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Sustainability of collaborative consumption in question: When second-hand peer-to- peer platforms stimulate green consumers' impulse buying and overconsumption

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INTRODUCTION AND RESEARCH QUESTION

Collaborative consumption encompasses “systems of organized sharing, bartering, lending, trading, renting, gifting, and swapping across communities of peers”. Amongst this wide panel of practices, activities associated to redistribution markets, defined as the exchange of “used or pre-owned goods moving from somewhere they are not needed to somewhere they are” (for free or with compensation), are the most common practice. Old practice per se as it used to be done through garage sale, second-order outlets, “redistribution markets” have gained momentum with the development of Web-based second-hand peer-to-peer (P2P) platforms (eg. Craig’s list or Ebay in the US, Le Bon coin in France).

These second-hand P2P platforms are seen as encouraging sustainable consumption as they offer second life to products, avoiding to latter to be stored in some place, meanwhile other households would buy new items. However, the question of the positive environmental impact of second-hand P2P platforms is still to be proved. Several authors tend to argue that they could also stimulate overconsumption through rebound effects. The present paper contributes to this debate by investigating the propensity of consumers, especially environmentally conscious ones, to be tempted by overconsumption on peer-to-peer platforms, which provide a favorable context for self-licensing behaviors.

METHOD & DATA

A survey was conducted in June 2015 amongst 541 active buyers of the French P2P platform leboncoin (equivalent of US craigslist) addressing questions relative to their buying activity during the previous year.

SUMMARY OF FINDINGS

Results confirm that environmentally conscious consumers are more akin to be tempted in the context of second-hand P2P platform. More precisely, the route leading from materialism to overconsumption through impulse buying is stronger for them than for non-green consumers.

KEY CONTRIBUTIONS

This finding has key practical contributions regarding the counterproductive role of collaborative consumption to sustainability in certain conditions. Theoretically, the research contributes to further develop the emerging theory of self-license in a new context of decision.

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INTRODUCTION

Collaborative¹ consumption encompasses “systems of organized sharing, bartering, lending, trading, renting, gifting, and swapping across communities of peers” (Botsman & Rogers, 2010). Many academics and managers (Botsman & Rogers, 2010; Bauwens, Mendoza, & Iacomella, 2012; Schor, 2014) see it as a third industrial revolution as the collaborative economy induces a new paradigm in terms of production and consumption, laying on technological as well as sociological changes. Amongst collaborative consumption practices, second-hand peer-to-peer (P2P) exchanges (e.g., craigslist in the US, eBay worldwide, leboncoin in France) have recently gained momentum to become the most widespread practice of collaborative consumption.

As the offspring of traditional second-hand shopping at garage sales, flea markets or second-order outlets (Guiot & Roux, 2010), second-hand P2P platforms relax transaction costs associated with second-hand exchanges (Thomas, 2011). Indeed, the permanent flow of classified ads alleviates spatial and temporal constraints related to the connection of buyers and sellers in a specific place and a precise timeframe. Thus, in 2014, three quarters of French people bought at least one item on a second-hand P2P platform (Daudey & Hoibian, 2014), making second-hand P2P platforms of utmost strategic importance in terms of economic impact as well as with regard to sustainability issues. Thus far, there is a lack of empirical ac-

ademic research addressing the comprehension of users’ behavior on second-hand P2P platforms generally. In terms of sustainability, collaborative consumption is sometimes represented as a utopia (Prothero et al., 2011; Schor, 2014), in that it creates social links, empowers ordinary people, provides vulnerable persons with access to markets, and reduces the environmental footprint. At the same time, critics denounce it as exploitative and self-interested (Schor, 2014) as well as its capacity to lead to over-consumption (Denegri-Knott & Molesworth, 2009; Denegri-Knott, 2011; Robert, Binninger, & Ourahmoune, 2014).

Regarding this last complex question, very little is known so far. At first glance, second-hand P2P platforms would seem to encourage sustainable consumption as they offer a kind of second life to objects, avoiding storing them uselessly, compared to other households that buy new ones. In this way, such platforms incarnate the best channel to apply the second injunction of the famous US EPA² slogan “Reduce, Reuse, Recycle.” In addition, environmental arguments are a key motivation for “offline” second-hand shopping (Guiot & Roux, 2010) and the first or second motive for 30% of consumers using these platforms, just after economic motives (i.e., saving or earning money) (Daudey & Hoibian, 2014). However, the positive environmental impact of second-hand P2P platforms remains to be proved. Several authors argue that this impact could be negative because of overconsumption and rebound effects (e.g., Thomas, 2003, 2011; Robert et al., 2014). In particular, they point out that consumers may buy more objects, even unnecessary ones, or replace them more often

1. In the present paper, we adopt the term “collaborative” rather than “sharing”, which is considered a synonymous due to its positive, and potentially misleading, symbolic meaning and also because, strictly speaking, it does not cover the giving or trading of objects.

2. Environmental Protection Agency, US public agency in charge of environmental issues.

for different reasons including price attractiveness, the opportunity to sell them if found to be useless or obsolete, or indirect overconsumption through purchasing other things with the savings from second-hand buying (Peugeot, Beuscart, Pharabod, & Trespeuch, 2015).

With these findings in mind, the present research contributes to the debate by investigating one aspect of the question: do second-hand P2P platforms stimulate overconsumption? In the present research, we follow Ehrlich and Ehrlich's (2004) definition of overconsumption, meaning "goods consumed above a basic level needed to give "reasonable comfort" (p. 120). More precisely, we address the question of who would be more tempted by overconsumption in the context of second-hand P2P platform shopping. Common sense would generally dictate that "green" consumers (those who are highly environmentally conscious) are less likely to overconsume. However, we postulate that, due to the liberating context of a second-hand P2P platform, environmentally conscious consumers could be more subject to overconsumption than others. To justify this assumption, we build on the emerging theory of self-licensing (Khan & Dhar, 2005; Mukhopadhyay & Johar, 2009; Merritt, Efron, & Monin, 2010; De Witt Huberts, Evers, & De Ridder, 2012), which states that certain decision contexts lead to hedonic or indulgent decisions because they offer a justification to give in to temptation, especially when conflicting goals are at stake. Drawing on this theory, we develop a conceptual framework postulating that consumers' environmental consciousness will enhance impulse buying and strengthen the influence of consumers' materialism on impulse buying on second-hand P2P platforms. Based on a survey conducted in June 2015 amongst 541 active buyers on the French leading second-hand P2P platform leboncoin, this research shows that both the materialism of consumers and their environmental consciousness enhance overconsumption behaviors, through the mediation of impulse buying.

The contributions are, therefore, twofold. From a practical point of view, this research represents the first attempt to empirically test the possible counterproductive effect of redistributive market practices in terms of their consumption environmental impact. As such, this has implications in terms of consumer education or measures to limit "greenwashing" on the part of platform managers. From a theoretical point of view, the research extends the emerging theory of self-licensing to a new marketing context re-

lated to the distribution channel itself and identifies impulse buying as the underlying mechanism explaining the counterproductive effect of P2P platforms on the environment. In this way, it is also the first research in consumer behavior to address a new technological Internet-based interface, P2P platforms, and it seeks to explain the specific drivers of impulse buying on these kinds of websites. Indeed, previous research concerning the human-technology interface has only addressed the comprehension of classical online environments (Punj, 2012; Demangeot & Broderick, 2010).

THEORETICAL BACKGROUND

Collaborative Consumption: Definition and Practices

Collaborative consumption really emerged as a global concept in 2010 with Botsman and Rogers, even if the first leading collaborative platforms were launched earlier (e.g., ebay and craigslist in the US in 1995, leboncoin in France in 2006, AirBnB in 2008). Defining it as "*systems of organized sharing, bartering, lending, trading, renting, gifting, and swapping across communities of peers*" (p. 15), Botsman and Rogers (2010) adopted a practical definition that lists the activities covered by the concept and emphasizes the main aspect of the underlying revolution, the peer-to-peer dimension. Belk (2014) then proposed a more conceptual definition stating that "*collaborative consumption is people coordinating the acquisition and distribution of a resource for a fee or other compensation*" (p. 1597), leaving aside the question of the exact perimeter of the activities covered, but making it a central question for marketing and consumption. If these definitions do not set as a necessary condition that collaborative practices be conducted through web-based platforms, many authors consider that Web 2.0 technologies are the reason for the tremendous pace of the phenomenon's development on a worldwide scale (Belk, 2014; Schor, 2014), as well as the culture that has developed around values of collaboration, openness, freeness, and horizontality (Turner, 2012, cited by Peugeot et al. 2015, p. 21).

Going further, these seminal works contributed to defining typologies of collaborative practices. Bostman and Rogers (2011) organize collaborative practices around three types. The first, termed *product-service systems* (PSS), encapsulates activities relating to the renting

or sharing of durables or semi-durables, where property of the objects is not transferred. Famous examples of this category are zipcar, blablacar, neighborgoods in the US or sharevoisins in France. The second type of practice, called *redistribution markets*, includes activities of bartering, gifting, or selling of objects with an effective transfer of property, the exchange being without compensation for gift or with material or financial compensation. As the oldest collaborative activities, demonstrated by the early emergence of ebay and craigslist in 1995, they are the most widespread with a great majority of people having already tried them. Many new platforms of this type are still emerging every day, such as thredup or threadflip for apparel, freecycle or yerdle for free exchange (Schor, 2014). The third type, termed *collaborative lifestyles*, includes the sharing of immaterial resources such as space (e.g., co-working, co-gardening, and housing, such as couchsurfing or airbnb), money (e.g., crowdfunding), or services. Schor (2014) has proposed a very similar typology depending on the practice objectives: increased utilization of durable assets/sharing of productive assets (equivalent to PSS, except that Schor distinguishes between the sharing of assets for consumption and assets for new production, like co-working or makerspace), the recirculation of goods (similar to redistribution markets), and exchange of services.

Collaborative Consumption and Sustainability

Many researchers (Belk, 2010; Botsman & Rogers, 2010; Gansky, 2010; Prothero et al., 2011; Albinsson & Perera, 2012; Schor, 2014) share the general view that the collaborative economy is probably a major step towards more sustainable ways of life, sustainability being understood at the environmental and social levels. Belk (2010) considers sharing as an alternative form to traditional distribution channels, which aim, from an environmental perspective, to preserve natural resources and, from a social point of view, foster a sense of community. Prothero et al. (2011) indicate that the collaborative economy reflects “*a global readiness to shift values away from excessive consumption to more frugal and thus more sustainable solutions to everyday problems*” (p. 36). Focusing on the ecological side, Bostman and Rogers (2011) also state that these collaborative systems offer environmental benefits by increasing the use of unproductive objects, reducing waste, encour-

aging the development of objects with longer lifespans or optimized lifecycles, and absorbing the surplus generated by overproduction and overconsumption.

Several works show that collaborative practices also tend to change the relation that consumers have to objects and material life (Robert et al., 2014). Since collaborative consumption is associated with sharing instead of having, to the superiority of access over possessions, and to the acceleration of the circulation of objects, it disrupts previous conceptualizations of objects as extending the concept of the self and creating attachment (Belk, 1988), enhancing social identity (Bourdieu, 1979), or encapsulating the memory of the past (Scholl, 2006). It therefore gives way to a paradigm shift towards more frugal ways of living.

Practically speaking, many collaborative platforms advertise themselves as green, as a way to reduce one’s carbon footprint, given that sharing is less resource intensive than the dominant ways of accessing goods and services (Schor, 2014). In this way, they respond to increasing demands from consumers, who engage in collaborative practices for ecological motivations, which immediately follow economic ones (Daudey & Hoibian, 2014; Robert et al. 2014).

After this initial enthusiasm towards a utopian view of collaborative consumption, however, several authors began to consider its environmental benefits as a more complex question (Schor, 2014; Robert et al., 2014). The detachment from possessions and consumption is not as obvious since renting or temporarily accessing objects present an opportunity to enjoy new experiences, which increases the hedonic and experiential value of objects (Durgee & O’Connor, 1995). As an illustration, Peugeot et al. (2015) identify different trajectories of relationships to cars amongst users of drivy (a car-sharing platform): there are those who sell their own car because their needs are tenuous and they rely on public transportation and rental cars; but there are also those who are interested in keeping their car because they can offset costs by renting it occasionally.

Regarding this issue of the environmental impact of P2P platforms, as Schor (2014) states, “*despite the widespread belief that the sector helps to reduce carbon emissions, there are almost no comprehensive studies of its impact,*” apart from few exceptions regarding car sharing (cited by Schor, 2014). As these initiatives tend to demonstrate, the question of the ecological impact of collaborative consumption needs to

be addressed at the level of one specific type of consumption, and probably even at the level of the platform itself, depending on the rules it defines for peer-to-peer exchange. In the present research, we focus on the most common practice (i.e., redistribution markets), and examine its importance in terms of transaction flows and therefore its capacity to transform consumers' relation to objects and material life.

Redistribution Markets and Sustainability: The Good Old Debate about Second-hand Buying

Redistribution markets constitute a renewal of the already well-established activity of second-hand buying, which have been disrupted due to Web 2.0 technologies replacing traditional second-hand markets, flea markets, and garage sales by huge second-hand P2P platforms. Research concerning traditional second-hand buying is scarce in marketing, probably because the practice used to be epiphenomenal, though it is interesting for the present research.

At the market level, research in economics has addressed the question of second-hand market rebound effects, namely the fact that they stimulate demand for new goods, thereby increasing material consumption, since owners of new goods are able to sell their assets more easily and buy new assets more frequently (Thomas, 2003). According to Thomas (2011), the magnitude of rebound effects depends on several interacting factors to be modeled in each specific market situation: product lifetime, product obsolescence, benefit of newness on the market, and transaction costs and loss of value between each transaction. The general idea that second-hand markets support and promote primary markets by making consumer products into "liquid assets" that consumers can easily sell has been defended since 1957 by Fox (cited by Thomas, 2011).

At the individual level, consumers hold the strong belief that buying second-hand objects is environmentally virtuous as it nurtures a "zero-waste" society (Peugeot et al., 2015). Guiot and Roux (2010) identify shoppers' motivations for second-hand buying in general and empirically measure key motives, aside from economic ones, including supporting ethical and ecological concerns about recycling and combating waste. Other authors defend a more ambiguous perspective concerning consumer motivations. Peugeot et al. (2015) show that on second-hand P2P platforms the real motivation of frugality cohabits with motivations to buy more items or

more luxurious ones, knowing that they can sell them after a few uses (especially in fashion markets). Dehling (2014) also observed the degree to which much second-hand buying can be associated with the accumulation of objects. Earlier in 2005, Bardhi and Arnould showed, in the context of traditional offline second-hand buying, that thrift and hedonic desire, though apparently contradictory, actually cohabited at the same time during a buying occasion. Consumers' discourse show that they use thrift as a way of justifying treats when they engage in contradictory practices, reporting for example "*having no regrets for buying stuff in thrift shops that they would never use or might not even like.*" Following Belk et al. (2003), Bardhi and Arnould (2005) argue that "*consumers justify their desires through moral arguments and that every culture creates specific social contexts where indulgences of desires are approved.*" However, they do not test this hypothesis further. This interesting intuition to explain the ambivalence of consumers' motivation at the individual level can be theoretically supported by the theory of self-licensing. The following section develops the conceptual foundations of self-licensing and how it can explain behaviors in a context of impulse temptation, that is, on second-hand P2P platforms.

Second-hand P2P Platforms as an Ideal Context for Self-licensing

The concept of self-licensing is based on the finding from decision-making research that people are more likely to behave in ways that can be easily justified (Shafir et al., 1993). When choice generates a conflict, decision makers seek reasons to solve the conflict and justify their choice (De Witt Huberts et al., 2012). Self-licensing processes were initially applied to moral behavior (Merritt et al., 2010) where people whose past behavior (considered as "good" behavior) served as a justification to behave badly subsequently in the same domain (De Witt Huberts et al., 2012). The theory has been recently applied to consumer behavior (the term "self-licensing" was first employed by Khan and Dhar, 2006), in order to explain hedonic choices or indulgent decisions by permitting oneself an otherwise disallowed pleasure (De Witt Huberts et al., 2012; Khan, 2011; Mukhopadhyay & Johar, 2009; Kivetz & Simonson, 2002), but research is still scarce (De Witt Huberts et al., 2012) and only a few contexts have been covered by studies.

Licensing effects specifically contribute to explaining how people give in to temptation,

i.e., a “*momentary allurement that threatens a currently active goal.*” It is therefore closely linked to impulse buying, which occurs when temptation is high (Mukhopadhyay & Johar, 2009; Mukhopadhyay et al., 2008). It arises when goal-conflict is at stake, for example, being tempted to purchase an unplanned product, or the typical case of indulging with chocolate cake when on a diet (Mukhopadhyay & Johar, 2009; Khan & Dhar, 2006). Previous research also agrees that the context providing justification for self-licensing serves to enhance consumers’ self-concept (feeling virtuous), therefore, allowing for transgression versus an initially goal set (Khan & Dhar, 2006). Several contexts have been covered by recent research to explain indulgent behaviors. These include initial shopping restraints (Mukhopadhyay & Johar, 2009; Louro, Pieters, and Zeelenberg, 2007), money won from a lottery (O’Curry & Strahilevitz, 2001), altruistic decisions made before consumption decisions (Khan & Dhar, 2005), and the amount of effort devoted to obtain a reward in a loyalty program (Kivetz & Simonson, 2002).

The context of second-hand P2P platforms seems appropriate to enact licensing processes because of two specificities. Generally speaking, websites have been shown to stimulate temptation (Mukhopadhyay & Johar, 2009) and impulse buying (Novak, Hoffman, & Duhachek, 2003; Park, Kin, Funches, & Foxx, 2012). In this regard, Denegri-Knott (2011) have shown through a qualitative study how ebay accelerates consumer desire by invigorating the “cult for the new” and the always changing influx of goods, both because of its digital nature (being accessible anytime, anywhere) and the permanent actualization of offers. Traditional second-hand market places have also been identified as enhancing impulse buying (Guiot & Roux, 2010). This characteristic of second-hand P2P platform should lead to impulse buying and probably overconsumption. But at the same time, because they provide second-hand objects, these platforms are supposed to be virtuous, encourage zero-waste and offer a second-life to objects. They therefore offer an excellent context to see how justification gives way to materialistic temptation, as assumed in the following conceptual framework.

CONCEPTUAL FRAMEWORK

Impulse buying, defined as the “*sudden, often powerful and persistent urge to consume, often without much deliberation*” (Dholakia, 2000), is

logically triggered by a materialistic orientation (Rose, 2007). As demonstrated by Rose (2007), individuals that are likely to think that buying products is a way to reach happiness or express their success should exhibit greater buying habits. This should be enhanced on second-hand P2P platforms which bring together the specificity of second-hand shopping and online shopping. Second-hand shopping is known to trigger impulse buying (Stone, Horne and Hibbert, 1996; Guiot & Roux, 2010) because of the opportunities for savings and discounts, and due to recreational motivations and the limited time of the sale (since the product is unique, it can be sold to someone else if a person takes time to make his decision). Denegri-Knot (2011) shows how the phenomenon is amplified on the Internet with the case of ebay, where ads appear as a continuous flow of new products accessible at any time from anywhere. Other research concerning impulse buying on the Internet shows the importance of affective reactions to trigger impulse buying, such as enjoyment, surprise, and the feeling of bargain hunting (Wolfenbarger & Gilly, 2001; Bressolles, Durrieu, & Giraud, 2007; Parboteeah, Valacich, & Wells, 2009). Second-hand P2P platforms are perfect places to feel these sort of affective reactions.

Furthermore, the ambivalence of second-hand P2P platforms, fueling both consumption desire and environmentally friendly purchases, makes them perfect candidates for goal-conflict contexts. On such platforms, consumers are actually likely to face a situation where they are able to satisfy their materialistic aspirations (Denegri-Knott, 2011). In addition, as on traditional second-hand market places (Guiot & Roux, 2010), they should at the same time be likely to engage their ecological concerns (Bardhi & Arnould, 2005). Therefore, shoppers who are highly concerned with the environment will face a goal conflict between their materialistic orientations and the preservation of the environment, resulting in a dissonant situation (Dholakia, 2000; Burroughs & Rindfleisch, 2011). As impulse buying is a cognitive and volitional process, the conflict will have to be solved through a cognitive evaluation mechanism to decide whether to resist or enact the purchase (Dholakia, 2000). According to self-licensing theory, the context of the second-hand P2P platform appears to be a good opportunity to justify giving in to temptation, and thus enacting impulse buying. Therefore, green consumers should exhibit more impulse buying on second-hand P2P platforms than non-green consumers, and also

exhibit greater influence of their materialism on impulse buying because of the specific context of second-hand P2P platform.

Hence, the hypotheses are as follows:

H1: Consumers' materialism will exert a positive effect on impulse buying on a second-hand P2P platform.

H2: Consumers' environmental consciousness will exert a positive effect on impulse buying on a second-hand P2P platform.

H3: Consumers' environmental consciousness will moderate the positive effect of consumers' materialism on impulse buying on a second-hand P2P platform, such that this effect will be more positive among highly environmentally conscious consumers.

De Witt Huberts and colleagues (2012) have shown the influence that impulse factors have on enhancing overconsumption, using the theoretical background of self-licensing. Overconsumption remains quite a vague concept, though the term has been increasingly used during the last decade (Hakansson, 2014). "Overconsumption is commonly used when discussing and in particular when criticizing consumption or some aspects of it" (p. 692), and the term is used in a large variety of disciplines (medicine, nutrition, psychology, marketing, sociology, ecology, economics...) (Hakansson, 2014). Hakansson (2014) defines overconsumption as being "when consumption is faulty and excessive, [becoming] inherently normative." He therefore articulates previous conceptualizations around three schools derived from moral philosophy (Sandel, 2010, in Hakansson, 2014): 1—overconsumption by consequence (a detrimental consequence for the person or the environment), 2—overconsumption by a faulty decision-making procedure (the wrong assessment of actual needs), and 3—overconsumption by value degradation (value degradation being the antecedent of overconsumption).

In the present paper, we have adopted the second school of conceptualization, derived from Ehrlich and Ehrlich's (2004) definition of overconsumption as "goods consumed above a basic level needed to sustain oneself and give "reasonable comfort." According to this definition, and following the findings of De Witt Huberts and colleagues (2012), impulse buying, which is manifested by a "persistent urge to consume without much deliberation" (Dholakia, 2000) will logically enhance overconsumption

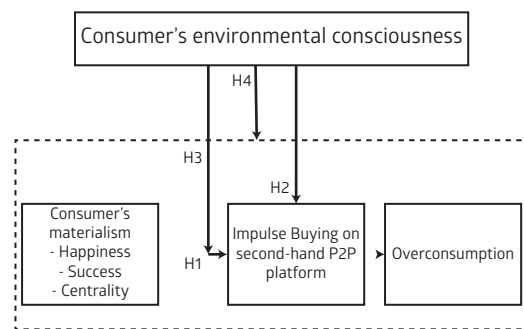
through a faulty assessment of actual needs.

To sum up previous arguments, materialism will result in overconsumption through the mediation of impulse buying, and this route will again be strengthened for environmentally conscious consumers. Therefore, it leads to H4:

H4: Consumers' environmental consciousness will moderate the indirect effects of consumers' materialism on overconsumption on second-hand P2P platforms through impulse buying, such that these effects will be more positive among highly environmentally conscious consumers.

These hypotheses lead to the following theoretical model.

Figure 1. The conceptual model



The next section presents the method that was used to test this model.

METHOD

Survey procedure.

To test our conceptual framework, a survey was administered in July 2015 to 541 French consumers recruited through a professional market research institute. This sample was representative of the French population in terms of age (mean age: 40 years), gender (52% women), region, and social class. All participants were active buyers on the P2P platform leboncoin, meaning that they had bought at least one item on leboncoin over the previous 12 months. Launched in 2006, leboncoin aims at connecting buyers and sellers in France. It is the French equivalent of subito in Italy, custojusto in Portugal, segundamano in Spain, avito in Morocco, tayara in Tunisia, or mudah in Malaysia. In France, with around 22 million users, 4 million visits a month, and more than 600 thousand classified ads posted

Table 1. Psychometric properties of the scales

| | Over-consumption | Materialism Happiness | Environmental consciousness | Impulse buying | Materialism Centrality | Materialism Success | Price sensitivity |
|---|------------------|-----------------------|-----------------------------|----------------|------------------------|---------------------|-------------------|
| Since I bought on leboncoin, I wonder less if I really need to buy as much | ,826 | | | | | | |
| Since I bought on leboncoin, I have less regret associated with the purchase of products that I do not actually need | ,818 | | | | | | |
| Since I bought on leboncoin, I wonder less often about the real utility of the products I buy | ,805 | | | | | | |
| Since I bought on leboncoin, I feel less guilty buying many products | ,789 | | | | | | |
| Since I bought on leboncoin, I replace my products faster | ,761 | | | | | | |
| Since I bought on leboncoin, I feel more comfortable with the idea of replacing products that are still in good condition | ,718 | | | | | | |
| Since I bought on leboncoin, I sometimes buy things that I would not have bought otherwise | ,711 | | | | | | |
| My life would be better if I owned certain things I don't have | | ,870 | | | | | |
| I'd be happier if I could afford to buy more things | | ,823 | | | | | |
| I do not have all the things I really need to enjoy life | | ,821 | | | | | |
| I would be happier if I owned nicer things | | ,776 | | | | | |
| When possible, I systematically choose the product that has the lowest impact on the environment | | | ,923 | | | | |
| When I have the choice between two equivalent products, I always wonder which one pollutes less before buying | | | ,903 | | | | |
| I try not to buy from companies that strongly pollute | | | ,897 | | | | |
| When I saw this product on leboncoin, I suddenly wanted to buy it | | | | ,897 | | | |
| When I saw this product on leboncoin, I immediately felt like buying it | | | | ,872 | | | |
| When I saw this product on leboncoin, I could not resist the desire to buy it | | | | ,806 | | | |
| I try to keep my life simple, as far as possessions are concerned | | | | | ,840 | | |
| I usually buy only the things I need | | | | | ,836 | | |
| I do not like spending money on things that aren't practical | | | | | ,829 | | |
| I place a lot of emphasis on the number of material objects people own as a sign of success | | | | | | ,822 | |
| Some of the most important achievements in life include acquiring material possessions | | | | | | ,786 | |
| The things I own say a lot about how well I'm doing in life | | | | | | ,726 | |
| When it comes to choosing something, I rely heavily on price | | | | | | | ,824 |
| I usually buy the lowest priced products that will suit my needs | | | | | | | ,801 |
| I usually buy products on sale | | | | | | | ,772 |
| Reliability | ,897 | ,896 | ,920 | ,838 | ,812 | ,806 | ,722 |

each day, leboncoin is the main P2P platform in France and also the 6th most visited website.

Measures.

Respondents were first invited to report their experience on the P2P platform (in months). Overconsumption was assessed through objective and subjective measures. The objective measure consisted in the consumption level following Quick and Bates (2010) and Johnston and Lee (2011). In the present case, it was operationalized as the number of items bought on the P2P platform over the last 12 months. The measure is objective and perfectly fits the objective of testing the influence of antecedent variables (namely impulse buying and materialism), but is conceptually weak as it does not encapsulate the notion of “consuming above a basic level.” To compensate for this weakness, a subjective measure was developed to assess users’ self-perception of their tendency to overconsume on P2P platforms. Seven “ad hoc” items were developed to address the three aspects of the concept as identified in existing literature. The first three items were directly derived from Erhlich and Erhlich’s (2004) definition of “consuming above basic needs” and inspired by Bardhi and Arnould’s (2005) interviews: “Since I bought on leboncoin, I wonder less if I really need to buy as much,” “[...], I more often buy things that I would not have bought otherwise.” “[...], I wonder less often on the real utility of the product I buy.” The next two items were derived from Peugeot and colleagues (2015), Robert and colleagues (2014), and Bardhi and Arnould (2005) tapping the idea of replacing products faster: “Since I bought on leboncoin, I replace my products faster,” “[...], I feel more comfortable with the idea of replacing products that are still in good condition.” The last two items comprise the potential regret that shoppers may feel when overconsuming and were derived from Chernev (2011) and Bardhi and Arnould (2005): “Since I bought on leboncoin, I have less regret associated with the purchase of products that I do not actually need,” “[...], I feel less guilty buying many products” (see Table 1).

Impulse buying on the P2P platform was measured using a scale adapted from Bressolles and colleagues (2007). The three facets of materialism—happiness, success and centrality (reverse dimension)—were measured using 10 items from Richins’ (2004) scale. Environmental concern was measured using three items from Parguel, Benoit-Moreau, and Russell (2015). Price sensitivity was measured using three items

from Lichtenstein, Bloch, and Black (1988). All the constructs were measured by seven-point Likert scales. We conducted unidimensionality and reliability checks for the multi-item scales and found satisfactory reliability (see Table 1).

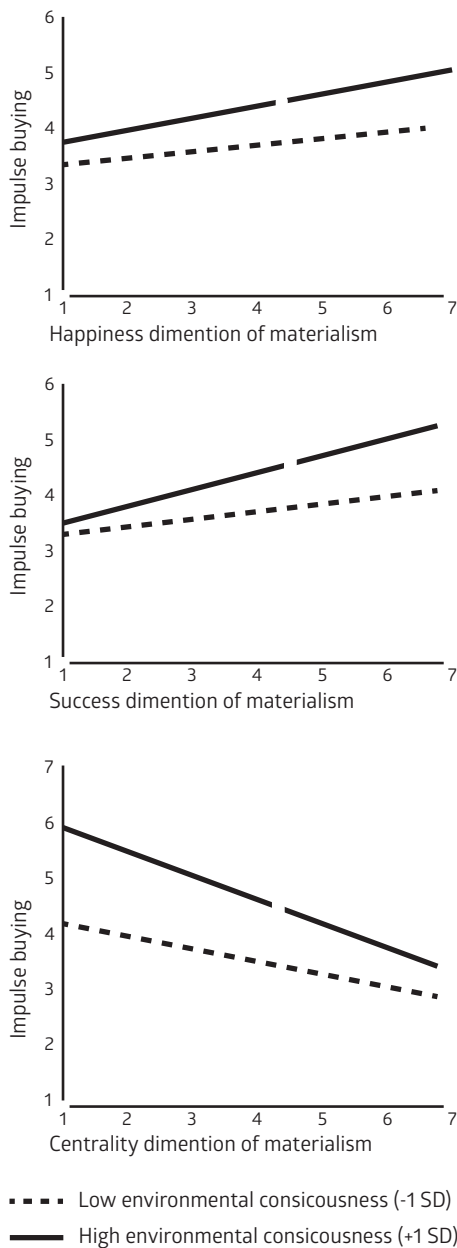
Results

To test H1 and H2 and the notion that consumers’ materialism and environmental consciousness exert a positive effect on impulse buying, we conducted a linear regression with age, gender, and experience on the platform, and price sensitivity as covariates. As predicted, results revealed a positive effect concerning materialism’s dimensions of success ($\beta=.17$, $p < .001$) and happiness ($\beta=.08$, $p < .10$) and a negative effect for its centrality ($\beta=-.25$, $p < .001$) on impulse buying. In addition, they revealed a positive effect for consumers’ environmental consciousness on impulse buying ($\beta=.28$, $p < .001$). Of note, young consumers engage in more impulse buying than older consumers ($\beta=.28$, $p < .05$). The other covariates had no significant effect on impulse buying (all p 's $> .10$). These results thus support H1 and H2.

Turning to H3 and the predicted moderating role of consumers’ environmental consciousness on the relationship between consumers’ materialism and impulse buying, regressions for each of the dimension of consumers’ materialism were successively conducted (Process, Model 1). Results revealed significant interactions between the success ($\beta = .05$, $p < .05$), happiness ($\beta=.03$, $p = .07$) and centrality ($\beta = -.06$, $p < .01$) dimensions of consumers’ materialism (see Figure 2) and consumers’ environmental consciousness on impulse buying. More specifically, given that the success and happiness dimensions of consumers’ materialism has a positive effect on impulse buying and that the centrality dimension of consumers’ materialism has a negative effect, these interactions indicate that the more consumers score high in environmental consciousness, the more consumers’ materialism has a positive effect on impulse buying. Overall, these results support the notion that consumers’ environmental consciousness moderates the effect of consumers’ materialism on impulse buying, corroborating H3.

In order to test H4 and the predicted changes in the strength of the indirect effect of consumers’ materialism on consumption behaviors on the P2P platform through impulse buying, six distinct analyses were first conducted to test the mediating role of impulse buying (Process, Model 4, with 1000 bootstraps). The three facets

Figure 2. Impulse buying as a function of consumers' materialism and environmental consciousness



of consumers' materialism were included one at a time as the independent variable. Impulse buying was included as the mediator. The number of products purchased over the last 12 months and perceived overconsumption were included one at a time as the dependent variable. For each analysis, we used the same covariates as before, namely age, gender, and experience on the P2P platform, and price sensitivity.

Overall, results confirm the prediction con-

cerning the mediating role of impulse buying, or, in other words, there is a significant indirect effect of consumers' materialism on overconsumption on the P2P platform through impulse buying (Table 2). Specifically, the confidence intervals of the indirect effects of the aspects of success (.09; .65) and happiness (.08; .52) concerning the number of products purchased on the P2P platform excluded 0, indicate that indirect effects were significant and that impulse buying thus mediates the effects of consumers' materialism (Zhao, Lynch and Chen, 2010). These effects of the success (.11; .21) and happiness (.07; .17) dimensions of consumers' materialism were also found with respect to perceived overconsumption. Consistent with previous results, a negative significant indirect effect of the centrality dimension of consumers' materialism was found, regardless of whether overconsumption on the P2P platform was measured through the number of products purchased on the P2P platform (-.72; -.04) or through perceived overconsumption (-.22; -.07).

Turning now to testing the notion that consumers' environmental consciousness moderates the mediating effect of impulse buying, the six analyses were conducted again, including consumers' environmental consciousness as a moderator. An examination of the confidence intervals for the six tested indirect effects of the dimensions of consumers' materialism on the number of purchases and perceived overconsumption revealed that two out of six were significant at the 95% level and three were at the 90% level, with confidence intervals excluding 0. Specifically, consumers' environmental consciousness moderated the indirect effects of the success dimension through impulse buying on the number of purchases (CI = .01; .18) and perceived overconsumption (CI = .01; .06). A moderating effect of environmental consciousness was also observed for the indirect effects of the centrality dimension (CI_{Number of purchases} = -.24; -.01 at 90%; CI_{Overconsumption} = -.07; -.01 at 90%). These results indicate that these indirect effects are negative and stronger as consumers' environmental consciousness increases. Finally, the indirect effect of the happiness dimension on the number of purchases (CI = .01; .13 at 90%) was found to be moderated by consumers' environmental consciousness, but surprisingly not on perceived overconsumption (CI = -.01; .05). Overall, these results support H4 and the notion that consumers' materialism exerts indirect effects on overconsumption on the P2P platform through impulse buying, with these indirect ef-

Table 2. Overview of the results for the six tested models

| Dependent Variables | | | | | | |
|--|---------------------|------------|-------------|-----------------|------------|-------------|
| | Number of purchases | | | Overconsumption | | |
| Indirect effects of the dimensions of consumers' materialism | | | | | | |
| | Success | Happiness | Centrality | Success | Happiness | Centrality |
| 95% CI | .09 ; .65 | .08 ; .52 | -.72 ; -.04 | .11 ; .21 | .07 ; .17 | -.22 ; -.07 |
| Mediation | Yes | Yes | Yes | Yes | Yes | Yes |
| Moderated mediation by environmental consciousness | | | | | | |
| At -1 S.D. of envir. | .17* | .15* | -.28* | .08* | .06* | -.13* |
| At Mean of envir. | .28* | .23* | -.42* | .13* | .10* | -.20* |
| At +1 S.D. of envir. | .39* | .31* | -.56* | .18* | .13* | -.26* |
| 95% CI | .01 ; .18 | -.01 ; .15 | -.24 ; .00 | .01 ; .06 | -.01 ; .05 | -.07 ; .00 |
| 90% CI | .02 ; .16 | .01 ; .13 | -.22 ; -.01 | .01 ; .06 | -.01 ; .04 | -.07 ; -.01 |
| Moderated med. | Yes | Marg. | Marg. | Yes | No | Marg. |

Notes :

- * : $p < .10$; * : $p < .05$; ** : $p < .01$; *** : $p < .001$

- Covariates : Gender, age, price sensitivity, and experience on the platform

- Statistics : CI : Confidence Interval ; S.D. = Standard Deviation ; Marg. = Marginally significant

fects being moderated by consumers' environmental consciousness.

DISCUSSION

The present study corroborates most of the hypotheses proposed in the conceptual framework. In the context of shopping on a second-hand P2P platform, materialism has a positive influence on impulse buying. More interestingly, environmentally conscious consumers exhibit more impulse buying on second-hand P2P platforms than less conscious consumers, as these platforms favor self-licensing behaviors, relaxing the conflict between contradictory goals. Confirming the relevance of self-licensing theory, impulse buying is the highest when consumers display both strong materialism and environmental consciousness, i.e., when they experience a high level of conflict between these different values and a resulting high level of dissonance. Furthermore, the three facets of materialism (centrality, happiness, success) tend to exert an indirect effect on overconsumption (buying more items/more unnecessary items) through impulse buying; this mediation is stronger for environmentally conscious consumers.

The contributions of the current research are thus twofold. From a practical point of view, as far as managers and public policy makers are concerned with the collaborative economy, the present study provides the first empirical demonstration of the ambivalent effect of second-hand P2P platforms with regards to

sustainable consumption behaviors. It encourages leaving aside the "naïve" vision of a virtuous consumption pattern through second-hand P2P shopping. More precisely, second-hand P2P platforms are a place of "vice" where goal-conflicts between materialism and environmental consciousness are "solved" and lead to more impulse buying behaviors, therefore leading to overconsumption.

From a theoretical point of view, the present research adds to the body of works on the emerging theory of self-licensing in the marketing domain. If this theory has a longer history in psychology and moral areas, papers contributing to understanding consumers are still scarce. They have concentrated on a few contexts including loyalty programs (Kivetz and Simonson 2002), interdependence between two buying decisions (Mukhopadhyay & Johar, 2009; Khan & Dhar, 2006), or buying behavior depending on the origin of the money spent (O'Curry & Strahilevitz, 2001). The shopping location in itself has never been studied whereas self-licensing is probably a very powerful theory to explain the trade-offs between distribution channels. To our knowledge, the present study is the first to mobilize it to explain sustainable (or rather non-sustainable) behaviors and it offers fruitful avenues for further study, since being green leads to goal-conflicts in many situations.

The present research also provides an interesting theoretical contribution to the explanation of online impulse buying. So far, previous works mainly involved classical professional online retailers, with optimized website environ-

ments (Demangeot & Broderick, 2010), which claimed to improve decision making quality (Punj, 2012), apart from a noticeable exception regarding ebay (Denegri-Knott, 2011). Beyond personal traits such as impulsiveness (Wells et al., 2011), various aspects of website quality were supposed to explain impulse buying (Bressolles et al., 2007; Parboteeah et al., 2009; Wells et al., 2011) or factors relating to mood and enjoyment (Wolfinbarger & Gilly, 2011). The present research shows that goal-conflicts between contradictory values can also explain impulse buying through self-licensing behaviors. It also means that non-optimized platforms in terms of design, product information, and pictures such as P2P platforms can paradoxically induce impulse buying.

However, since it is the first study of this kind in the emerging field of collaborative consumption, it suffers from several limitations, and calls for more research to develop the present findings. First, the field study is limited to the case of leboncoin (which is operated in several countries worldwide), but has a unique design (very simple and traditional, where the company's role is discrete and the transactions are commissions-free) and therefore a unique image as a basic and small-scale marketplace that may trigger self-licensing behaviors. Furthermore, the study was only performed in France. It would be interesting to conduct a comparative study between leboncoin-related platforms to understand the influence of the platform's design or the consumers' culture on self-licensing behaviors. Furthermore, it would be interesting to deepen knowledge about self-licensing processes themselves. They currently remain largely unknown. As an illustration, some authors postulate that they should be conscious and active in memory (Mukhopadhyay & Johar, 2009), whereas others consider them to be unconscious mechanisms (Khan & Dhar, 2006). Finally, the present study considers all product categories. It could be interesting to consider the influence of product categories or at least dichotomize the effects according to a product's hedonic or utilitarian nature.

As regards the general question of the environmental benefits of redistribution markets, the present paper only focuses on how consumers change their relationship to objects and become more frugal or detached from possessions. It shows that the channel itself, second-hand P2P platforms, is not virtuous in itself as it does not moderate materialism. On the contrary, even environmentally conscious consumers are

inclined to buy more or with less scrutiny, giving free rein to their materialism. However, this paper does not address another environmental impact of second-hand P2P platforms, namely the modalities of the exchange of products between peers (e.g., means of transportation, distance covered as an extra trip or on the way to another place) and its incidence in terms of carbon emissions compared to traditional shopping, where a new product would have been bought. Further studies should address this central question.

The present research has important societal implications which could draw the attention of policy makers, public authorities, and ecological associations at large. It shows that second-hand P2P platforms are not a panacea for sustainability and that, contrary to the EPA slogan, "re-use" is not necessarily virtuous. It goes against the general beliefs held by the ambassadors of collaborative consumption (e.g., Botsman & Rogers, 2010) and followed by many public authorities. The first implication is probably that they need to moderate this belief and publicly defend a more nuanced approach to the phenomenon. They should lead or encourage specific applied research to better understand the environmental externalities of each initiative, and then share the results to provide their audiences with a more discerning view of the limits of sustainability. More precisely, this could lead concretely to education programs dedicated to consumers or students. This also means that public authorities should arbitrate in favor of other collaborative economy initiatives such as P2P platforms that offer to repair, give away, or lend objects, since it would probably avoid the negative effects identified in the present paper. But again, more knowledge is probably needed.

For consumers honestly motivated by environmentally friendly behaviors, being aware of the risk of overconsumption on second-hand P2P platforms is probably a first step. We can also imagine developing nudges to help consumers voluntarily maintain control over their consumption behaviors. For example, consumers could download a widget or application to be plugged into second-hand P2P platforms with a thermometer or counter indicating the number of products bought per category in the last six months or the presence of a small animated "environmental angel," asking in a bubble, "Do you really need this new item?" It is time for the utopian view concerning collaborative consumption to enter a second phase of relative maturity. *

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