretation of the results is further reinforced by how boys and girls respond differently to the treatment. Boys whose friends received tickets for the visible good perceive themselves in a lower position in society and assign more tickets to that good. In contrast, girls whose friends received tickets for the visible good improve their subjective socioeconomic position, and this offsets any effect of the treatment on their allocation of lottery tickets. This relevance of subjects' perception in their status consumption mirrors the finding of Bursztyn et al. (2018) on self-image concerns and status consumption among high-end credit card users in Indonesia.

The main contribution of the paper is to the empirical literature on the identification of status-motivated consumption. Methodologically, this literature can be divided in a majority of non-experimental studies, using either consumption data (Charles et al., 2009; Bertrand and Morse, 2016; De Giorgi et al., 2020; Agarwal et al., 2021) or survey data with responses to hypothetical situations (Carlsson et al., 2007), and very few natural (Kuhn et al., 2011) and field experiments (Bursztyn et al., 2018). While both natural and field experiments have an advantage over non-experimental studies in terms of identification, natural experiments often suffer from not being able to specify the critical aspects of the anatomy of status consumption which are necessary for distinguishing it from other types of peer effects. For instance, it cannot be discarded that the treatment effects found by Kuhn et al. (2011) are due to changes in the information the consumer has about the good or to changes in its supply.

Our paper is most closely related to Bursztyn et al. (2018), who provide evidence of status-motivated use of credit cards by high-income customers in Indonesia. Our paper complements the work by Bursztyn et al. (2018) in two ways. First, Bursztyn et al. (2018) find that consumers in a better position try to differentiate themselves from those in a lower position. Our results confirm the existence of this type of “snob” reaction but add that status-motivated consumption affects the behavior of those in a lower position too. Our evidence on “demonstration effects” affecting those in a lower position constitutes the first experimental evidence on a phenomenon that has been well-documented in correlational studies (Charles et al., 2009; Bertrand and Morse, 2016). Compared to snob effects, demonstration effects potentially affect a much larger share of the population. This could explain why demonstration effects have occupied a larger role in the status consumption literature (Veblen, 1994; Duesenberry, 1967). The second way in which our work complements that of Bursztyn et al. (2018) refers to the sharply different samples of both studies. Our sample is formed by 20-year-olds with average socioeconomic characteristics and Bursztyn et al. (2018)’s is formed by “largely urban, upper-middle-class bank customers”. The sharp contrast between both samples reinforces the validity of the status consumption hypothesis by showing that it is not only a high-income consumer phenomenon but it is also relevant for average consumers.

Our findings further contribute to two other pieces of literature. First, the paper contributes to a large literature identifying peer effects among youngsters (Sacerdote, 2001; Kremer and Levy, 2008; Bayer et al., 2009; Balsa et al., 2014; Bursztyn and Jensen, 2015; Carrell et al., 2018). Peer effects in this age group are particularly relevant because youngsters make critical decisions in terms of human capital accumulation, fertility, and labor market entry. While most previous studies focus on peer effects in education, we add evidence on a new area, consumption decisions, for which no previous evidence on peer effects exists. As in Balsa et al. (2014), we find significant peer effects among boys but not girls.

Second, the paper’s findings also relate to an extensive literature on differences in behavior and preferences between men and women (Bertrand, 2011). The paper contributes to this literature by documenting gender differences in terms of status consumption behavior. The evidence that relative consumption concerns are stronger among men than women could be an additional candidate to explain differences between men and women in competitive environments (Gneezy et al., 2003; Gneezy and Rustichini, 2004; Antonovics et al., 2009; Shurchkov, 2012; Cai et al., 2019; Buser et al., 2014; Niederle and Vesterlund, 2007). This results is agree with Frank (1999) evolutionary story, which suggests that men should be more status concerned.



The paper is organized with the following structure. Section 2 starts by setting a basic conceptual framework for the experiment. Section 3 presents the details of the experimental design and the experimental sample. Section 4 explains the empirical methodology. Section 5 describes the sociodemographic characteristics of decision makers and their friends. Section 6 presents the main results, and a final section concludes.

## 2 Conceptual framework

Social status is a ranking of individuals based on shared beliefs about differences in honor, recognition, esteem, and respect (Weber, 1968; Weiss and Fershtman, 1998; Ridgeway, 2014). People may care about their social status for intrinsic reasons, for example because they value the esteem and respect others have for them, but also for instrumental reasons. The instrumental benefits of having a higher social status can include better access to job opportunities and to economic opportunities more generally.

Those shared beliefs that constitute the definition of social status can be based on individuals' endowments, their gender or racial identity, but also their behavior. Status-motivated consumption is one such behavior. This type of consumption occurs when part of the utility derived from a good comes from an improvement in the social status of the consumer. Because status involves, by definition, comparison between individuals, status consumption has been usually modeled as depending on differences in the amount consumed among individuals (Frank, 1985).

The modeling of status-motivated consumption usually starts from a reduced-form utility function (Postlewaite, 1998). This function abstracts, for instance, from specifying if individuals care about their status for intrinsic or instrumental reasons. We propose a reduced-form utility function to introduce the three basic aspects of the anatomy of the status consumption hypothesis and present the formal structure of the experiment:

$$\mathcal{U}_i(x_i, z_i, z_{-i} | \Phi_{i,-i}) = U(x_i, z_i) + S(z_i, z_{-i} | \Phi_{i,-i}) \quad (1)$$

$x$  and  $z$  are the only two goods in an economy populated by consumer  $i$  and a set of other consumers indexed by  $-i$ . The  $U(\cdot)$  function denotes the conventional portion of the utility function, which does not depend on consumption by others. The  $S(\cdot)$  function adds the social status component by introducing the consumption of good  $z$  by  $i$  and  $-i$ . Importantly, this function depends on  $\Phi_{i,-i}$ , which measures the social position of the consumer with respect to the other individuals in society (Leibenstein, 1950; Veblen, 1994).

Consumer  $i$  maximizes  $\mathcal{U}_i$  given her income  $Y_i$  and the relative price of goods  $x$  and  $z$ , which we denote by  $p$ . The optimal consumption of good  $z$  resulting from that maximization problem is  $z_i^* = z_i(Y_i, p, z_{-i} | \Phi_{i,-i})$ . Our experiment evaluates changes in  $z_i^*$  when the reference group  $-i$  receives different types of goods. We discuss the sign of those changes below.

The simple formal structure introduced in the previous paragraphs allows us to present the three basic aspects of the anatomy of status good consumption. The first aspect refers to the characteristics of the goods that derive status. These goods must have two characteristics that follow from the definition of social status given above. First, their consumption must be associated with being in a higher position in society. Second, the consumption of those goods should be socially visible in order to change others' beliefs (Heffetz, 2011, 2012, 2018). In the experiment, we test for these two characteristics by randomly assigning, to the reference group, a good that only has the first characteristic, a good that has both, or an unknown good.

The second aspect of the anatomy of status-motivated consumption refers to the individuals or groups against which consumers compare themselves when making status-motivated consumption decisions. This “reference group” is denoted by  $-i$  in the formal structure above.

Using tailor-made questions in the European Social Survey, Clark and Senik (2010) show that friends are the most relevant reference group in terms of life satisfaction among a broad population between 16 and 65 years old. Arguably, friends are even more relevant in our age group of 20-year-olds.<sup>2</sup> In the experiment, we ex-ante define close friends as the reference group and let participants tell us who are their close friends. The experiment thus considers the most important reference group for 20-year-olds with a built-in mechanism to select the relevant individuals within that group.

The first two aspects of the anatomy of status-motivated consumption thus imply that this consumption must be associated with a high position in society, be socially visible, and respond to the consumption behavior of a certain reference group. The sign of that response is defined by a third aspect, which introduces the role of the social position of the consumer and her reference group, denoted by  $\Phi_{i,-i}$  above.

According to the classical Veblen effects, low and middle-income consumers imitate the consumption of individuals at the top of the income distribution (Veblen, 1994).

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<sup>2</sup>Clark and Senik (2010) find that youngsters compare more with their friends and family while Powdthavee (2008) shows that interactions with friends and relatives take place more often among the young. Furthermore, during this period, individuals develop connections through their intensive and intimate relationships with friends and place great importance on their relationships with them (Ueno, 2005).

Veblen effects thus imply that we should observe  $\partial z_i^*/\partial z_{-i} > 0$  when lower-ranked consumers have a higher-ranked reference group. In contrast, according to the snob consumption hypothesis, consumers in a better position with respect to their reference group try to avoid those things consumed by lower-income groups (Leibenstein, 1950). Under this hypothesis, low-income groups act as the reference group for high-income consumers and we should observe  $\partial z_i^*/\partial z_{-i} < 0$ .

### 3 Experimental design

#### 3.1 Experimental Procedures

The experiment consisted of two stages. Figure 1 presents the basic procedures of each stage. In the first stage, participants were asked to provide the names and contact information of four close friends, excluding relatives and partners. We thus refer to participants in this first stage of the experiment as *Referring friends*. We truthfully told these Referring friends that their referred friends would participate in a lottery with a prize. We did not give them any further details about that lottery.

After they provided us with the names of their friends, we gave Referring friends 30 tickets to participate in a lottery. There were three types of lottery tickets differing in their prize. One prize was an unknown good, another was jewelry, and the other was a mattress. The type of the prize was randomly assigned to each Referring friend. We truthfully told them that all three prizes had a market value of US\$ 350 and that all tickets had the same probability of winning. To enhance credibility, we also told them that the winner of the lottery would be chosen with the draw of the national lottery of Uruguay and mentioned the day of that draw. The use of lotteries to define prizes in experiments has been validated by numerous previous studies (Carson and Groves, 2007; Charness et al., 2016).

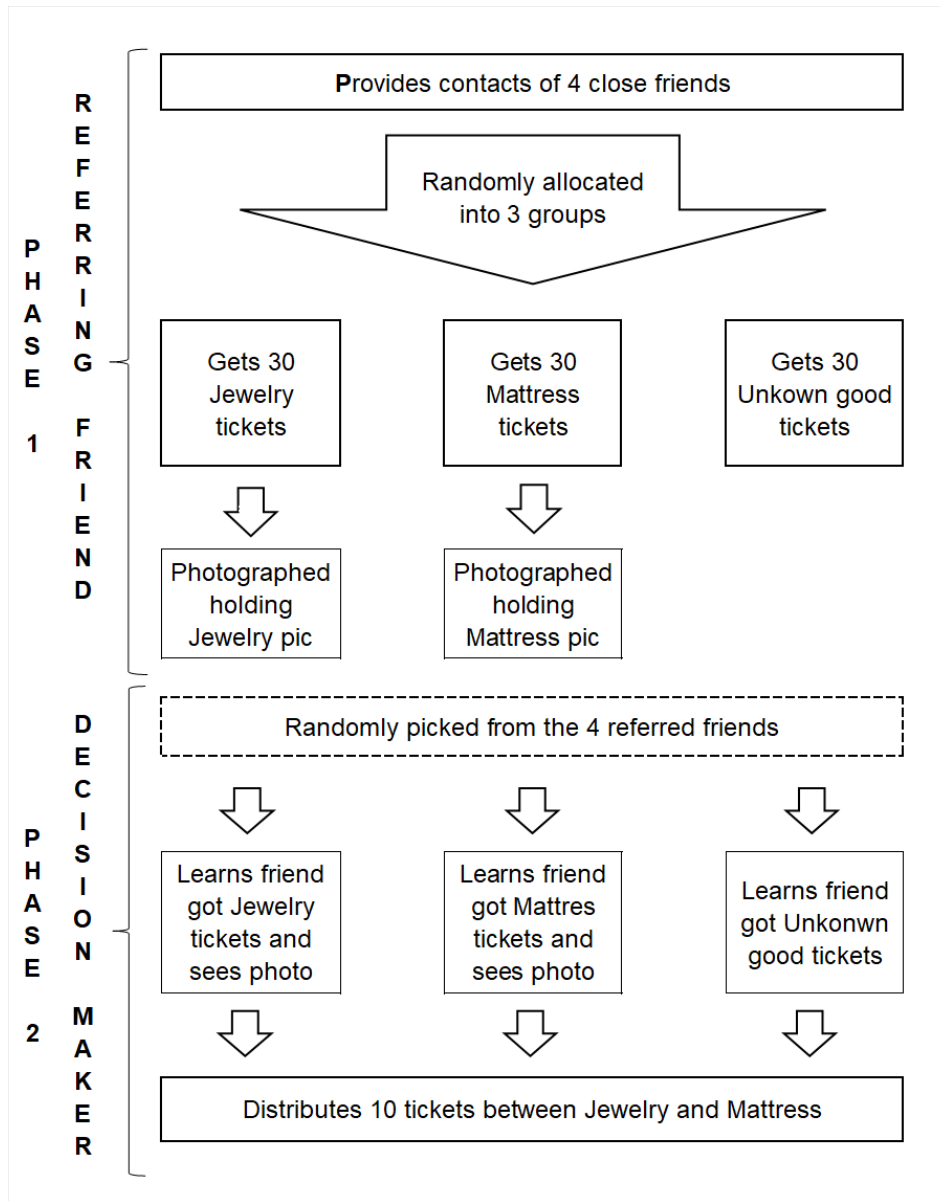
The first stage of the experiment ended with the interviewer photographing those Referring friends who got tickets for jewelry or mattress. The photo consisted of the Referring friend holding a picture of the corresponding good. The Online Appendix includes the pictures we used for jewelry and mattress (Figure 9.1.1) and some of the photos of the Referring friends holding the picture of the goods (Figure 9.2). The jewelry picture had a ring, two bracelets, and several pendants. The mattress picture featured a queen-size mattress with a box spring. The next subsection discusses in detail how we chose these two goods and shows that the experimental subjects see both goods as associated with success in life but having different social visibility.

The participant in the second stage of the experiment was randomly selected from the four friends referred in the first stage. These second-stage participants are the only ones who make an actual choice in the experiment, and we thus refer to them as *Decision makers*. We told Decision makers that a friend gave us their contact information and that this friend got 30 lottery tickets either for some unspecified good, jewelry, or mattress. Decision makers thus inherit the type of treatment from their Referring friend. We further showed Decision-makers in the jewelry or the mattress treatments the photograph of their friend holding the picture of the corresponding good.

Decision makers had to assign ten lottery tickets between the jewelry and the mattress lotteries. We truthfully told them that lottery numbers for both goods had the same chance, that both goods had the same selling value, and that theirs was a different lottery from the one in which their Referring friend participated. This last point ensured that there was a possibility that both friends could have the good at the same time.

After both the Referring friends and the Decision-makers performed the main procedures of the experiment, we asked them a set of questions about their socioeconomic background and their perceptions of the visibility and status content of different types of goods. Having information on their socioeconomic characteristics allows us to obtain separate treatment effects depending on the relative position of the Decision maker and the Referring friend. The information on the perceptions about the characteristics of the goods allows us to characterize both goods and is presented in the next subsection. The questionnaire applied to participants in the second stage also asked about some of the reasons behind the allocation they made between the jewelry and mattress tickets. We discuss these reasons in Section 6.

Figure 1: Experimental procedures



### 3.2 Jewelry and Mattress as status and non-status goods

The choice of the two goods is an essential part of the experiment. The key similarity between both goods is that participants attach a high value to them for their direct benefits and associate them with a high social position. The key difference is that while jewelry is the quintessential socially-visible good, a mattress cannot be shown socially beyond

close friends and relatives. Comparing Decision makers' allocation in the mattress versus the unknown good treatments thus evaluates the existence of consumption externalities between friends when the good is valuable but not socially visible. Comparing that allocation between the jewelry and the mattress treatments identifies the role of the social visibility of consumption.

The choice of the two goods originated in a series of focus groups conducted with youngsters of the same age and city as our sample. Participants in these focus groups were asked to imagine a situation in which, in a meeting with a group of friends, there is a new person they did not know before. Then, they were asked to think about which things this new person has that participants themselves would like to have. After individually listing a set of goods according to this criteria, participants were asked to rank the goods in terms of their desirability and to put a price on them. The following step consisted of participants considering the three goods with the highest prices in their list, and thinking of three other goods with similar prices that they would buy but that they do not think are "socially glamorous" or "provide status". In order to illustrate this last point, we gave the example of a full insurance for a car as "something valued and necessary but that you can not boast about it ... because it can not be seen".

Table A1 in the Appendix shows the list of status goods mentioned in each of the three focus groups we conducted.<sup>3</sup> The list includes the ranking of the goods and their brands and prices. Jewelry appeared as a highly valued and socially visible good in the three groups. Clothing, sneakers, and phones also appeared in all the groups. The main reason for which we discarded clothing and sneakers is that their brands, styles, and colors can differ widely among youngsters of different gender and socioeconomic background. This heterogeneity would make it harder to have the same good and the same picture across all participants in the experiment. With respect to the phones, they are typical network goods. As such, they could exhibit consumption externalities, not due to status concerns, but because their practical value increases when friends have the good. Mattress, together with other household items, such as TV or stove, appeared as highly valued but non-visible goods in the three groups.

Beyond their two main characteristics of being both highly valued but differing in their visibility, jewelry and mattress have another feature that motivated their inclusion in the experiment. Both goods come in a wide range of prices. This makes it easier to have them as goods with the same purchase value in the experiment.

We further validated the choice of jewelry and mattress as status and non-status goods

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<sup>3</sup>The focus groups were segmented into three groups according to the level of education of the participants.

with two other sources beyond the focus groups. First, jewelry appears as a positional good in Heffetz (2011)’s list. Discarding vehicles, which in Heffetz’s list rank as the most visible good but are not relevant for our age group, jewelry appears as one of the most visible goods. Second, we had an ex-post validation exercise based on the set of questions about these and other goods included in the experiments’ questionnaire. The answers to these questions yielded two main conclusions. First, participants attach a high value to both goods in terms of associating their consumption with success in life. Second, participants identify jewelry as a highly socially visible good and assign little social visibility to the mattress.

Going into more detail on the information about the goods included in the questionnaire, it consisted of four questions about subjects’ perceptions of a set of fifteen goods. This set included the two goods that appear in the jewelry image used in the experiment (bracelet and chain), the mattress, and a few other goods that were mentioned in the focus groups, some more visible (e.g. clothing, tattoos) and some less visible (e.g. TV and sound system). Two of the four questions asked about the association of the different goods with success in life and the other two evaluated the social visibility of the goods. The questions about the association of each good with success in life required a yes or no answer for each of the fifteen goods. The first question told participants to imagine a successful person and answer if that person has each of the fifteen goods. The second question asked participants if they think that increasing the consumption of each good improves the social position of a person. The questions evaluating the visibility of the goods asked participants to pick and rank the three goods with the highest visibility. The first question asked which goods they consider would help them the most in detecting a successful person. The second question was very similar to the one used by Heffetz (2011, 2012). It asked about the quickness with which they would identify that a friend is using the good.<sup>4</sup>

Table 1 presents the average share of subjects associating the consumption of jewelry, mattress, and the rest of the goods with success in life (first two columns) and with high social visibility (last two columns). Since we asked these questions after the treatment and the treatments with jewelry and mattress could affect subjects’ perceptions about the goods, the answers in Table 1 correspond only to participants in the treatment with

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<sup>4</sup>Heffetz’ question asks: “Imagine that you meet a new person who lives in a household similar to yours. Imagine that their household is not different from other similar households, except that they like to, and do, spend more than average on (category of good) Would you notice this about them, and if so, for how long would you have to have known them, to notice it? Would you notice it almost immediately upon meeting them for the first time (1), a short while after (2), a while after (3), only a long while after (4), or never (5)? (category of good)?”

the unknown good. Results are similar when considering all the subjects.

The results in Table 1 confirm the conclusions obtained from the focus groups. First, subjects show a high association of all the goods with success in life. This association is particularly strong for both jewelry and mattress. Second, jewelry and mattress differ greatly in terms of their visibility. In the first question evaluating visibility, the proportion of subjects choosing bracelets or rings as the most visible good is more than four times the proportion that chooses the mattress. This difference is even larger in the second question, with almost 20 subjects mentioning some of the jewelry goods per each one that mentioned the mattress.

Table 1: Association with success in life and visibility of different goods

	Success 1	Success 2	Visibility 1	Visibility 2
Jewelry	0.750	0.435	0.098	0.091
Mattress	0.862	0.554	0.014	0.005
Other goods	0.683	0.526	0.037	0.067

Jewelry includes two goods from the list of fifteen: bracelets and rings. Column 1 shows the proportion of subjects saying that a successful person has the good. Column 2 shows the proportion that says that having this good improves your social position. Columns 3 and 4 show the proportion of subjects that rank each of the goods as the most visible good. Column 3 considers which good would help them the most in detecting a successful person and Column 4 the quickness with which they would identify that a friend is using the good. The row of “Other goods” includes: Nike sneakers, sunglasses, TV, air conditioner, tattoo, audio system, Barcelona soccer T-shirt, leather jacket, Adidas sneakers, bag, and shoes. From all the goods we asked about, we only exclude from this table the watch. We do this because we are unsure if subjects consider that good under the category of jewelry.

### 3.3 Experimental sample

The sample of Referring friends consists of individuals aged 19-21, living in the metropolitan area of Montevideo, the capital city of Uruguay. They are part of a longitudinal survey that started in 2004 as a representative sample of the population of first-grade students in public schools in Uruguay at that time.<sup>5</sup> 85% of all first-grade students in Uruguay attended public schools in 2004. The longitudinal study consists of 4 waves. We consider survey participants living in the metropolitan area of Montevideo surveyed in both waves 3 (years 2011 and 2012) and 4 (years 2015 and 2016). This makes a total of 816 youngsters.

From the total sample of 816, we successfully contacted and visited 551 in 2018. To motivate subjects to participate in the experiment, the invitation included the chance

<sup>5</sup>Information about the Longitudinal Study of Well-being in Uruguay is available at <http://fcea.edu.uy/estudio-del-bienestar-multidimensional-en-uruguay.html>. This data-set has been used in previous studies about union dissolution (Bucheli and Vigorito, 2019), subjective well-being (Salas and Vigorito, 2019a,b), and nutrition (Castro et al., 2019), among others.



to win a USD 500 prize. This potential prize was additional to the one described in the previous section, and it was given to both Referring friends and Decision makers. The difference of 265 who did not join in the experiment is explained by rejections to participate or because we could not reach them with the address and telephone we had from the survey.

Of the 551 Referring friends who we contacted and visited, 36 did not give information about at least one friend. Among the remaining, we found a referred friend who accepted to participate in the experiment for 398 of them. The difference of 117 pairs is explained mainly because the referred friend was not willing to participate in the experiment and, to a smaller extent, because of errors in the contact information provided by the Referring friend.

The multiple instances of attrition described in the previous paragraphs imply that our final sample of 398 Referring friends is not representative. In order to assess the similarity of our sample compared to the population, Table 2 presents the socioeconomic characteristics of our sample and the population of that age in Montevideo's metropolitan area who attended public primary education. The data on the Referring friends in panel (a) come from the fourth wave of the longitudinal study, when they were between 17 and 18 years old. The data on panel (b) come from the questionnaire included in the experiment. We obtained the population data from our own processing of Uruguay's official household survey for the corresponding years.

Panel (a) reports no differences between both samples in labor participation and school attendance and a very small difference in household size. Panel (b) finds no significant differences in household size, fertility, share that work at least 20 hours a week, and level of schooling. However, that same panel shows a higher share employed (i.e. worked at least one hour the previous week) and studying among the experimental sample.

In the case of the differences in the shared employed, we believe that they are mostly due to discrepancies between the questionnaires of both data sources. Our questionnaire asked more broadly about work, and this could have led youngsters to include family support activities, which are not considered work in the official household survey. As commented above, there are no differences between both samples in the proportion that work 20 hours a week or more.

Table 2: Socioeconomic Characteristics of the Sample of Referring friends compared to the population

	Experiment (1)	Metropolitan area (2)	P-value (1)-(2)
(a) Year 2016 (17-18 years old)			
HH size	4.27 (1.58)	4.48 (1.84)	0.04
Employed	0.19 (0.39)	0.18 (0.38)	0.54
Studying	0.67 (0.47)	0.64 (0.48)	0.21
(b) Year 2018 (20-21 years old)			
HH size	3.98 (1.91)	3.85 (1.75)	0.27
Have children	0.11 (0.31)	0.09 (0.29)	0.38
Employed	0.59 (0.49)	0.51 (0.50)	0.01
Worked at least 20 hours	0.43 (0.50)	0.43 (0.50)	0.83
Studying	0.53 (0.50)	0.46 (0.50)	0.03
Education level (1=HS or more)	0.42 (0.50)	0.37 (0.48)	0.11

Note: The table compares averages for the 398 Referring friends who are part of the experimental sample and a comparable sample of youngsters from Uruguay's official household survey. Information on the Referring friends comes from the two waves (2015/16 and 2018) of the longitudinal survey in which they participated (see text for more details). We process the official household survey for the corresponding years. Standard deviations in parenthesis.

In the case of the higher share in our sample that attends school compared to the population, we believe it effectively reflects the existence of small differences between our sample and the population. Attending school could be correlated with less attrition in all the steps that go from the original sample of first-graders to our final sample of Referring friends with a Decision maker who accepted to participate in the experiment. Attrition of participants in the longitudinal study could be positively correlated with socioeconomic status, and this status could be positively correlated also with participation in the survey. In terms of the attrition occurring in the last stage, when we formed the pair of Referring friend and Decision maker, those youngsters attending school might be more likely to have friends and to see each other more often.

## 4 Empirical Strategy

### 4.1 Estimating equation

In this section, we describe how we estimate the treatment effects in the experiment. Using the notation introduced in Section 2, we can take the number of lottery tickets as the quantity of the goods consumed, with the choice being subjected to a relative price  $p = 1$  and an income of  $Y = 10$ . The experimental design then implies that the consumption of the good  $z$  by the reference group of consumer  $i$  ( $z_{-i}$ ) takes the value 0 or 30. Defining the expected discrete change  $\Delta z_i^*$ , our treatment effects can be expressed as:

$$\Delta z_i^* \equiv E[z_i^*(Y_i = 10, z_{-i} = 30 | \Phi_{i,-i})] - E[z_i^*(Y_i = 10, z_{-i} = 0 | \Phi_{i,-i})]$$

We estimate the expected treatment effects by computing  $\Delta z_i$  for jewelry and mattress conditional on the relative position  $\Phi_{i,-i}$ . We test for jewelry being a status good by comparing the average number of tickets assigned to the jewelry lottery when the Referring friend received tickets for that same good versus when she received tickets for the unknown good. We test for the mattress being a status good by comparing the average number of tickets assigned to the mattress when the Referring friend received that good instead of the unknown one. We measure the relative position  $\Phi_{i,-i}$  with a binary variable that takes value one when the Decision maker has the same or a lower position compared to the Referring friend.

In practice, we estimate the differences ( $\Delta z_i$ ) by OLS, controlling for a set of Decision makers' covariates  $X_i$ , including sex, age, educational level, and the relative socioeconomic position compared to the Referring friend. Controlling for these covariates is not needed for identification and we only include them to improve efficiency.

### 4.2 Covariates' balance

The randomization occurs in the first stage of the experiment. Thus, we must check for its validity by comparing the observables of the Referring friends across treatments. In the case of the Decision-makers, their covariates could differ between treatments even if the randomization was well-executed. This could happen, for example, if the type of good received by the Referring friends caused them to name a different type of friend. We show in the next section that this was not the case.

Table 3 shows that the characteristics of the Referring friends are effectively balanced across the three treatments for a wide set of variables, including age, sex, and employment.

Table 3: Covariates Balance. Referring friends

	Treatment			p-value	
	Unknown good	Jewellery	Mattress	(1) vs (2)	(1) vs (3)
	(1)	(2)	(3)		
Age	20.2	20.0	20.1	0.10	0.81
Female	0.54	0.51	0.51	0.65	0.65
Emancipated	0.12	0.11	0.14	0.78	0.73
HH size	3.86	3.98	4.29	0.56	0.09
Employed	0.62	0.53	0.70	0.19	0.18
Studying	0.59	0.61	0.41	0.69	0.00
<10 yrs educ	0.26	0.23	0.31	0.51	0.37

Note: The information presented in this table is from the 398 young people to the ELBU that provided their friends' contact details. < 10 yrs educ. indicates the proportion of young people with less than ten years of education.

## 5 Decision makers and their relationship with Referring friends

Table 4 presents a set of descriptive statistics on the Decision makers (panel a) and their relationship with Referring friends (panel b). The first column includes all Decision makers and Columns 2 to 4 compare their characteristics across the three treatments.

Decision makers are mostly between 19 and 21 years old, their parents have an intermediate educational level (between 7 and 12 years of education), and live in average-sized households of slightly less than four members. Only a fifth of them has emancipated, around 60% study, and a similar proportion works at least an hour a week. In terms of their formal education, around a quarter had completed less than 10 years of schooling, a third between 10 and 12 years, and the majority already had more than 12 years of education.

The p-values of the differences between Columns 2 to 4 show that the characteristics of the Decision makers are similar across treatments. In principle, the treatment, done at the Referring-friend level, could generate differences in Decision makers' characteristics across treatments. This could have happened, for example, if the jewelry treatment caused Referring friends to motivate a higher share of Decision makers to participate in the experiment.

Panel (b) provides data on the characteristics of the pairs of Decision Makers and Referring friends. The characteristic in which they are more similar is sex. Boys mostly refer boys and girls refer girls, and thus about 90% are same-sex pairs. In contrast, there is variability within the pairs in terms of age and educational level. The members coincide in each of these dimensions in approximately 60% of the pairs.

Importantly for the objectives of the paper, there is variation between Decision makers and Referring friends in the educational level of their parents, which is our measure of socioeconomic status. Only a quarter of the pairs have members of the same level. Among those pairs whose parents' education levels differ, it is more common that the Decision maker is in a lower position (43%) than in a higher position (30%) compared to the Referring friend.

The last few rows of Table 4 present information on the frequency with which the members of the pairs see each other. This gives some context about the intensity of the interactions in the friendship relationship. The data shows that most friends see each other quite frequently, with almost 70% seeing each other once a week or more.

Table 4: Descriptive statistics. Characteristics of Decision makers and the pairs

	All (1)	Treatment			p-value	
		Unknown good (2)	Jewellery (3)	Mattress (4)	(2) vs (3)	(2) vs (4)
<u>Panel (a): Decision makers' characteristics</u>						
Age:						
<19	0.09	0.10	0.10	0.08	0.91	0.65
19-21	0.67	0.68	0.66	0.64	0.68	0.47
>21	0.24	0.22	0.24	0.28	0.71	0.26
Female	0.51	0.52	0.51	0.48	0.86	0.47
Emancipated	0.18	0.15	0.22	0.19	0.29	0.66
HH size	3.89	3.97	3.71	3.89	0.29	0.76
Employed	0.56	0.54	0.57	0.60	0.71	0.34
Studying	0.61	0.61	0.55	0.65	0.29	0.52
Years of education:						
<10	0.26	0.27	0.29	0.19	0.63	0.14
10-12	0.35	0.34	0.33	0.42	0.87	0.19
>12	0.39	0.39	0.37	0.39	0.77	0.97
Parents' years of education:						
<7	0.18	0.19	0.17	0.17	0.78	0.78
7-12	0.55	0.57	0.51	0.55	0.37	0.75
>12	0.27	0.24	0.31	0.28	0.21	0.52
<u>Panel (b): Characteristics of the pair</u>						
Same sex	0.87	0.85	0.91	0.87	0.16	0.59
Same age group	0.63	0.63	0.62	0.64	0.88	0.93
Same educational level	0.60	0.62	0.59	0.57	0.68	0.46
Parents education level:						
Lower Position	0.43	0.45	0.44	0.37	0.90	0.22
Same Position	0.26	0.26	0.29	0.26	0.55	0.98
Higher Position	0.30	0.29	0.27	0.37	0.65	0.19
Frequency they see each other:						
Daily	0.35	0.35	0.37	0.33	0.82	0.64
Weekly	0.32	0.34	0.28	0.30	0.24	0.47
Each 15 days	0.13	0.11	0.19	0.10	0.05	0.85
Once a month or more	0.20	0.19	0.16	0.27	0.57	0.13
N	398	224	88	86		

## 6 Results

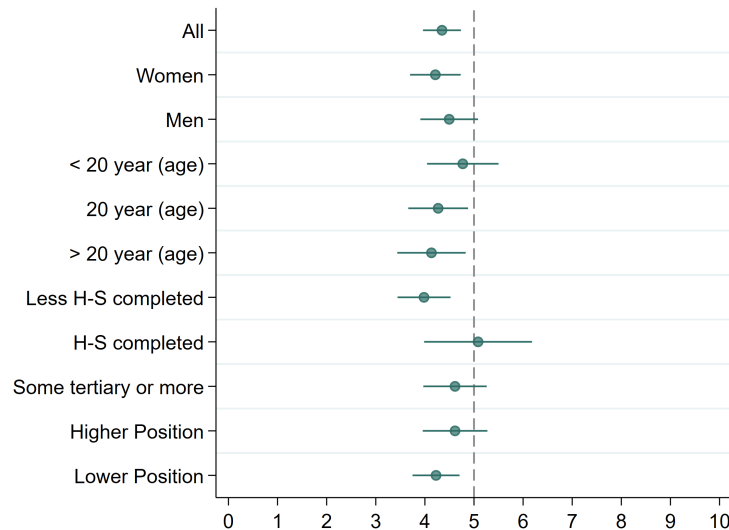
### 6.1 Descriptive evidence on choices

Decision makers assigned slightly more tickets to the mattress than to the jewelry lottery. On average, they assigned 4.4 tickets were assigned to the jewelry lottery, which implies that 5.6 tickets were assigned to the mattress lottery. The number of tickets assigned to the jewelry lottery had a standard deviation of 2.9.

Figure 2 presents the average number of tickets assigned to the jewelry lottery by Decision makers' socioeconomic characteristics. Because the jewelry and mattress treatments could have affected subjects' allocation, the data in Figure 2 corresponds only to Decision makers in the treatment with the unknown good.

Decision makers who are men, younger, have higher educational achievement, and those in a better relative position assigned relatively more tickets to the jewelry lottery. In Table A2 in the Appendix we regress the number of lottery tickets assigned to jewelry against all of these covariates considered simultaneously. In that regression, the education level of the Decision maker is the only variable with a statistically significant association with the choice.

Figure 2: Average of jewelry choice according to different covariates

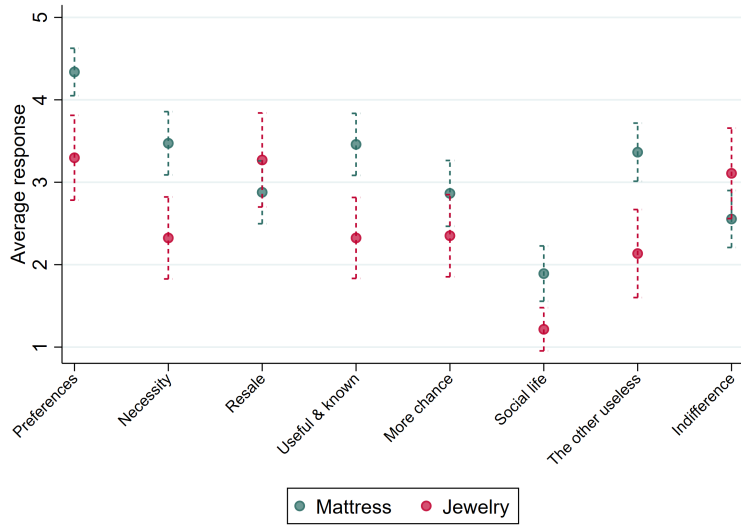


Notes: The dots in Figure show the average number of jewelry tickets chosen by Decision makers (up to a maximum of 10). The complement corresponds to the choice of tickets for the mattress. The bars represent the 95% confidence interval for the mean. Estimates based on the sample treated with the unknown good (224 observations).

The questionnaire included in the experiment asked Decision makers about the reasons behind their choices. This was done by asking subjects to choose a number from 1 to 5, where 1 is “not at all agree” and 5 is “totally agree”, for a set of eight reasons. Figure 3 presents the average for each reason, separately for participants who assigned more tickets to the mattress (emerald points) or jewelry lotteries (red points). As in Figure 2, here we also report the results only for Decision makers in the unknown-good treatment. Figure A2 in the Appendix includes all participants and shows similar results.

Figure 3 shows sharp differences in terms of the reasons given by subjects who assigned more tickets either to the mattress or to the jewelry lottery. These differences generally match the description in Section 3 on the mattress as a non-status good and jewelry as a status good. The main reason reported for those that assigned more tickets to the mattress lottery is simply that they preferred it to jewelry. In contrast, those who assigned more tickets to jewelry put more emphasis on resale and indifference. There is also a sharp contrast between both goods in terms of the average numbers assigned to “necessity” and “useful and known”.

Figure 3: Self-reported reasons for choosing each good. Unknown good treatment



Notes: The dots in Figure show the average response for the Decision makers that chose Mattress or Jewelry respectively. The bars represent the 95% confidence interval for the mean. Categories (a) Preferences: participants respond that prefer the good; (b) Necessity: participants respond that need the good; (c) Resale: participants chose that good because it has a higher resale value; (d) Useful & known: participants chose that good because they know it and they know that it is more useful; (e) Resale: participants chose that good because they believe that it has a higher chance in the lottery; (f) Social life: the good will improve their social life; (g) The other useless: chose that good because the other is useless; (g) Indifference: indifferent between both goods. Estimates based on the sample treated with the unknown good and that prefer mattress (74 participants) or jewelry (37 participants).

## 6.2 Main results

Figure 4 presents the main results of the experiment. The point estimates and confidence intervals are obtained by regressing the number of lottery tickets assigned to jewelry (panel a) or mattress (panel b) against a binary variable indicating the type of treatment, with the unknown-good treatment being the omitted variable. The regression also includes a set of covariates on Decision makers' sociodemographic characteristics. Table A3 presents the regression estimates in more detail. A comparison of the first two columns indicates that the covariates slightly improve efficiency without changing the point estimates.

A general look at Figure 4 yields a clear impression of the main results of the experiment. There are no effects when the Referring friend received tickets for the mattress (panel b) but things are significantly altered when they received tickets for jewelry (panel a). Since Figure 4 does not show any effects for the mattress treatment, in the rest of



this section we focus on the results for the jewelry treatment.

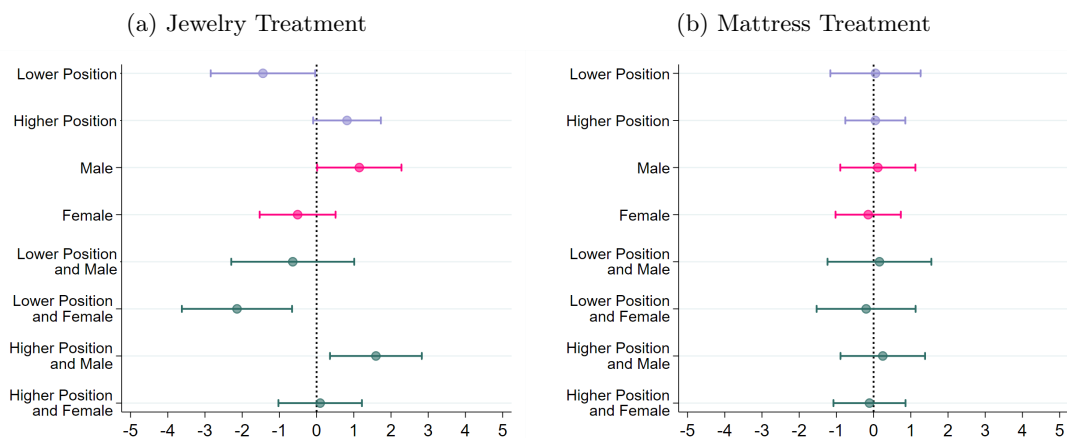
The point estimate for the average effect on the left panel of Figure 4 indicates that Decision makers assign 0.3 more lottery tickets to jewelry when the Referring friend received that good instead of the unknown one. Although positive, this estimate is not statistically significant at conventional levels.

The main result of the paper refers to the heterogeneous effects by subjects' relative socioeconomic position reported in Figure 4. As discussed in Section 2, the relative position of the Decision maker with respect to her reference group is an essential part of the basic anatomy of status-motivated consumption (Veblen, 1994). In the experiment, we find that Decision makers in a worse position assign 0.8 more lottery tickets to jewelry when the Referring friend received that good instead of the unknown one. On the contrary, Decision makers in a better position assign 1.4 fewer tickets to jewelry when comparing the jewelry treatment with the unknown good treatment.

Figure 4 also shows significant heterogeneous effects by gender. Boys assign 1.1 more lottery tickets to jewelry when the Referring friend received that good instead of the unknown one. The point estimate for girls is negative but not statistically significant at conventional levels.

In principle, it could be that the effects by gender and relative position do not constitute separate results but capture the same variation in the data. This could happen if, for example, girls in our sample are in a better socioeconomic position than boys. This is not the case in our data. The gender distribution is similar between the worse-positioned and better-positioned groups (52% vs 51%) and the share of Decision makers in a worse relative position is similar across boys (30%) and girls (31%). Confirming that the heterogeneous effects by relative position and gender are in fact independent results, Figure 4 shows that the two effects reinforce each other. Boys in a worse position exhibit the largest positive effect and girls in a better position exhibit the largest negative effect. Boys in a worse position assign 1.3 additional lottery tickets to jewelry when their friend received that good instead of the unknown good. Girls in a better position assign 2.7 fewer tickets to jewelry, almost a full standard deviation, when their friend received that good instead of the unknown one. For the other two combinations of relative position and gender, the two forces offset each other and yield non-significant effects.

Figure 4: Jewelry and Mattress choice. Treatment effects



Note: Each dot represents the coefficient estimate while bars represent the 95% confidence interval. The dependent variable in panel (a) is the number of tickets assigned to jewelry lottery and the dependent variable in panel (b) is the number of units assigned to the mattress lottery. The coefficients arise from three estimates presented in columns (3) to (5) of panels (a) and (b) of Table A3 of the Appendix (the colors correspond to each of the different specifications). The first specification includes the treatment variable and the interaction of the treatment with the variable that identifies whether the interviewee is a female. The effect in males arises from the estimation treatment coefficient, while the result in females is the sum of the treatment coefficient and the interaction between treatment and females. The second specification is similar to the previous one, but the interaction included is with those young people who have a lower position. Both interactions are included in the latest specification. In this case, the treatment coefficient corresponds to the effect of males in a higher position. The sum of the treatment coefficient with the interaction with females expresses the effect of women in a higher position, while the sum with the interaction with lower position corresponds to men in a lower position. Finally, the sum of the treatment coefficient with both interactions expresses the effect of females in a lower position.

Although the heterogeneous effects by gender and socioeconomic position constitute separate results, the jewelry treatment affects subjects' perceptions of their socioeconomic position differently by gender in a way that is consistent with status-motivated consumption driving the gender results. After the experiment, we asked subjects to rank themselves on a scale from 1 to 9, where 1 represents the poorest and 9 the richest people in society.<sup>6</sup> Figure 5 shows the treatment effects of the experiment on that subjective ranking. Although the right panel with the mattress treatment shows slightly more variation compared with the same panel in Figure 4, the main action takes place again on the left panel featuring the jewelry treatment.

The effect of the jewelry treatment in Figure 5 varies by gender in a way that is fully consistent with the mechanic of the demonstration and snob effects we saw in

<sup>6</sup>On average, subjects positioned themselves at 4.8, with a standard deviation of 1.4. In Figure A1 in the Appendix, we show the average values of this subjective relative position by education level, sex, and relative position. That figure shows that the subjective position is positively associated with the educational level of the youngster.

Figure 4. Boys reduce their subjective position by 0.4 and girls increase their position by 0.5 points in the jewelry treatment compared with the unknown-good treatment.<sup>7</sup> When a friend of a boy decision maker, who is most likely also a boy, received jewelry, the decision maker feels in a lower socioeconomic position and assigns more tickets to jewelry. In contrast, girl decision makers react in the opposite direction when a friend receives jewelry, improving their subjective position and not changing their allocation of tickets.

Figure 5: Subjects relative position. Heterogeneous effects



Note: Each dot represents the coefficient estimate while bars represent the 95% confidence interval. The coefficients arise from three estimates presented in columns (3) to (5) of Table A4 of the Appendix (the colors correspond to each of the different specifications). The first specification includes the treatment variable and the interaction of the treatment with the variable that identifies whether the interviewee is a female. The effect in males arises from the estimation treatment coefficient, while the result in females is the sum of the treatment coefficient and the interaction between treatment and females. The second specification is similar to the previous one, but the interaction included is with those young people who have a lower position. Both interactions are included in the latest specification. In this case, the treatment coefficient corresponds to the effect of males with higher position. The sum of the treatment coefficient with the treatment coefficient and its interaction with females expresses the effect of women with higher position, while the sum with the interaction with lower position corresponds to men with lower position. Finally, the sum of the treatment coefficient with both interactions expresses the effect of females with lower position.

## 7 Conclusions

This paper provides experimental evidence on the effect of social status-seeking behavior among close friends on the consumption of two socially valued goods with different lev-

<sup>7</sup>Heterogeneous effects that jointly consider gender and relative position show the same pattern as the effects on the distribution of lottery tickets. Girls in a better position than their Referring friends improve their subjective position by 0.8 points compared to the unknown good treatment, while boys in a worse position reduce their subjective position by 0.5 points.

els of visibility. The treatment consists of assigning either of the goods to a consumer's friend and evaluating the effect on the consumption of both goods. The results show that consumers change their allocation only when their friend receives the visible good. The sign of that change depends on her relative position compared to her friend. Consumers choose more (less) of the visible good when they are in a disadvantaged (advantaged) social position. Consistent with Veblen and Duesenberry's predictions, this evidence suggests that status-motivated consumption decisions are mediated by individuals' position in society. Depending on that position, the treatment leads either to a "Veblen effect" or a "Snob effect".

The experimental results indicate that the association of a certain good with success in life is a necessary but not a sufficient condition for status-motivated consumption. It is the social visibility of consumption that plays a key role. These two characteristics of the goods subject to status-motivated consumption, together with the effect of subjects' socioeconomic position on the sign of the effect, support a status interpretation of the consumption externality we find in the experiment.

The paper combines a set of methodological innovations oriented to disentangling status-motivated consumption decisions from other types of peer effects. Importantly, the implementation of these innovations is done in a real setting with average subjects in terms of their socioeconomic characteristics. The impact of status-motivated consumption decisions on important dimensions of youngsters' present and future well-being, such as health or education, is beyond the scope of the experiment. However, the proof of the existence of the status-motivated externality could have negative consequences both at the individual and social levels (Frank et al., 2005). In very unequal social contexts, such as those of Latin America, the search for a better social status through consumption could lead to particularly severe losses at the aggregate social level and particularly for the most disadvantaged.

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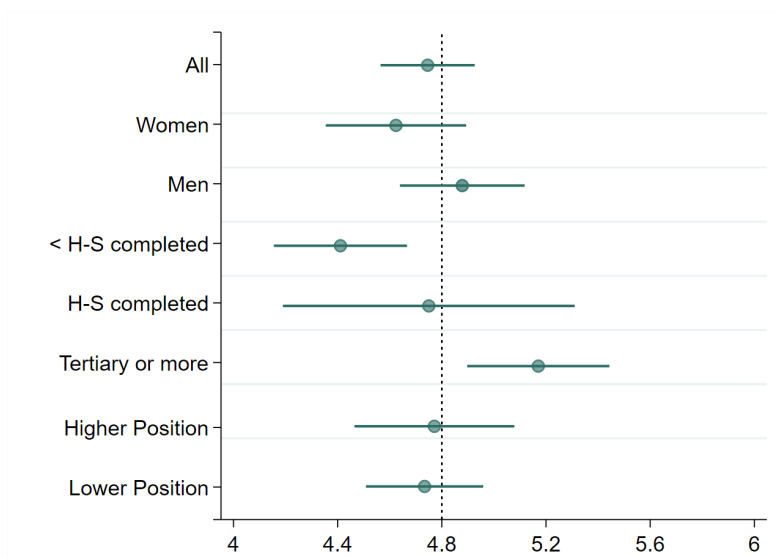


## 8 Appendix

Table A1: Status Goods identified in the focus groups

Good	Ranking	Brands	Prices (USD)
Did not reach High-school			
Clothing	1	Adidas, Nike, Mistral, Levis	357
Sneakers	2	Adidas, Nike	143
Jewelry	3	Watch: Rolex, Casio.	714 (Watch), 107 (Silver Chain), 214 (Gold Chain)
Phone	4	Samsung, iPhone	357
Perfume	5	Caro, Dolce & Gabanna	107
Glasses	6	Ray Ban	107
High-school drop-outs			
Clothing	1	Adidas, Nike, Mistral, Levis, zara, Daniel Cassin (women)	536
Sneakers	2	Adidas, Nike	153
Jewelry	3	Watch: Rolex, Casio, Citizen	714 to 1071 (Watch), 107 to 143 (Silver Chain), 214 to 286 (Gold Chain)
Phone	4	Gold Iphone	714
Attending tertiary education			
Clothing	1	Columbia, Santa Bárbara, Adidas, Nike, Levis	1,071
Sneakers	2	Columbia, Caterpillar, Adidas, New Balance, Nike	153 to 250
Phone	3	Iphone 7	1,250
Tattoo	4	Harry Tattoo, Custom-made	714
Jewelry	5	Watch: Rolex, Casio, Citizen	1071 (watch), 107 - 143 (Silver Chain), 214 - 321 (Gold Chain)
Camera	6	Nikon. Cannon	857
Perfumes	7	Armani, Dior, Givengy, Polo	214 to 250

Figure A1: Subjective relative position (Cantril's ladder scale) according to different covariates. Unknown good treatment group



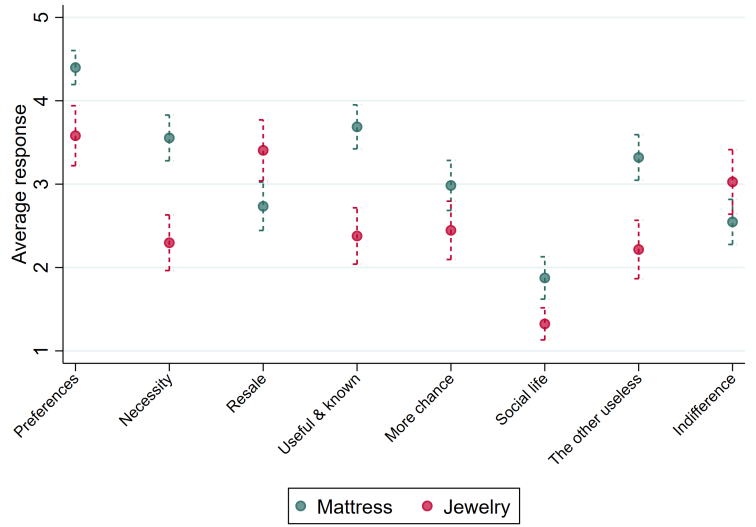
Notes: The Figure shows the Self-reported Cantril's ladder scale. This question provides information about where participants place their household in the income distribution on a 9-step ladder. Each step of the ladder represents an equal share of individuals from the poorest to the richest. Each dot represents the point estimate while bars represent the 95% confidence interval. The vertical dashed line is located at 4.8, which is the mean value of the responses. Unknown good treatment sample include 224 observations

Table A2: Jewelry choice covariates

Women	-0.283 (0.400)
20 year (age)	-0.733 (0.486)
> 20 year (age)	-0.720 (0.501)
H-S completed	1.032* (0.617)
Some tertiary or more	0.787* (0.454)
Lower Position	-0.364 (0.413)
Constant	4.854*** (0.532)

Note: The table shows the estimated coefficients of an OLS regression in which the dependent variable is the number of lottery tickets assigned to jewelry, which takes values from 0 to 10, and all the covariates in the table are included simultaneously. Standard deviation in parentheses. \*p<0.10, \*\*p<0.05, \*\*\*p<0.01

Figure A2: Self-reported reasons for the participants decision (Complete sample)



Notes: The dots in Figure show the average response for the Decision makers that choice Mattress or Jewelry respectively. The bars represent the 95% confidence interval for the mean. Categories (a) Preferences: participants respond that prefer more the selected good;(b) Necessity: participants respond that need more the selected good;(c) Resale: participants chose that good because it has a higher resale value;(d) Useful & known: participants chose that good because they know it and they know that it is more useful;(e) Resale: participants chose that good because they believe that it has a more chance in the lottery;(f) Social life: participants chose that good because it will improve their social life;(g) The other useless: participants chose that good because the other is useless;(g) Indifference: participants are indifferent between both goods. Estimates based on whole sample (202 observations, because 196 are indifferent between Mattress or Jewelry).

Table A3: Choice of jewellery and mattress: ATE and heterogeneous effects

	All					Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<b>(a) Choice of jewellery. Treatment: Jewellery</b>							
Treatment	0.288 (0.406)	0.298 (0.393)	-1.442** (0.716)	1.148** (0.578)	-0.641 (0.843)	-2.693*** (0.872)	0.073 (1.140)
Treat. × Lower Position			2.259*** (0.854)		2.236*** (0.836)	3.032*** (1.074)	1.263 (1.339)
Treat. × Female				-1.658** (0.777)	-1.498* (0.770)		
Joint significance - F test							
Treat. + Treat. × Lower Position			3.113*		6.543**	0.294	3.691*
Treat. + Treat. × Female				0.967	8.071***		
Treat. + Jew × Female					0.028		
+ Treat. × Low Position							
Obs.	398	398	398	398	398	203	195
<b>(b) Choice of mattress. Treatment: Mattress</b>							
Treatment	-0.117 (0.338)	-0.009 (0.342)	0.051 (0.619)	0.114 (0.515)	0.157 (0.712)	-0.394 (0.803)	-0.004 (0.890)
Treat. × Lower Position			-0.004 (0.746)		0.090 (0.741)	0.389 (0.983)	0.118 (1.091)
Treat. × Female				-0.260 (0.681)	-0.358 (0.679)		
Joint significance - F test							
Treat. + Treat. × Lower Position			0.013		0.183	0.001	0.032
Treat. + Treat. × Female				0.106	0.088		
Treat. + Treat. × Female					0.051		
+ Treat. × Lower Position							
Obs.	398	398	398	398	398	203	195
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes

Note: In panel (a), the dependent variable is the number of tickets (from 0 to 10) chosen to participate in a jewel lottery, while in panel (b), it is the number of tickets (from 0 to 10) chosen to participate in the mattress lottery. The covariates used are Age, Sex, Education level, and Relative parent education. We also include as control the treatment associated with the choice of the other good -in panel a) mattress and in panel b) jewelry-, and in the columns that include interactions, we add another interaction as control but with the treatment of this good. Standard deviation in parentheses. \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table A4: Subjects relative position. ATE and heterogeneous effects

	All					Female	Male
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment: Jewellery							
Treatment	0.072 (0.178)	0.087 (0.172)	0.286 (0.333)	-0.417* (0.231)	-0.248 (0.379)	0.972** (0.384)	-0.552 (0.512)
Treat. × Lower Position			-0.260 (0.393)		-0.235 (0.378)	-0.619 (0.495)	0.166 (0.586)
Treat. × Female				0.980*** (0.338)	0.983*** (0.345)		
Joint significance test - F test							
Treat. × Lower Position			0.016		3.516*	1.313	1.924
Treat. × Female				5.252**	4.679**		
Treat. + Treat. × Female + Treat. × Lower Position					3.214*		
Treatment: Mattress							
Treatment	0.115 (0.175)	0.070 (0.167)	-0.108 (0.298)	-0.194 (0.211)	-0.361 (0.315)	0.090 (0.516)	-0.345 (0.356)
Treat. × Lower Position			0.283 (0.355)		0.284 (0.357)	0.291 (0.594)	0.345 (0.430)
Treat. × Female				0.526 (0.335)	0.497 (0.336)		
Joint significance test - F test							
Treat. × Lower Position			0.775		0.099	1.594	0.001
Treat. × Female				1.626	0.134		
Treat. + Treat. × Female + Treat. × Lower Position					2.342		
Obs.	398	398	398	398	398	203	195
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes

Note: The dependent variable takes values from 1 to 10 and arises from the question, "Imagine a ladder with nine levels. At the first level are those who do not have power, and at the highest level, the ninth, are those who have a lot of power. What step are you on?". The covariates used are Age, Sex, Education level, and Relative parent education. Standard deviation in parentheses. \*p<0.10, \*\*p<0.05, \*\*\*p<0.01

## 9 Online Appendix

### 9.1 Experiment's materials

#### 9.1.1 Images of the two goods shown to subjects during the experiment

Sommier

VALE POR 30 BOLETOS DE RIFA

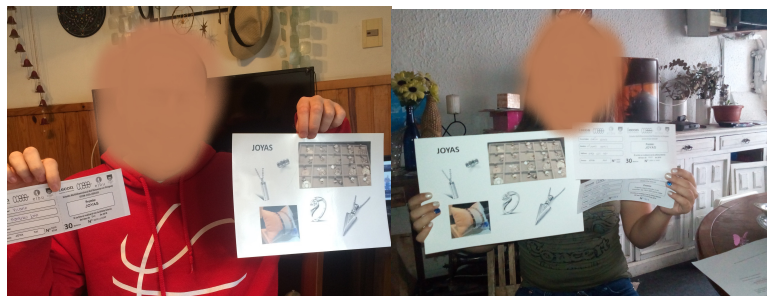


JOYA









VALE POR 30 BOLETOS DE RIFA











9.2 Examples of images of the Refereed friend shown to Decision makers during the experiment











## 9.2.1 Lottery tickets used in the experiment

 Instituto de Economía				 Instituto de Economía			
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<b>Nombre:</b> <input type="text"/>				<b>Premio:</b> <input type="text"/>			
<b>Teléfono:</b> <input type="text"/>				El sorteo se realizará con la última lotería del mes de de 2018			
<b>Premio:</b> <input type="text"/> N°				N°			

 Instituto de Economía				 Instituto de Economía			
<b>Encuestador:</b> <input type="text"/>				<b>Estudio Multidimensional del Bienestar en Uruguay</b> IECON-FCEA-UDELAR			
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<b>Teléfono:</b> <input type="text"/>				El sorteo se realizará con la última lotería del mes de de 2018			
<b>Premio:</b> <input type="text"/> N°				N°			

 Instituto de Economía				 Instituto de Economía			
<b>Encuestador:</b> <input type="text"/>				<b>Estudio Multidimensional del Bienestar en Uruguay</b> IECON-FCEA-UDELAR			
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<b>Teléfono:</b> <input type="text"/>				El sorteo se realizará con la última lotería del mes de de 2018			
<b>Premio:</b> <input type="text"/> N°				N°			