



Perspectives for sustainable consumption: An exploratory study of the discourses and practices of Córdoba's citizens (Argentina)

Perspectivas para o consumo sustentável: um estudo exploratório dos discursos e práticas dos cidadãos de Córdoba (Argentina)

María Victoria ORTIZ^{1*}, Lucia A. REISCH², Cecilia REYNA¹

¹ Instituto de Investigaciones Psicológicas (IIPsi) - CONICET – UNC, Facultad de Psicología, Universidad Nacional de Córdoba, Argentina.

² El-Erian Professor for Behavioural Economics and Policy, University of Cambridge, UK.

* E-mail of contact: mv.ortiz@unc.edu.ar

Article received on December 23, 2020, final version accepted on March 8, 2022, published on 9 of november, 2022.

ABSTRACT: This paper addresses some of the perceptions, beliefs, and experiences related to sustainable consumption habits of citizens of Córdoba (Argentina). We focus on three main areas of consumption: food, housing, and mobility. The study examines the discourses of 59 citizens in seven focus groups with seven to nine persons each. Six groups combine age ranges (18-29, 30-49, and 50-70 years old), socioeconomic status (high-medium and low-medium), and gender. A seventh group is composed of citizens who participate actively in environmental organisations with a mix of ages, SES and genders. We conduct a content analysis using ATLAS.ti software. The results of this study indicate that the participants in general have difficulty spontaneously associating their consumption practices with environmental problems. Three results are prominent: First, the role of meat consumption for sustainability is almost unnoticed by most participants; this is noteworthy given the overconsumption of meat in Argentina. Second, we find little knowledge about water-saving appliances while a high rate of individual water consumption in Córdoba is in fact alarming. Third, respondents do not consider environmental aspects when choosing their everyday modes of mobility. Based on these initial findings, we sketch the research and data needed to advance knowledge of sustainable consumption in Argentina and Latin America from a psychological and other behavioural science perspectives, as well as implications for policies aiming to address environmental degradation.

Keywords: sustainable consumption; food; housing; mobility; city of Córdoba, Argentina.

RESUMO:

Este artigo aborda algumas das percepções, crenças e experiências relacionadas aos hábitos de consumo sustentável dos cidadãos de Córdoba (Argentina). Focamos em três áreas principais de consumo: alimentação, habitação e mobilidade. O estudo examina os discursos de 59 cidadãos em sete grupos focais com sete a nove pessoas cada. Seis grupos combinam faixas etárias (18-29, 30-49 e 50-70 anos), status socioeconômico (alto-médio e baixo-médio) e gênero. Um sétimo grupo é composto por cidadãos que participam ativamente de organizações ambientais com uma mistura de idades, SES e gêneros. Realizamos uma análise de conteúdo usando o software ATLAS.ti. Os resultados deste estudo indicam que os participantes em geral têm dificuldade em associar espontaneamente suas práticas de consumo aos problemas ambientais. Três resultados são proeminentes: primeiro, o papel do consumo de carne para a sustentabilidade é quase despercebido pela maioria dos participantes; isso é notável dado o consumo excessivo de carne na Argentina. Em segundo lugar, encontramos pouco conhecimento sobre os aparelhos que economizam água, ao passo que uma alta taxa de consumo individual de água em Córdoba é de fato alarmante. Terceiro, os entrevistados não consideram os aspectos ambientais ao escolher seus modos de mobilidade diários. Com base nessas descobertas preliminares, esboçamos a pesquisa e os dados necessários para avançar no conhecimento do consumo sustentável na Argentina e na América Latina a partir de uma perspectiva psicológica e de outras ciências comportamentais, bem como implicações para políticas que visam abordar a degradação ambiental.

Palavras-chave: consumo sustentável; comida; habitação; mobilidade; cidade de Córdoba, Argentina.

1. Introduction

The general conception of economic growth is translated into consumption patterns that put more and even more pressure on the environment threatening our future (Bárcena Ibarra *et al.*, 2020; EEA, 2021). In the last decades, the economic dynamism and poverty reduction in Latin America (although is far from a complete reduction) enabled the inclusion of new groups of consumers into the current unsustainable consumption structure (Bárcena Ibarra *et al.*, 2020). Additionally, strong cultural traditions and narratives of consumption in some countries of the region are worrisome such as the "asado" (barbecue meetings). As a consequence, and added to other factors, Argentina stands atop the podium with the United States and Brazil just below beef and veal consumption (38.0 kilograms of retail weight per capita in 2019) (OECD, 2020). Even in the lockdown period due to COVID-19, where barbecue gatherings were discouraged, there

was a tendency to research online for recipes with red meat in Argentina (IPCVA, 2020).

Argentina also stands out worldwide for other types of consumption. On one hand, a recent OECD report (2019) shows that members of the Argentinian population consume on average 299 litres per day per capita of water, in contrast to European countries where the average of water consumption per day per capita is 128 litres (EurEau, 2017). On the other hand, the energy matrix of Argentina shows a preponderance of the use of fossil fuels (Secretaría de Gobierno de Energía, 2019). Furthermore, as in many countries of the world, the automotive fleet in Argentina has a strong imprint, but it is fully composed of traditional combustion vehicles. Only 40 units, less than one percent, of the total automotive fleet are full-electric (AFAC, 2019). As a tendency, in major cities of Latin America a growth in the motorization rates was observed between 2005-2015 and, in contrast to European cities, the proportion of travels made by private transport increased (Rivas *et al.*, 2019).

A limiting but motivating factor of the present study is a lack of studies on sustainable consumption in Latin America and Argentina from a psychological perspective or a behavioural science perspective even though in the last decades there was an extensive growth in the corpus of research worldwide (Richardson *et al.*, 2020). To the best of our knowledge, related empirical studies have, to date, largely taken place in Mexico (e.g., Corral-Verdugo *et al.*, 2008; Manríquez-Betanzos *et al.*, 2017a; Manríquez-Betanzos *et al.*, 2017b). In Argentina, there is only a handful of extant studies on “responsible consumption behaviour” or specific areas of consumption such as energy and mobility with a marketing or psychology perspective (Bianchi *et al.*, 2013a; Bianchi *et al.*, 2013b; Jakovcevic & Steg, 2013; Jakovcevic & Reyna, 2016).

The regional focus of our study is Córdoba, a city with about 1.300.000 people located in the centre of Argentina. The city reflects the Argentinean demographic and territorial development trends in urban areas, with some particularities such as the large population of young people attracted to the city regionally and nationally by the presence of an important university campus (Boccolini, 2017). Unfortunately, the data available on actual private consumption of the citizens of Córdoba are limited. What we know is that individual consumption of about 350 litres per day gives this city a higher level of per capita water consumption per day than the rest of Argentina and the countries of Europe on average (AC, 2020). Furthermore, compared to the major cities of Argentina, Córdoba ranks second in emissions of polluting gases by automotive transport (ONDaT, 2013). The primary source of air pollution in the city is motorised traffic (Amarillo *et al.*, 2017).

These characteristics of consumption are cause for reflection about the environmental impact of these practices. The environmental impacts associated with the production and use of products and services domestically consumed - such as food, water and energy consumption, and mobility - have global relevance in terms of greenhouse gases, acidification emissions, tropospheric ozone, and resource/material requirements (Ivanova *et al.*, 2016; Geiger *et al.*, 2018; Ivanova *et al.*, 2018). Within these areas, a handful of consumption choices stand out that are especially taxing on the environment such as meat-based diets (or in general, diets high in animal protein) (Thøgersen, 2021). Thus, to realise significant change, it is essential to focus on those main areas and transform our current consumption patterns into more sustainable lifestyles (Geiger *et al.*, 2018). Sustainable lifestyles are constituted by sustainable behaviours – behaviours that preserve the environment and allow for social justice and economic fairness, and that represent a personal overall way of living within the planetary boundaries (Corral-Verdugo *et al.*, 2010; Mont & Heiskanen, 2015). Sustainable lifestyles can manifest as, for instance, reduction of consumption (sufficiency) or consumption of less environmentally damaging and more energy-efficient alternatives (Vita *et al.*, 2019).

Significant change not only depends on changes in individual consumption. Although the evidence suggests that behavioural change would enable societal systems transformation and, particularly, sustainable consumption behaviour have a key role in the decarbonization process needed to limit global temperature (Newell *et al.*, 2021) that vision ignores broader issues such as the economic and development models or, to better say, “power”

models behind us (Bamberg *et al.*, 2021). In that line, McPhearson *et al.* (2021) suggested that we need to redefine growth, efficiency, the state, the commons and justice within the ecological limits, confronting the actual status quo. Therefore, behavioural change has a tremendous potential to provoke systemic change but must be supported by other elements- the need of rethinking the system itself and changes in governance and technology are mandatory (Schill *et al.*, 2019).

The scarce literature and lack of data on sustainable consumption in our context on the one hand, and the high relevance of sustainable lifestyles necessary to reduce environmental and human impact on the other hand, highlight the necessity to generate more local evidence on this topic. Thus, the objective of this exploratory focus-group study is to understand the perceptions, beliefs, and personal experiences related to sustainable consumption of the citizens of Córdoba – and beyond that, to derive a resulting hypothesis and suggestions for next steps in the whole of Argentina. Ideally this research will make a first step toward providing an empirical foundation for evidence-based sustainability policies to be established in Argentina that help achieve the United Nations' sustainable development goals (UN DESA, 2018).

Our main research questions are based on earlier studies.

First, we would like to deeply understand the general notions of consumption of Córdoba's citizens, their everyday practices of consumption, and the connection of those practices with environmental degradation. In that line, one of the earliest definitions of sustainable consumption was proposed at the Oslo Symposium on Sustainable Consumption in 1994 (Norwegian Ministry of Environment,

1994), which was based on the concept of sustainable development established by the Brundtland Commission in 1987 (WCED, 1987). The core of the definition is the balance between present and future needs of the generations of today and the future. Although it has been widely used, this definition has received some criticism in the academic field. One weakness refers to a merely implicit and overly short definition of consumption (Giulio *et al.*, 2014). The present study follows a more recent and exhaustive definition of sustainable consumption. Sustainable consumption behaviours are here defined as “individual acts of satisfying needs in different areas of life by acquiring, using and disposing of goods and services that do not compromise the ecological and socioeconomic conditions of all people (currently living or in the future) to satisfy their own needs” (Geiger *et al.*, 2018, p. 20). So, based on that definition we expect that the citizens of Córdoba will use a broad definition of consumption and they will connect their everyday consumption practices with environmental degradation.

Second, we would like to know their regular decisions about food, focusing on local and organic foods. For example, if they have knowledge about this kind of food or if they usually buy it. The production and consumption of local and organic food products create a low environmental impact in general. We say in general because this topic regarding local food is discussed and different papers shows that the primarily efforts to reduce environmental impacts should focus on reducing animal-based diet than consume local (Weber & Matthews, 2008; Aleksandrowicz *et al.*, 2016). Previous studies, including a review about consumer's perceptions of local food (Feldmann & Hamm, 2015) show a knowledge gap related to its definition. The term

is difficult to define and we expect that it will be difficult for our participants to give an accurate definition too (Jensen *et al.*, 2019). Regarding organic food, we expect that the participants will have a clearer idea about what organic foods are but with some limitations. The domestic consumption has risen in recent years, although is primarily oriented towards export (SENASA, 2019).

Third, we study household consumption of water and energy. Research has found sociodemographic, psychological, and other variables to be related to water and energy consumption albeit with mainly inconsistent results (see Fielding *et al.*, 2012, for a brief compilation of water studies, and Frederiks *et al.*, 2015b, for a review of energy studies). We focus primarily on the study of social norms regarding housing consumption. Particularly, we study descriptive norms, which constitute a way to describe the behaviour of the majority, i.e., what most others do (Cialdini *et al.*, 1990; Cialdini & Trost, 1998). Earlier research shows that descriptive norms are effective ways to improve saving water and energy behaviours in home (Nolan *et al.*, 2008; Richetin *et al.*, 2016).

Fourth, we indagate about urban mobility taking into account that travel decisions depend on a wide variety of variables such as gender, age, income, and other factors such as car ownership and availability and attractiveness of alternatives (e.g., travel time and cost, comfort) (Geng *et al.*, 2017; Dèdelè, *et al.*, 2020).

Finally, we expect to find differences in the discourses and practices among people of different socioeconomic status (SES) and age. In that line, a recent study in Denmark shows that income level and age have a strong influence on the environmental impacts (Kalbar *et al.*, 2018). Furthermore,

contrasting six focus groups of average citizens with a more committed group of environmental activists, we hope to be able to show the knowledge gaps of the former and the differences in discourse.

The remainder of this paper is organised as follows. We first provide the qualitative methodology of this study by describing the sample, the data collection, and analysis. Second, we present the main findings and discuss their implications, recognising the limitations and proposing new lines of research. Third, we conclude by emphasising the most relevant aspects of sustainable consumption that deserve special attention in our context.

2. Methodology

An empirical qualitative study using focus groups was conducted. There are many qualitative data collections techniques but we choose focus groups because it allows a deeper understanding of the phenomena under study in groups of people of different backgrounds (age, SES, etc.). Focus groups are designed to understand how people feel or think about a topic or various topics in a comfortable atmosphere. In contrast to individual interviews, focus groups are set in a more natural environment because as in real life, participants are influencing and influenced by others (Krueger & Casey, 2015). Previous studies around the world have used this data-collection technique in relation to sustainable consumption (e.g., Aarset *et al.*, 2004, in France, Germany, Norway, Spain, and the UK; Chambers *et al.*, 2007, in the UK; Alonso *et al.*, 2014, in Spain; Ede *et al.*, 2011, in Sweden, the UK, and Canada; Fajersson & Cerrudo Sampo, 2013, in Sweden; De Koning *et al.*, 2015, in Vietnam;

Pandey *et al.*, 2018, in India, and so forth).

2.1. Sample

Fifty-nine citizens from Córdoba, Argentina, between 18 and 68 years old, with different socio-economic levels and gender, took part in this study. They were selected by a non-probabilistic sampling method. Quotas were used to form the groups (ages: 18-29, 30-49, and 50-70; SES: high-medium SES (ABC1/C2) and low-medium SES (C3, D1)). SES was calculated using the short online questionnaire of the Argentinean Society of Marketing and Opinion Researchers (SAIMO, 2015) considering the proportion of household members with income and information about education, occupation, and health coverage of the main household contributor. ABC1, C2, C3, D1, and D2E are the five SES categories. ABC1 refers to people of higher socioeconomic status, and D2E corresponds to those at the lowest level. We largely limited the study to people of the middle and upper classes. However, D1 was an exception because we wanted to cover a wider range of the population. The available data about SES in the Gran Córdoba give us the following breakdown:

6.6% (ABC1), 17.2% (C2), 24.4% (C3), 27.6% (D1), 19.2% (D2), and 4.3% (E) (SAIMO, 2006).

Gender was not used as a quota, but we intended to balance gender in each group. Six groups were differentiated by age and SES. Table 1 shows the segmentation for the first six groups. Group 7 was formed with participants who frequently participate in environmental organisations or hold a strong commitment to environmental issues on their own. Simplifying, we coined it “the group of environmentalists”. This group was heterogeneous with regard to age, SES, and gender.

2.2. Data collection

During the first two weeks of September 2019, seven focus groups were conducted at the Faculty of Psychology, National University of Córdoba. The recruitment of participants was carried out via an online questionnaire. At the beginning of each session the participants signed a consent form to declare that they were willing to take part in the focus group (see Supporting Information). At the end of each session, a modest cash incentive of 600 Argentine pesos (equivalent to about 11 USD)

TABLE 1 – Group segmentation.

	G1	G2	G3	G4	G5	G6
<i>Age</i>	18-29	30 – 49	50 – 70	18 – 29	30 – 49	50 – 70
<i>SES</i>	ABC1/C2	ABC1/C2	ABC1/C2	C3/D1	C3/D1	C3/D1
<i>Gender</i>	Balanced	Balanced	Balanced	Balanced	Balanced	Balanced
<i>N</i>	9	9	7	9	7	9

was given to each participant. The sessions lasted between one and a half and two hours.

During the sessions, the participants were asked to answer approximately 70 questions grouped in 8 dimensions and to complete 9 different activities. The questions and activities were pre-tested with members of our lab (see Supplementary material).

2.3. Data analysis

The focus-group sessions were recorded and transcribed to help the data analysis. The focus group sessions, the transcriptions and the data analyses were in Spanish. Results and quotes were translated into English.

We analysed data with the support of the software ATLAS.ti version 7.5.7 (ATLAS.ti Scientific Software Development GmbH, Berlin, Germany) doing a semantic content analysis. The analysis consisted of uploading to the software each transcription and reading them several times (e.g., named focus group 1, focus group 2, etc.). Then, each transcription was ordered with subtitles to recognise the first categories of analysis, following the interview guide (e.g., “*Main problems of the City of Córdoba*”). We highlighted the most important quotes and started the process of codification (e.g., “*garbage*” referring to the following quote: “*There is the problem of separating the garbage in the city, the containers exist but everything is mixed, and you don't know how it works*”). We named or coded the quotations in each transcription of all groups. After that, we grouped the codes in families (e.g., the initial coding “*garbage*” was included in a code family denominated “*environmental problems*” that

differs from other families such as “interpersonal problems” or “infrastructure problems”). At the same time, we used a notebook to make comments and inferences about the results, and we registered all the steps of the analysis. The frequency with which a concept was mentioned and the intensity, passion, or force behind the comments were taken into account for the analysis (Krueger & Casey, 2015). Commonalities and differences between and inside the groups were identified by trying to relate results of the analysis to results reported in the literature (Tan *et al.*, 2016).

3. Results

Table 2 summarises the key findings of this study according to our categories of analysis.

3.1. Notions and practices of consumption

In general, the participants agreed that the current environmental situation in Córdoba city is worrisome. They proposed many general reasons for the situation and different factors that affect the local environment. The factors were in general related to the mere existence of human's beings and the lack of environmental policies. However, only on a few occasions did they refer directly to consumption, and these comments generally came from the youngest group with low-medium SES and the group of environmentalists. Despite this, when participants were directly asked whether their own consumption practices were related to environmental problems, the response was affirmative in the majority of the groups. An exception were some adults with high-medium SES. Some participants referred to

TABLE 2 – Overview of insights.

Consumption	Areas of consumption		
	Food	Housing (water and energy consumption)	Mobility
-general spontaneous disconnection between unsustainable consumption behaviours and environmental problems		-a general perception that in people in the city display more common energy-saving behaviours than water-saving behaviours	
-good practices of consumption associated with health benefits among adults and with environment benefits among the youth	-contrary to conceptions of local food, the idea of a minor environmental impact was present in the definition of organic food.	-less knowledge of water-saving appliances than energy-saving appliances	-no mention of the protection of the environment as a motive for choosing one mode of transport instead of another in their routines
-meat consumption seems to be an unnoticed problem (only mention by the youngest and environmentalist females)	-perception of the local and organic market size: small	-similarities in the discourse between the youngest participants and the group of environmentalists compared to other groups	

SOURCE: research data.

frustration and the inertia with conventional models appeared. To illustrate:

There is a consumption system that is super installed on a social level that generates an illusion, a need for things that are superfluous but that in turn generate these climate problems, people buy things thinking that they are going to be nourished one way and then is garbage (Male, 30-49 years old, low-medium SES).

Participants associated consumption with the acquisition of goods and services and their use or consumption. Regarding their consumption practices, the youngest and the participants from the group of environmentalists mentioned that their good practices of consumption are related to protection of the environment and that they gain benefits from it—for example: recycling, decrease in meat consumption, use of ecological shopping bags, etc. In contrast, adult participants and the elderly

tended to associate good practices with behaviours that are good for them: healthy nutrition, clothes, leisure time, etc.

In my case, I stopped eating meat (...) I tried to reduce plastics too and I use the ecological bag (Female, 18-29 years old, high-medium SES).

Healthy food, clothing and services, recreation, outdoor life (Male, 50-70 years old, low-medium SES).

Because of the overconsumption of meat in Argentina, it's necessary to highlight some issues about it. This topic was recognised only among the youngest and some of those in the environmentalist group, and exclusively by females.

I do not decrease the consumption of meat; it seems

important to me but I do not practise it (Female, group of environmentalists).

Mainly meat impacts the environment (...) the more meat we consume the more the soils are used to continue feeding the animals we eat (...) the cattle and the bovine population consumes many natural resources, for example, water (Female, 18-29 years old, high-medium SES).

3.2. Food consumption

The specific denomination of “*local food*” generated doubts among the participants. They tried to give intuitive definitions of it. The concept was commonly used in reference to the production in Córdoba, meaning Córdoba province rather than the city of Córdoba. In the group of adults with high-medium SES there was a discussion about it. They debated whether the raw material has to be local as well, or if only the local production is what counts. There was another debate about whether it should be a product with a handmade process or if it could also be a product of a big local company.

The disadvantages of local food products were related to their high cost, worse quality given a lack of sanitation controls, less diffusion and publicity, little variety, and reduced accessibility. On the other hand, the advantages were concentrated in the perception of support for the local economy with the generation of jobs for local residents. Inconsistently, the price was also mentioned as an advantage when it was associated with lower transportation costs. In addition, the closeness and the knowledge of the manufacturer were considered advantages, increasing confidence in these kinds of products.

Participants were more familiar with the definition of “*organic food*” than “*local food*”. However, some members of the groups, namely those aged 30-49 and 50-70 with low-medium SES, recognised that they were not really sure what organic foods were. This situation was different from the groups of the youngest and the highest SES. The youngest reported buying these products through social networks such as Instagram or Facebook.

The definition of organic food is associated with the conditions of production, and contrary to local food, the idea of a minor environmental impact was present in the definition of organic food.

The advantages were mainly related to human health. The benefits for farmers and for the environment were also mentioned. Furthermore, a consumption advantage of this kind of product was connected with a better taste in comparison to industrialised products. On the other hand, the disadvantages were mostly associated with their cost. With less frequency, the availability, accessibility, seasonality, and durability of the products were mentioned as weaknesses.

Several participants claimed that the size of the market of local and organic food products is small. They thought that the organic market is mainly concentrated in the wealthier neighbourhoods of the city of Córdoba. This latter aspect was particularly highlighted by the youngest participants. While the majority of participants supposed that the size of the market is small, some believed that both markets (local and organic) have potential to grow.

For me it is small because it is installed in prosperous economic zones (Male, 18-29 years old, high-medium SES).

It must be minimal because I haven't found much.
(Female, 50-70 years old, high-medium SES).

3.3. Household water consumption

An interesting aspect related to water consumption was found when all the participants had to evaluate themselves and recognise their own level of water conservation in their households, on a scale from 1 to 10. The average was smaller in the younger groups with low-medium and high-medium SES and in the environmentalists' group than in the other groups (see Table 3).

The following comment helps us to understand the low scores and assessments among the youngest

and those in the group of environmentalists. For example, this young person has water-conservation behaviours, but when she had to self-evaluate her behaviour, she opted for a low score. It seems that what she is doing is not enough, although it is good.

I put 4, I mean I do all what you say, I do not consider myself wasteful, I always turn the tap off, I bathe as quickly as possible, but I also feel that I spend so much water that I don't know what to keep shortening anymore (Female, 18-29 years old, high-medium SES).

Regarding social norms, several respondents claimed that other citizens care about water to a lesser extent than themselves. This was especially mentioned by participants with low-medium SES in the descriptions of their own neighbours.

TABLE 3 – Perception of household water conservation.

<i>Water</i>	All groups	G1	G2	G3	G4	G5	G6	G7
Mean	6.56	5.56	7.67	7.86	5.33	7.00	7.00	5.89
Median	7.00	6.00	8.00	9.00	6.00	7.00	8.00	7.00
Mode	7	6	7 ^a	9	7	5 ^a	5 ^a	3 ^a
Range	9	3	2	9	6	5	6	6
Min	1	4	7	1	1	5	4	3
Max	10	7	9	10	7	10	10	9
<i>N</i>	59	9	9	7	9	7	9	9

NOTE: G1 (18-29 years old, high-medium SES, gender-balanced); G2 (30-49 years old, high-medium SES, gender-balanced); G3 (50-70 years old, high-medium SES, gender-balanced); G4 (18-29 years old, low-medium SES, gender-balanced); G5 (30-49 years old, low-medium SES, gender-balanced); G6 (50-70 years old, low-medium SES, gender-balanced); G7 (the participants have frequent participation in environmental organisations with a mix of ages, SES and genders).

^aThere are various values of mode. The lowest value is presented in the Table.

SOURCE: research data.

I see people watering like that just because (Female, 30-49 years old, low-medium SES).

I have neighbours who make my soul hurt, who (...) water the sidewalks and streets every day. They water the asphalt. That upsets me (Female, 50-70 years old, low-medium SES).

Price is the main aspect that the participants take into account when they read the water bill. Regarding consumption levels, some participants declared that it was difficult to know because they did not have a water metre in their homes, especially those who live in flats instead of houses. Furthermore, other participants said that the bill was difficult to understand.

3.4. Household energy consumption

Similar to water conservation, among the youngest participants and in the environmentalists' group, the averages were smaller than in the other groups when each participant had to evaluate his or her own energy saving behaviours on a scale from 1 to 10 (see Table 4).

The following comment reflects the scores of the youngest and the group of environmentalists. Although they have sustainable behaviours, they self-evaluated with low scores and stated that they could do more to save water and energy.

(...) I used to leave the microwave plugged in all night and now I unplug it and I'm getting used to unplugging it. When I go somewhere, I unplug everything, but I

TABLE 4 – Perception of household energy saving behaviours.

<i>Energy</i>	All groups	G1	G2	G3	G4	G5	G6	G7
Mean	6.86	6.56	8.00	7.43	5.33	7.57	7.56	5.89
Median	7.00	7.00	8.00	8.00	5.00	8.00	8.00	5.00
Mode	8	6 ^a	8 ^a	6 ^a	5 ^a	8	8	5
Range	9	4	5	7	3	5	4	8
Min	1	4	5	3	4	5	5	1
Max	10	8	10	10	7	10	9	9
<i>N</i>	59	9	9	7	9	7	9	9

NOTE: G1 (18-29 years old, high-medium SES, gender-balanced); G2 (30-49 years old, high-medium SES, gender-balanced); G3 (50-70 years old, high-medium SES, gender-balanced); G4 (18-29 years old, low-medium SES, gender-balanced); G5 (30-49 years old, low-medium SES, gender-balanced); G6 (50-70 years old, low-medium SES, gender-balanced); G7 (the participants have frequent participation in environmental organisations with a mix of ages, SES and genders).

^aThere are various values of mode. The lowest value is presented in the Table.

SOURCE: research data.

still think I could reduce the consumption of energy much more, that's why I put 4 (Female, 18-29 years old, high-medium SES).

Contrary to participants' claims about water consumption, they said that other citizens behave better than they do in regard to energy-saving practices. This attribution is also connected with the expensive cost of energy in the city of Córdoba.

They are more careful with energy for financial reasons (Male, 30-49 years old, high-medium SES).

Many more people turn off the light at night nowadays than in the past (Female, 30-49 years old, high-medium SES).

Furthermore, consumption was cited as the principal aspect that the participants take into account when they read the energy bill. They said that the bill is easier to read than the water bill. This bill has a graphic that makes the information more intuitive for citizens. Participants also mentioned seeing the price and the due date of the bill.

3.5. Appliance and label recognition (water and energy)

The following chart shows different conclusions that are the result of the activity of image recognition (Figure 1).





 <p>1. Hydraulic reducers</p> <p>Medium knowledge Confusion with filters or purifiers of water Few participants have it Accessible at hardware stores Low disposition to purchase</p>	 <p>2. Toilet selective discharge bottom</p> <p>Little knowledge Confusion with waste disposer Few have it and only because their bathroom needed repair recently Accessible at hardware stores or in sanitary stores Middle disposition to purchase</p>
 <p>3. Light bulbs (low consumption and LED)</p> <p>High knowledge Possibility to differentiate both kind of bulbs Accessible in many places (supermarket, kiosks, hardware stores, lighting stores, etc.) Everyone has them High disposition to purchase related to cost reduction in the energy bills</p>	 <p>4. Energy efficiency label</p> <p>Medium/high knowledge Related to energy efficiency, but in more expensive appliances The variable price of appliances with these labels was mentioned in most of the groups, and it is a barrier to purchase</p>

FIGURE 1 – Water and energy appliances.

SOURCE: research data.

3.6. Mobility

The majority of the participants most frequently use the bus and the car in their daily routines. Walking is the third mode of transportation mentioned. The respondents did not mention protection of the environment as a motive to choose one form of transportation over another. They did not take into account, unless prompted, this aspect in their everyday transportation choices.

Although the bus is used with high frequency by the participants, they are quite disgusted with this mode of transport because of the low frequency of service associated with the scarcity of bus lines, the crowds on each bus (particularly during the rush hours), and the high cost of the ticket.

The dirtiness and the deterioration of the bus units and the poor connection of the public transport between neighbourhoods were two aspects less mentioned, but with emphasis by some participants.

(...) Beyond the frequency, I think that it does not reach all neighbourhoods and not everyone has the possibility of using public transport (referring to buses), so it segregates more people from the neighbourhoods than there are already segregated (Male, 18-29 years old, high-medium SES).

4. Discussion

Our findings offer a valuable opportunity to open and guide the debate on sustainable consumption in the Argentinean setting by studying consumers' discourses and practices. Some of the questions that arise from the results are the following: What is necessary to enable and encourage citizens

to connect their everyday consumption decisions with environmental degradation? What are the specific unsustainable behaviours to focus on? Why are the similarities regarding consumption between the youngest participants and the group of environmentalists relevant? In the following section, we discuss the main results of this study, considering the objectives and the previous literature.

In general, the participants in our focus groups recognise a bad environmental situation in the city of Córdoba and they demonstrate concern about it. However, they have difficulty spontaneously linking their unsustainable consumption behaviours with environmental problems. The first models of pro-environmental behaviours were based on a linear progression between environmental knowledge, environmental awareness/concern, and pro-environmental behaviour. These rational models were dismissed because other variables also influence pro-environmental behaviours such as attitudes, subjective norms, intention, and altruism, among others (see Theory of Reasoned Action, Ajzen & Fishbein, 1980, or Stern *et al.*, 1993 model) (Kollmuss & Agyeman, 2002).

The definitions of consumption given by the participants are restrained to only two phases of consumption: acquisition and use. While disposal issues are mentioned by participants in some parts of the conversation, disposal is not linked as a final aspect of consumption. According to some authors, these three phases of consumption as a whole are all important to the assessment of sustainable behaviours and to reduce ecological damage (Geiger *et al.*, 2018).

Regarding sociodemographic variables, age seems to have a closer relation than SES to the different perceptions of the participants about sus-

tainable consumption. In particular, the youngest have a different discourse about the environment than the groups of adults or older adults. They have more in common with the group of environmentalists. We have to remember that the latter is composed of persons that have frequent participation in environmental organisations, and they have different genders, ages, and SES. Next, we present and discuss some of these results.

Practices that have a positive impact on the environment are referred to as good practices of consumption by the youngest and the environmentalists. In contrast, for adults, good practices of consumption are practices that have a direct and positive impact on them, e.g., eating healthy food. We can find studies about Millennials or Generation Y – people who were born between the years 1981-1996, 1980-2000, 1982-2000, 1985-2000 depending on the literature – and this group corresponds approximately to the youngest group in our study. Previous research highlights the contradiction between how people in this age group think about sustainability, their attitude and what they actually do (Bernardes *et al.*, 2018). Furthermore, a recent study in the UK, shows generational differences in the perceived environmental impact of food, water and energy consumption and specific energy-intensive consumer goods such as meat, personal technology, home electronics and air travel. More Millennials say that their consumption has a big impact on the environment and the oldest (over 70) were the biggest non-consumers in most of those items. However, the author says that to analyse this data in more detail is important to take into account the circumstances across the life course (Diprose *et al.*, 2019). In contrast, other study in Denmark shows that the younger the respondent the lower

the environmental impact (Kalbar *et al.*, 2018). In our study, the Millennials (18-29 years old) seem to be more aware of environmental problems in contrast to the other age groups. However, as the environmental models and some of the previous literature show (Bernardes *et al.*, 2018; Diprose *et al.*, 2019), this does not necessarily translate into good consumption practices for the environment in their daily life. Continuing with the previous analysis, it is possible that this environmental awareness in the youngest and among the committed environmentalists allows them to recognise, to a greater extent, their bad practices of consumption more than the other participants do. Hence, when they position themselves on a scale from 1 to 10, where 1 indicates that they do not care about water/energy and 10 indicates that they totally care about water/energy in their routine, they rate themselves at the lower values of the scale. The self-assigned scores of household water and energy conservation were lowest among the youngest and the group of environmentalists compared to the other participants.

In the following sections, we detail the categories of consumption that we investigate in this study.

There are similarities and differences regarding local and organic food products in our study with respect to the previous literature. Some similarities refer to the vagueness of the term local food, as exhibited by the difficulty in defining it. Those who define the term associate local foods with the political boundaries of the production and sale of a product – in this case, the production and sale in Córdoba. However, the participants have some doubts about the raw material of the product: *Should the raw material of a local product also be from Córdoba; should it be grown in Córdoba, or could it be grown in another place?* Our focus-group

participants also have doubts about whether it refers only to a product with a handmade process or if it could be a product from a big local company. This lack of a standardised definition has some negative consequences in the market. For example, it could make it difficult to identify local food products, and it likely contributes negatively instead of positively to fulfilling consumers' expectations (Feldmann & Hamm, 2015).

Concerning organic food products, the participants agree about the definition and make a clear association with the environmental conditions of production of this kind of products. This result is aligned with the literature. For example, Li *et al.* (2018) defines organic foods as foods that don't use synthetic fertilisers, pesticides, hormones, genetically modified organisms, or ionising radiation in their production processes.

The results about household water and energy consumption are interesting, particularly the results related to descriptive norms (Cialdini *et al.*, 1990). We find dissimilar opinions depending on the resource. Some participants think that other citizens are more careful with energy and less careful with water than they themselves are. Moreover, participants seem to have more clarity about how to save energy than water, e.g., they show more knowledge about energy-saving appliances than those related to water, or they have a better understanding of the energy bill than the water bill. Although energy-saving behaviours have to be improved and the adoption of renewables energies must be encouraged, we have to pay more attention to water-saving behaviours. How can we do that?

People are influenced by others, and they tend to follow norms reflecting what is currently popular or socially common (Frederiks *et al.*, 2015a).

Communicating a descriptive norm, i.e., telling what the majority does through messages such as *"your neighbours consume less water than you"*, is an option to change behaviour. A demonstration of normative social influence using a descriptive normative message was conducted by Nolan *et al.* in 2008. The authors carry out two studies using a sample of American residents (California). In one of their studies, they use an experimental design ($n = 981$ households). Households are randomly assigned to receive one of five experimental messages, and one of these messages is referred to as a descriptive norm: *"99% of people in your community reported turning off unnecessary lights to save energy"*. The results of this study show that normative social influence produced the highest change in behaviour, even though participants said that normative information gives them little motivation. This type of message can be useful in communicating about water. For example, Richetin *et al.* (2016) study whether descriptive norms can influence actions to reduce water usage, e.g., turning off the tap while soaping hands (a study with university students). They utilise an experimental and a control condition. In the experimental condition, the message conveys the descriptive norm: *"The majority of the people who used this soap helped the environment by turning off the tap while soaping their hands"*. In this condition, there is an increase of 25% in the frequency of turning off the tap while soaping hands, compared with the control group. In two more studies by the same researchers, one study is about testing the normative message again, but instead of measuring the frequency of turning off the tap as a dependent variable, they measure the use of water. The message of the descriptive norm is shown to be effective in this experiment.

The exposure to descriptive norms related to using a minimum possible amount of water for washing hands led to a decrease of 22% in water consumption. In a subsequent study, the authors test the persistence of the effect of the descriptive norms and find that the effect remains for at least a week (Richetin *et al.*, 2016).

Participants expressed dismay and high frustration with the public transport in the city of Córdoba. This is a barrier to increasing the use of public transport and stopping or decreasing use of the car. The lack of conscious connection between the daily transportation decisions and environmental issues is also a point of concern when assessing our results. Sustainable transport requires an equilibrium among environmental, social, and economic qualities (Steg & Gifford, 2008). According to those authors, an initial step is to reduce the level of car use, for example by using fewer polluting modes of transport, using sustainable transportation, or sharing trips. Moreover, public involvement in the elaboration of plans about sustainable transportation is very important. It serves to reflect community values, and to contribute to equitability and the support of effective policies (Litman & Burwell, 2006).

5. Policy implications

We present some preliminary policy implications of this study.

Several aspects must be considered in future interventions to promote sustainable consumption, combining structural and behavioural change. For example:

- An exhaustive definition of consumption that includes all phases of consumption must be presented.
- The proximity of opinions expressed by the youngest participants and the environmentalists in their discourses, in contrast to others in the groups, should be considered.
- It would be very useful to have an official and standardised definition of local food products to bring people closer to the consumption and support of these products.
- Subsidies to organic food production and the inclusion of organic foods in all the neighbourhood markets and fairs could be an option to advance the democratisation of these products.
- Water-saving behaviours must be prioritised in Córdoba. Policies using social norms are a possible way to solve this problem. Infrastructure issues must be addressed with better design, and the placement of water metres in homes encouraged.
- Mobility is a major problem in Córdoba's streets. The voices of citizens must be heard. One recent experience in our near context is the implementation of the Sustainable Mobility Plan in the city of Buenos Aires. Although we do not have access yet to the assessment of the plan results, it might be considered.

6. *Limitations and future research*

This paper is no exception when it comes to study limitations. First, this study is a qualitative study with a non-representative sample. Thus, we have to be cautious in generalising the results. Future studies using quantitative data-collection techniques, with probabilistic samples, or mixed methods, are necessary to design suitable interventions. Mixed-methods studies can help solve some of the most serious social problems, for example, achieving the United Nations' Sustainable Development Goals (Molina-Azorin & Fetters, 2019).

The second limitation is related to the measure of SES. In the analysis, we do not find many results related to SES. The SES segmentation follows a theory criterion (people with better status are more accessible and they have a better consumption capacity) and a population criterion (we prioritised covering a wide range of the population). In sum, we do not take into account the lowest levels of the social pyramid (D2 and E), and we merged ABC1 with C2, and C3 with D1. Not considering all SES levels and separating the middle classes C2 and C3 could be affecting the results. Thus, it would be interesting to carry out new studies that consider all the SES groups.

A third limitation is related to the categories of consumption. We only consider food, housing, and mobility. We narrow the study to those categories because they have the greatest impact on the environment. However, there are other categories of consumption such as clothing, personal hygiene items, and household gas consumption that also have impacts on the environment and are in need of sustainable changes. Those other categories should be studied in our context, and the ones that

we consider in this study must be understood in greater depth.

7. *Conclusions*

The present paper describes a qualitative pilot study that was conducted as the first step in a larger research framework investigating sustainable consumption in Argentina. In particular, our findings reveal the necessity of generating a more explicit connection between unsustainable consumption behaviours and environmental problems, crossing cognitive barriers (e.g., distance between the action and the consequences), emotional barriers (e.g., frustration with the system) and structural barriers (e.g., economic model of production and consumption). We consider that three major topics deserve attention in our context: meat consumption, water consumption, and mobility. Reducing meat consumption is a high priority given the place that Argentina has with respect to other countries in their levels of consumption. This is a prominent national characteristic that was practically unnoticed by almost all the participants. It is necessary to orient meat consumption to other types of food consumption such as organic food.

Water consumption is high on the agenda for change because of the information about excessive levels of individual daily consumption in Argentina and particularly in Córdoba city. In our study this rampant water usage is connected with the limited knowledge of water-saving appliances on the part of participants, and with their perception that other citizens care less about saving water than themselves (descriptive norms). The scarcity of water metres in homes, among other limitations, adds to the lack

of knowledge and action in this arena. However, we highlight the potential of descriptive norms in changing these behaviours. Lastly, several aspects about public transportation in the city have to be improved to reduce car use and to start thinking more environmentally about daily transportation.

We hope that this study can seed and inspire the development of additional studies that allow us to understand our findings in greater depth, e.g., the similarities between the youngest participants and the group of environmentalists, considering the socio-structural level to expand the individualistic vision of consumption recently criticised in the field of sustainability (Bamberg *et al.*, 2021) with the ultimate purpose of designing evidence-based policies for mitigating environmental degradation.

Acknowledgments

This work was supported by the Secretary of Science and Technology from the National University of Córdoba (SECYT, Secretaría de Ciencia y Técnica de la Universidad Nacional de Córdoba) (CONSOLIDAR-A 2018-2021, 33620180100671CB, Reyna) and The National Scientific and Technical Research Council from Argentina (CONICET, Consejo Nacional de Investigaciones Científicas y Técnicas de Argentina) (RESOL-1225-APN-DIR#CONICET, Ortiz). The authors would like to thank the participants of this study as well as the members of the research team KuskaRuway- Investigación en Psicología y Economía Comportamental for their collaboration in the focus groups, and Juan Carlos Godoy for his generous review of a preliminary version of this paper.

References

- Aarset, B.; Beckmann, S.; Bigne, E.; Beveridge, M.; Bjornald, T.; Bunting, J.; ...; Reisch L. The European consumers' understanding and perceptions of the "organic" food regime: The case of aquaculture. *British Food Journal*, 106(2), 93-105, 2004. doi: 10.1108/00070700410516784
- AC – Aguas Cordobesas. *Usos del agua*, 2020. Available in: <<https://www.aguascordobesas.com.ar/CanalEspacio-Educacion/AulaVirtual/content/69/consumo>>. Access in: sept. 2020.
- AFAC – Asociación Argentina de Fábricas de Componentes. *Flota circulante en Argentina*, 2019. Available in: <http://www.automotrix.com.ar/adm/enviosmasivos/Plantillas/COMUNICADOS%20DE%20PRENSA/FLOTA_CIRCULANTE2018.pdf>. Access in: may. 2020.
- Aleksandrowicz, L.; Green, R.; Joy, E. J.; Smith, P.; Haines, A. The impacts of dietary change on greenhouse gas emissions, land use, water use, and health: a systematic review. *PLoS one*, 11(11), 1-16, 2016. doi: 10.1371/journal.pone.0165797
- Alonso, L. E.; Rodríguez, C. J. F.; Rojo, R. I. Crisis y nuevos patrones de consumo: discursos sociales acerca del consumo ecológico en el ámbito de las grandes ciudades españolas. *Empiria. Revista de Metodología de Ciencias Sociales*, 29, 13-38, 2014. doi: 10.5944/empiria.29.2014.12939
- Amarillo, A. C.; Mateos, A. C.; Carreras, H. Source apportionment of PM10-bound polycyclic aromatic hydrocarbons by positive matrix factorization in Córdoba City, Argentina. *Archives of Environmental Contamination and Toxicology*, 72(3), 380-390, 2017. doi:10.1007/s00244-017-0384-y
- Ajzen, I.; Fishbein, M. *Understanding attitudes and predicting social behaviour*. Englewood Cliffs, NJ: Prentice Hall, 1980.
- Bamberg, S.; Fischer, D.; Geiger, S.J. Editorial: The Role of the Individual in the Great Transformation Toward Sustainability. *Frontiers in Psychology*, 12, 4-7, 2021. doi: 10.3389/fpsyg.2021.710897
- Bárcena Ibarra, A.; Samaniego, J. L.; Peres, W.; Alatorre, J. E. *La emergencia del cambio climático en América Latina*

- y el Caribe: ¿seguimos esperando la catástrofe o pasamos a la acción? Santiago: Comisión Económica para América Latina y el Caribe (CEPAL), 2020.
- Bernardes, J. P.; Ferreira, F.; Marques, A. D.; Nogueira, M. "Do as I say, not as I do": A systematic literature review on the attitude-behaviour gap towards sustainable consumption of Generation Y. Lesvos, Dissertation – AITAE, 2018.
- Bianchi, E. C., Carmelé, B., Tubaro, D., & Bruno, J. M. Conciencia y acciones de consumo responsable en los jóvenes universitarios. *Escritos Contables y de Administración*, 4(1), 81-107, 2013a. Available in: <https://dialnet.unirioja.es/servlet/articulo?codigo=5120362>
- Bianchi, E. C.; Ferreyra, S.; de Gesualdo, G. K. Consumo responsable: diagnóstico y análisis comparativo en la Argentina y Uruguay. *Escritos Contables y de Administración*, 4(1), 43-79, 2013b. Available in: <https://dialnet.unirioja.es/descarga/articulo/5120360.pdf>.
- Boccolini, S. M. Construcción sociodemográfica en Córdoba (Argentina): cambios de las estructuras sociales en el territorio y su impacto en la demanda de hábitat urbano. *Cadernos Metrópole*, 19(40), 999-1023, 2017. doi: 10.1590/2236-9996.2017-4013
- Chambers, S.; Lobb, A.; Butler, L.; Harvey, K.; Traill, W. B. Local, national, and imported foods: A qualitative study. *Appetite*, 49(1), 208-213, 2007 doi: 10.1016/j.appet.2007.02.003
- Cialdini, R. B.; Reno, R. R.; Kallgren, C. A. A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58(6), 1015-1026, 1990. doi: 10.1037/0022-3514.58.6.1015
- Cialdini, R. B.; Trost, M. R. Social influence: Social norms, conformity, and compliance. In: Gilbert, D. T.; Fiske, S. T.; Lindzey, G. (Eds.). *The handbook of social psychology*. McGraw-Hill, 1998. p. 151–192.
- Corral-Verdugo, V. C.; Fonllem, C. T.; Sing, B. F.; Acosta, J. M.; Ulloa, P. M. Orientación a la sustentabilidad como determinante de los estilos de vida sustentables: un estudio con una muestra mexicana. *Revista Mexicana de Psicología*, 25(2), 313-327, 2008. Available in: <https://www.redalyc.org/pdf/2430/243016308011.pdf>
- Corral-Verdugo, V.; García-Cadena, C. H.; Castro, L.; Viramontes, I.; Limones, R. Equity and sustainable lifestyles. In: Corral-Verdugo, V.; García-Cadena, C. H.; Frias-Armenta, M. (Eds.) *Psychological approaches to sustainability: Current trends in theory, research and applications*. New York: Nova Science Publishers, 2010. p. 1-485.
- Dedelė, A.; Miškinytė, A.; Andrušaitytė, S.; Nemaniūtė-Gužienė, J. Dependence between travel distance, individual socioeconomic and health-related characteristics, and the choice of the travel mode: A cross-sectional study for Kaunas, Lithuania. *Journal of Transport Geography*, 86, 102762, 2020. doi: 10.1016/j.jtrangeo.2020.102762
- De Koning, J. I. J. C.; Crul, M. R. M.; Wever, R.; Brezet, J. C. Sustainable consumption in Vietnam: An explorative study among the urban middle class. *International Journal of Consumer Studies*, 39(6), 608-618, 2015. doi: 10.1111/ijcs.12235
- Diprose, K.; Valentine, G.; Vanderbeck, R. Building common cause towards sustainable consumption: A cross-generational perspective. *Environment and Planning E: Nature and Space*, 2(2), 203-228, 2019. doi: 10.1177/2514848619834845
- Ede, J.; Graine, S.; Rhodes, C. *Moving towards sustainable food consumption: identifying barriers to sustainable student diets*. Karlskrona, Thesis (Master programme in Strategic Leadership towards Sustainability) – BTH, 2011.
- EEA – European Environment Agency. *Growth without economic growth*, 2021. Available in: <https://data.europa.eu/doi/10.2800/492717> Access in: feb. 2022.
- EurEau – European Federation of National Associations of Water Services. *Europe's water in figures*. An overview of the European drinking water and wastewater sectors, 2017. Available in: https://www.danva.dk/media/3645/eureau_water_in_figures.pdf. Access in: jun. 2020.
- Fajersson, I.; Cerrudo Sampol, M. *How green are you? A study on Baby Boomers and Generation Y*. Kristianstad, Bachelor Thesis (International Business and Economics) – HKR, 2013.
- Feldmann, C.; Hamm, U. Consumers' perceptions and preferences for local food: A review. *Food Quality and Preference*, 40, 152-164, 2015. doi: 10.1016/j.food-

qual.2014.09.014

Fielding, K. S.; Russell, S.; Spinks, A.; Mankad, A. Determinants of household water conservation: The role of demographic, infrastructure, behaviour, and psychosocial variables. *Water Resources Research*, 48(10), 1-12, 2012. doi: 10.1029/2012WR012398

Frederiks, E. R.; Stenner, K.; Hobman, E. V. Household energy use: Applying behavioural economics to understand consumer decision-making and behaviour. *Renewable and Sustainable Energy Reviews*, 41, 1385-1394, 2015a. doi: 10.1016/j.rser.2014.09.026

Frederiks, E. R.; Stenner, K.; Hobman, E. V. The socio-demographic and psychological predictors of residential energy consumption: A comprehensive review. *Energies*, 8(1), 573-609, 2015b. doi:10.3390/en8010573

Geiger, S. M.; Fischer, D.; Schrader, U. Measuring what matters in sustainable consumption: An integrative framework for the selection of relevant behaviors. *Sustainable Development*, 26(1), 18-33, 2018. doi: 10.1002/sd.1688

Geng, J.; Long, R.; Chen, H.; Yue, T.; Li, W.; Li, Q. Exploring multiple motivations on urban residents' travel mode choices: An empirical study from Jiangsu province in China. *Sustainability*, 9(1), 136, 2017. doi: 10.3390/su9010136

Giulio, A. D.; Fischer, D.; Schäfer, M.; Blätzel-Mink, B. Conceptualising sustainable consumption: Toward an integrative framework. *Sustainability: Science, Practice and Policy*, 10(1), 45-61, 2014. doi: 10.1080/15487733.2014.11908124

IPCVA – Instituto de la Promoción de la Carne Vacuna Argentina. *La cocina en casa con carne vacuna es tendencia en la cuarentena*, 2020. Available in: <<http://www.ipcva.com.ar/vertext.php?id=2125>>. Access in: oct. 2020.

Ivanova, D.; Stadler, K.; Steen Olsen, K.; Wood, R.; Vita, G.; Tukker, A.; Hertwich, E. G. Environmental impact assessment of household consumption. *Journal of Industrial Ecology*, 20(3), 526-536, 2016. doi: 10.1111/jiec.12371

Ivanova, D.; Vita, G.; Wood, R.; Lausset, C.; Dumitru, A.; Krause, K.; ...; Hertwich, E. G. Carbon mitigation in domains of high consumer lock-in. *Global Environmental Change*, 52, 117-130, 2018. doi: 10.1016/j.gloenv

cha.2018.06.006

Jakovcevic, A.; Reyna, C. Explaining energy efficiency behaviours among Argentinean citizens through the VBN model. *Psychology*, 7(3), 282-306, 2016. doi: 10.1080/21711976.2016.1238588

Jakovcevic, A.; Steg, L. Sustainable transportation in Argentina: Values, beliefs, norms and car use reduction. *Transportation Research Part F: Traffic Psychology and Behaviour*, 20, 70-79, 2013. doi: 10.1016/j.trf.2013.05.005

Jensen, J. D.; Christensen, T.; Denver, S.; Ditlevsen, K.; Lassen, J.; Teuber, R. Heterogeneity in consumers' perceptions and demand for local (organic) food products. *Food quality and preference*, 73, 255-265, 2019. doi: 10.1016/j.foodqual.2018.11.002

Kalbar, P. P.; Birkved, M.; Hauschild, M.; Kabins, S.; Nygaard, S. E. Environmental impact of urban consumption patterns: Drivers and focus points. *Resources, Conservation and Recycling*, 137, 260-269, 2018. doi: 10.1016/j.resconrec.2018.06.019

Kollmuss, A.; Agyeman, J. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behaviour? *Environmental Education Research*, 8(3), 239-260, 2002. doi: 10.1080/13504620220145401

Krueger, R.; Casey, M. *Focus groups: A practical guide for applied research*. Thousand Oaks, Calif: Sage Publications, 5th ed., 2015.

Li, C.; Ghiasi, A.; Li, X.; Chi, G. Sociodemographics and access to organic and local food: A case study of New Orleans, Louisiana. *Cities*, 79, 141-150, 2018. doi: 10.1016/j.cities.2018.03.003

Litman, T.; Burwell, D. Issues in sustainable transportation. *International Journal of Global Environmental Issues*, 6(4), 331-347, 2006. doi: 10.1504/IJGEN-VI.2006.010889

Manríquez-Betanzos, J. C.; Corral-Verdugo, V.; Fraijo-Sing, B. S.; Tapia-Fonllem, C. O. Influencia de factores positivos, motivacionales y temporales sobre el ahorro de agua. *Quaderns de Psicologia*, 19(2), 137-149, 2017a. doi: 10.5565/rev/psicologia.1382

Manríquez-Betanzos, J. C.; Corral-Verdugo, V. C.; Tapia-

- Fonllem, C. O.; Fraijo-Sing, B. S. Hedonia, eudaimonia y conducta de ahorro de energía eléctrica: un modelo estructural. *Psicumex*, 7(2), 56-73, 2017b. doi: 10.36793/psicumex.v7i2.293
- McPhearson, T. M.; Raymond, C.; Gulsrud, N.; Albert, C.; Coles N.; Fagerholm, N.; Nagatsu, M.; Olafsson, A.S.; Soininen, N.; Vierikko, K. Radical changes are needed for transformations to a good Anthropocene. *Npj Urban Sustainability*, 23, 1(1), 1-3, 2021. doi: 10.1038/s42949-021-00017-x
- Molina-Azorin, J. F.; Fetters, M. D. Building a better world through mixed methods research. *Journal of Mixed Methods Research*, 12(3), 275-281, 2019. doi: 10.1177/1558689819855864
- Mont, O.; Heiskanen, E. Breaking the stalemate of sustainable consumption with industrial ecology and a circular economy. In: Reisch, L.; Thøgersen, J. (Eds). *Handbook of research on sustainable consumption*. Edward Elgar Publishing, 2015. p. 33-47.
- Newell, P.; Daley, F.; Twena, M. *Changing our ways: behaviour change and the climate crisis. elements in earth system governance*, 2021. Available in: <<https://www.cambridge.org/core/journals/global-sustainability/cambridge-sustainability-commissions/changing-our-ways>> Access in: feb. 2022.
- Nolan, J. M.; Schultz, P. W.; Cialdini, R. B.; Goldstein, N. J.; Griskevicius, V. Normative social influence is underdetected. *Personality and Social Psychology Bulletin*, 34(7), 913-923, 2008. doi: 10.1177/0146167208316691
- Norwegian Ministry of Environment. *Symposium: Sustainable Consumption*. Oslo: Norwegian Ministry of Environment, 1994.
- OECD – Organisation for Economic Co-operation and Development. *Water Governance in Argentina*, 2019. doi: 10.1787/bc9ccbf6-en
- OECD – Organisation for Economic Co-operation and Development. *Meat consumption (indicator)*, 2020. doi: 10.1787/fa290fd0-en
- ONDaT – Observatorio Nacional de Datos de Transporte. *Consumo de combustible y emisiones de gases contami-*
- nantes y material particulado del sector transporte*, 2013. Available in: <http://ondat.fra.utn.edu.ar/?cat=103> Access in: jan. 2020.
- Pandey, R. U.; Surjan, A.; Kapshe, M. Exploring linkages between sustainable consumption and prevailing green practices in reuse and recycling of household waste: Case of Bhopal city in India. *Journal of Cleaner Production*, 173, 49-59, 2018. doi: 10.1016/j.jclepro.2017.03.227 Access in: jan. 2020.
- Richardson, L. M.; Ginn, J.; Prosser, A. M.; Fernando, J. W.; Judge, M. Improving research on the psychology of sustainable consumption: Some considerations from an early career perspective. *Journal of Social Issues*, 76(1), 150-163, 2020. doi: 10.1111/josi.12373
- Richetin, J.; Perugini, M.; Mondini, D.; Hurling, R. Conserving water while washing hands: The immediate and durable impacts of descriptive norms. *Environment and Behaviour*, 48(2), 343-364, 2016. doi: 10.1177/0013916514543683
- Rivas, M. E.; Suárez-Alemán, A.; Serebrisky T. *Hechos estilizados de transporte urbano en América Latina y El Caribe*, 2019. doi: 10.18235/0001606
- SAIMO – Sociedad Argentina de Investigadores de Marketing y Opinión. *Antecedentes y fundamentos del NSE CEI 2006*, 2006. Available in: <<http://www.saimo.org.ar/ob-social-archivos.php>>. Access in: nov. 2020.
- SAIMO – Sociedad Argentina de Investigadores de Marketing y Opinión. *Cuestionario NSE Simplificado Online 2015*, 2015. Available in: <<http://www.saimo.org.ar/ob-social-archivos.php>>. Access in: nov. 2020.
- Schill, C.; Anderies, J.M.; Lindahl, T.; Folke, C.; Polasky, S.; Cárdenas, J.C.; Crépin, A.S.; Janssen, M.A.; Norberg, J.; Schlüter, M. A more dynamic understanding of human behaviour for the Anthropocene. *Nature Sustainability*, 2(12), 1075-1082, 2019. doi: 10.1038/s41893-019-0419-7
- Secretaría de Gobierno de Energía. *Balance Energético Nacional de la República Argentina*, 2019. Available in: <<https://www.argentina.gob.ar/economia/energia/hidrocarburos/balances-energeticos>>. Access in: dec. 2020.
- SENASA – Servicio Nacional de Sanidad y Calidad Agro-

-
- alimentaria. *Situación de la producción orgánica en la Argentina durante el año 2018*, 2019. Available in: <https://www.argentina.gob.ar/sites/default/files/situacion_de_la_po_en_la_argentina_2018.pdf> Access in: oct. 2020.
- Steg, L.; Gifford, R. Sustainable transportation and quality of life. In: Himanen, V.; Lee-Gosselin, M.; Perrels, A. (Eds). *Building blocks for sustainable transport: Obstacles, trends, solutions*. Bingley, United Kingdom: Emerald Group Publishing, 2008. p. 183-202.
- Stern, P. C.; Dietz, T.; Kalof, L. Value orientations, gender, and environmental concern. *Environment and Behaviour*, 25(5), 322-348, 1993. doi: 10.1177/0013916593255002
- Tan, L. P.; Johnstone, M. L.; Yang, L. Barriers to green consumption behaviours: The roles of consumers' green perceptions. *Australasian Marketing Journal (AMJ)*, 24(4), 288-299, 2016. doi: 10.1016/j.ausmj.2016.08.001
- Thøgersen, J. Consumer behavior and climate change: Consumers need considerable assistance. *Current Opinion in Behavioural Sciences*, 42, 9–14, 2021. doi: 10.1016/j.cobeha.2021.02.008
- UN DESA – United Nations Department of Economic and Social Affairs. *The Sustainable Development Goals Report*. New York: UN, 2018. doi: 10.18356/7d014b41-en
- Vita, G.; Lundström, J. R.; Hertwich, E. G.; Quist, J.; Ivanova, D.; Stadler, K.; Wood, R. The environmental impact of green consumption and sufficiency lifestyles scenarios in Europe: Connecting local sustainability visions to global consequences. *Ecological Economics*, 164, 106322, 2019. doi: 10.1016/j.ecolecon.2019.05.002
- WCED – World Commission on Environment and Development. *Our common future*. Oxford: Oxford University Press, 1987.
- Weber, C. L.; Scott Matthews, H. Food-miles and the relative climate impacts of food choices in the United States. *Environmental Science & Technology*, 42(10) 3508–3513, 2008. doi: 10.1021/es702969f