



## Social capital scale: Development and validation from the specific domain of consumer behavior, and consumer profiles

### Escala de capital social: Desenvolvimento a partir do domínio específico do comportamento do consumidor

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#### Abstract

**Purpose:** The aim of this study was to develop a Social Capital scale from the specific domain of consumer behavior, and to validate this scale in a nomological network of relationships, further testing the sample's social capital profiles. **Methodology/approach:** A quantitative approach was used, initially exploratory for the generation of a pool of items, followed by a confirmatory factorial analysis, and Structural equation modeling for the validation of the scale in a predictive model. Group heterogeneity was obtained through latent classes. **Findings:** The study identified a one-dimensional Social Capital scale, pioneered from the perspective of consumers, capable of predicting consumer responses in terms of Brand-self Congruence, Product Attitude, and Brand Purchase Intention. Different consumer profiles were also identified in terms of social capital. **Theoretical/methodological contributions:** This study advances by pioneering the development, validation, and predictive role of a Social Capital scale from the consumer behavior specific domain context, without adaptations, as in previous studies. The study also contributes methodologically by analyzing the heterogeneity of social capital among consumers. **Practical contributions:** The study allows managers and other practitioners to understand and measure the role of the benefits provided by network connections in marketing strategies.

**Keywords:** social capital; scale development; consumer behavior.

#### Resumo

**Objetivo:** O objetivo deste estudo foi desenvolver uma escala de Capital Social a partir do domínio específico do comportamento do consumidor e validar essa escala em uma rede nomológica de relações, testando posteriormente os perfis de capital social da amostra. **Metodologia/abordagem:** Foi utilizada uma abordagem quantitativa, inicialmente exploratória para a geração de um pool de itens, seguida de uma análise fatorial confirmatória, Modelagem de equações estruturais para a validação da escala em um modelo preditivo. A heterogeneidade do grupo foi obtida por meio de uma análise de classes latentes. **Resultados:** O estudo identificou uma escala unidimensional de Capital Social, pioneiramente, na perspectiva dos consumidores, capaz de prever suas respostas em termos de Congruência da própria marca, Atitude do produto e Intenção de compra da marca. Foram ainda identificados diferentes perfis de consumidores quanto ao capital social. **Contribuições teórico-metodológicas:** Este estudo avança por ser pioneiro no desenvolvimento, validação e papel preditivo de uma escala de Capital Social a partir do contexto de domínio específico do comportamento do consumidor, sem adaptações, como em estudos anteriores. O estudo contribui metodologicamente ao analisar a heterogeneidade do capital social entre os consumidores. **Contribuições práticas:** O estudo permite que gerentes e outros profissionais entendam e avaliem o papel dos benefícios proporcionados pelas conexões de rede nas estratégias de marketing.

**Palavras-chave:** capital social; desenvolvimento de escala; comportamento do consumidor.

## 1. Introduction

Theories related to social groups, such as the Social Identity theory of Tajfel and Turner (1979) assume that the strengthening of the social group and its members reduces the strength of other social groups. The influence of social groups in society is, in short, a power struggle. To the extent that consumption choices reflect congruence with the individual's current or desired identity, social groups applied to consumption affect the way people define themselves. The theory of social comparison, and the interpersonal influence of individuals among themselves, states that consumers adopt behaviors from social groups that are relevant to them (Yim, Sauer, Williams, Lee and Macrury, 2014). Taken together, both theories strongly indicate the determining role of social groups in consumer behavior (CB).

The study explores the contribution of a perspective in which social groups have cooperative relationships within groups and between individuals, by reinforcing the influence of contact networks through Social Capital (SC). SC was primarily studied by Bourdieu (1980, 1983, 1989), Coleman (1988a, 1988b), and Putnam (2000), is defined as a set of by-products of relations in social groups and networks, more or less institutionalized, that produce mutual benefits, political power, and solidarity among its members.

The use of SC in the business context has been observed in innovation in company networks (Lindstrand and Hånell, 2017), in processes of internationalization of organizations (Chetty and Agnadal, 2007), in the greater empowerment of organizations (Yakob, 2018), in the strengthening of minority business clusters (Cruz, Falcao, and Barreto, 2018), and in several other relationships in which institutions seek the strength that allows them to achieve a better position in mutual support. Studies are also observed that show the contribution of the individual SC of managers within the organizations (Chen, Ho and Hsu, 2013; Chen, 2013).

However, despite the growing use of SC within the CB (Kim, 2018, Hyun, Gunn and Park, 2019), and the predominance of qualitative approaches with SC theory, quantitative studies make use of adaptations of measures for the construct, at the expense of consumer-specific measurements. Studies have used the social capital construct and its application in the context of consumer behavior without specificity to the reality of consumer relations.

These studies do not consider the SC generated from consumer relations, but the general SC of the networks, and how it behaves in the context of consumption. In this sense, studies on the use of Social Capital in the context of consumption and consumer behavior measure the general construct, and not a measure of SC for consumer behavior specifically. Studies have been using this tradition of adapting SC measurements to the context of brand communities (Li, Modi, Wu, Chen and Nguyen, 2019), consumption and habit of the use of undesired products, such as tobacco (Hasan, Cohen, Bishai, Kennedy, Rao, Ahuja and Gupta, 2020). Or based on SC measurement approaches and applying it to the context of online consumption (Chen, Wu, Peng and Yeh, 2015), information exchange about brands in online groups (Zhang, Zhu and Wang, 2019), cultural consumption of highly segmented group such as immigrants (Kottasz, 2015), in club sports and the use of unhealthy products, such as alcohol (Rowland, Wolfenden, Gillham, Kingsland, Richardson and Wiggers, 2015). It was also seen in studies regarding food consumption and consumers' values, past and current personal experiences (Stamer, 2018), in insurance consumption and income variations (Pericoli, Pierucci and Ventura, 2015) sustainable consumption (Castaneda, Martinez, Mars and Roxas, 2015), food consumption subject to education inequalities (Kamphuis, Groeniger and van Lenthe, 2018), ethical consumption and group norms (Yoon, 2020), healthy habits (Xing, Zhang and Taks, 2020) and loyalty in online consumption (Luo and Ye, 2019).

These proposals vary in the ways to measure SC, from observing the number of connections in a community, degree of agreement on general statements about SC, measures of trust, participation, and security as SC proxies, secondary data on participation in associations, interpersonal relationships as a measure of networks, participation in social networks, in affinity groups.

None of these efforts consider the constitutive definition and theoretical contribution of consumer behavior to develop a specific scale for consumer relations. This study aims precisely to address this gap in the literature, by observing the lack of measuring instruments for what SC is specifically applied to CB. This study first aims to propose a Social Capital scale applied to consumer behavior, and then apply it to a nomological network and test to predict possible impacts on the congruence of the brand with the self, attitude to the product, and purchase intention of sophisticated brands.

Complementarily, the SC profiles in the sample were observed, in order to better understand the effects of the classification of heterogeneity that the scale achieved. The method used in this study was based on the scale generation protocol proposed by Churchill (1979) and Hardesty and Bearden

(2004), reinforced by the review proposed by Hair, Gabriel, Silva and Braga Júnior (2019). Data were collected in a survey comprising 464 individuals.

The sample was randomly divided into two groups, the first for the construction of the scale and the second for validation of the instrument in a nomological network of results. Lisrel software was used for the Confirmatory Factor Analysis (CFA) of the scale, and the SmartPLSM3 software for the analysis of its predictive capacity and validation (Ringle, Silva and Bido, 2014), complemented by latent class analysis.

## 2. Theoretical foundation

### 2.1. Social Capital

The concept of Social Capital was defined for the first time by Pierre Bourdieu as the real or potential resources linked to the possession of a network formed by lasting relationships of knowledge or mutual recognition (Bordieu, 1983). For Coleman (1988a) they are the resources accumulated by the relationships between people. They can be categorized in three ways, structural, cognitive, and relationship social capital (Nahapiet and Ghoshal, 1998; another as internal and external social capital and finally, as linking and bridging social capital (Putnam, 2000).

The latter developed by Putnam (2000) defines social capital as social networks and associated norms of reciprocity, where social networks offer value to members and can even mobilize them to action due to the information provided and the influence they exert. The forms of social capital can vary along the dimensions of connection, it refers to the bonds constituted by the connections of homogeneous groups, and bridge refers to the bonds constituted between different social groups (Putnam, 2000).

These bonds are understood as the interpersonal solidarity that exists between people who associate themselves in networks, local communities, and other environments for long periods. In the connection dimension, there are strong levels of association and trust established, which is why they are able to provide their members with benefits related to improving overall performance, such as knowledge sharing, complementarity, quality control, and conflict resolution. Due to the differences in benefits, there is a relationship of complementarity between the dimensions, as the lack of a bridge dimension can lead to the isolation of the group and the lack of a connection dimension in the loss of cohesion. However, the core network will be composed of the high homogeneity of the group due to repeated exposure to pleasing beliefs and values (Putnam, 2000), and the creation of loyalty (Antoniadis and Charmantzi, 2016).

Social capital is sometimes confused with similar concepts. It depends also on the level of analysis (individual SC, organizational SC, strategic SC, conceptual SC). Social cohesion is among new definitions or proxies for SC (Fonseca, Lukosch & Brazier, 2019). Some authors speculate that the concept of SC somehow resembles that of social cohesion, in terms of the question of shared thoughts, beliefs, social relationships, solidarity, and shared norms and values. Social cohesion differs in focus, as it is more related to effort coordination, at a higher level of superordinate entities, as the whole society, rather than individual relationships (Easterly, Ritzen & Woolcock, 2006).

Although there is a great interest of researchers in SC, as studies have been growing exponentially in a wide variety of knowledge areas, its definition is not a consensus. For more definitions of SC see Claridge (2004). Any effort to do this is a difficult task as it represents a very complex landscape of social interactions and related phenomena. As the simple definition of SC is diverse and not a consensus among researchers, so is its measurement. There is some consensus on the aspect that SC is subject to context, level of analysis, cultural aspects, perspective, ontological and epistemological positioning (Grix, 2002), researchers have called to consider specific domains to advance forms to measure SC (Stone, 2001, Claridge, 2004). And a general measure for SC is considered impossible, given the complexity involved to reconcile a wide range of dynamic and complex social aspects into a single measure, very abstract in nature, like SC.

There is a vast effort to measure SC, from proxies like those suggested by Putnam (2000) to some more direct efforts dimension-based ones, like the instrument proposed by Brisson and Usher (2007), and Narayan and Cassidy (2001). So, one must consider specific domains, and other aspects (Stone, 2001) to delimit the concept of SC being treated, and then develop a valid SC measure to that context. This is our purpose in this study, considering the specific domain of consumer behavior.

### 2.3. Social capital applied to consumer behavior

SC has been widely used in consumer behavior studies. Studies that employ objective measurements of SC within the SC are growing in the same way as the general interest, establishing an accumulation of evidence of the relevance of an SC scale. However, studies have used approximations of SC scales, such

as collective purchases in groups on the internet (Chen et al., 2015), consumption among immigrants (Kottasz, 2015), alcohol consumption (Rowland, 2015), in consumption of sustainable products (Castaneda, 2015), in online shopping (Luo and Ye, 2019), in the study of brand communities (Zhang, Zhu and Wang, 2019), in consumption ethics (Yoon, 2019) or tobacco consumption (Hasan et al., 2020). At the same time, the problems, and trends of today also have been addressed by social capital. The argument that we live in a shared economy, bounded by concerns about the environment was treated in the study of Zmysłony, Leszczyński, Waligóra and Alejziak (2020). The first subject attests that a vast amount of experiences of consumption have been carried out with the others consumers in perspective, and the second subject matter addresses the challenge to build sustainable development, which is the concern of next generations' quality of life.

None of these studies, or others that we are aware of, have measured SC from a consumer perspective since its development. Although these approximations are relevant for understanding the relationship between SC and CB, an objective measurement allows a better understanding of phenomena of this nature. The consumption context is complex, and its particularities need to be considered for the construction of a measurement instrument. A measurement instrument may help to capture aspects of a phenomenon that is not observable in tangible terms. This concern echoed decades earlier when Jarvis, Mackenzie and Podsakoff (2003) signed those researchers in marketing, and related areas, were not concerned with construct validity, and proper ways to measure it. The concern with specific measures for SC in CB the domain is also coherent with SC research that alerts to the aspect that SC doesn't have a global measure, and new studies must be done to improve the understanding of the role of networks of mutual support into specific knowledge areas (Claridge, 2004).

#### *2.4. Study variables for the nomological network*

To compose the nomological network of impacts for the validation of the scale, variables commonly used in the study of the search for belonging to social groups were chosen. Based on the theory of the extension of the self through possessions (Belk, 1988), brands are one of the most relevant aspects in the construction of people's identity, therefore, the Congruence of the brand with the self (CMS) may indicate a mediating mechanism between the relationships of individuals, and their by-products, such as SC, with the intention to purchase brands (CI), another aspect widely studied in CB, as a result, desired by the individual.

These phenomena can be used as a way to participate and gain approval from groups and social networks and are widely used in CB studies (Wijnands and Gill, 2020, Karampela, Tregear, Ansell and Dunnett, 2018). A connection with the brand comes from the consumer's construction of their selves as a result of brand associations that have congruence between brand image and self-image (Escalas and Bettman, 2003). The construction of this identity is operationalized by purchasing choices congruent with our attitudes to these products (Grewal, Mehta and Kardes, 2004)

### **3. Method**

#### *3.1. Research procedures (item generation and collection)*

For scale development, we initially followed the procedures proposed by Lee and Hooley (2005, p. 366-367), Churchill (1979) and Hardesty and Bearden (2004). The steps followed in this study were described and discussed by Lee and Hooley (2005, p. 368). This scale should assess tacit or institutionalized relationships between consumers, which promote mutual benefits among themselves, such as trust, solidarity, cooperation, power, and the similarity of behavior and choices.

Firstly, interviews were conducted with 3 Ph.D. researchers in Consumer Behavior to obtain insights into possible aspects of the definition and domain of the scale. Then, based on the observed theory of Social Capital, the second step was the generation of items. 24 items were initially created. These items were submitted for evaluation by judges (Hardesty and Bearden, 2004). A link with the analysis instructions, as well as the operational definition of the construct, was sent to other 5 Doctors in Administration with a research line in marketing and consumer behavior. Each item had an answer option for the terms "Adequate", "Not suitable" and "Other", with an open field for comments. After the judges' evaluation, the answers were evaluated by the authors of this study according to the rules proposed by Hardesty and Bearden (2004), specifically the rule of total agreement with the item and the scoring rule.

In order to remain on the scale, the item should have more than 50% of choice as adequate. For the "Adequate" option, a score of 3.00 points was established, for the "Not suitable" option zero points, and for the "Other" option, 2 points were observed. To remain on the scale according to this criterion, the item should reach at least 7.5 points, which is just half the sum of the possible points. Even so, the

items were evaluated and judged by the authors for any adjustments suggested by the judges. The third step was data collection. After reviewing the items, a collection instrument was created for the Social Capital scale and the other variables. This instrument was sent through an internet link that was submitted to the network of contacts of researchers, and students from private higher education institutions in the city of São Paulo.

### 3.2. Analysis criteria

Data were analyzed through their adequacy to analysis. In the data debugging stage, a Confirmatory Factor Analysis was performed using the Lisrel software. For the acceptance of the adjusted model, the criteria proposed by Hair, Black, Babin, Anderson and Tatham (2009, p. 567-84) were adopted. The Chi-square test ( $\chi^2$ ), the Goodness of Fit Index (GFI), the Normalized Fit Index (NFI), Comparative Fit Index (CFI), or Comparative Fit Index, and the Root Mean Square Error of Approximation (RMSEA). For the analysis of the predictive validity of the scale, the SmartPLS software was used, given its greatest indication for this purpose, following the criteria proposed by Hair, Hult, Ringle and Sarstedt (2014), maximizing the  $R^2$  (explained variance) of the endogenous variables.

To analyze the heterogeneous groups in the sample and perform multigroup tests that allow a better understanding of the scale, and its ability to understand the SC in the context of consumption, an Analysis of latent classes (ACL) was used. The criteria proposed by Weller, Bowen and Faubert (2020) were followed, using the *poLCA* package (Linzer and Lewis, 2011) for SPSS v.27. The analysis of latent classes was based on the social capital profile.

## 4. Results

### 4.1. Item generation

A total of 24 items were generated from interviews and theory reading. These items were submitted to the judges, and the result of the semantic analysis and judgments according to the criteria of Hardesty and Bearden (2004) are presented in Table 1. Two dimensions were created, in a proposal for a second-order construct, composed of the variables of first-order Networks and their benefits, Consumption, and Similarity. These dimensions search for portraying a reflective construct in its dimensionality, as each item and dimension is correlated with the other, capturing a common variance of the share capital applied to the consumer (Jarvis, MacKenzie e Podsakoff, 2003). The Table 1, with Generated Items and Status, is presented in Appendix A.

Items SC 8 and SC 9 were kept in the study, although they had low scores, after adapting the wording as indicated by the judges, chosen by the authors of this study. Dimension 1, Networks and their benefits, seeks to capture the aspect of the construct of Social Capital applied to the consumer in which they seek to participate in social networks and social groups in which they can be active members formally or informally, and mutually recognize (Bourdieu, 1985, p.248).

This dimension observes the individual's position in the networks, as well as their ties with other individuals. The network is self-stimulating in order to form a cohesive and unique body (Portes, 2000). The individual's position in the network establishes their ability to exercise power over other individuals or groups (Grix, 2002).

In terms of consumption, belonging to a consumer network is like segmentation, but from the point of view of the consumer, not the company. The consumer is established in a network that communicates formally or informally through consumption. Examples of this phenomenon are shopping clubs, and collaborative or shared consumption. Also in dimension 1, Networks and their Benefits, an attempt was made to capture the gains that the networks provide to the consumer and to the group itself.

These gains are in terms of the power of influence, strengthened identity in society, solidarity among members, social recognition and acceptance, respect for society (Bourdieu, 1980, p. 67), and mutual collaboration in favor of similar goals (Grix, 2002). Examples of this dimension in the sphere of consumption are the respect obtained by consumers of certain prestigious brands, or the power of influence that can be obtained by being part of a select group of consumers of status products or services, such as travelers to global destinations haute cuisine restaurant patrons, whose opinions reverberate more in society (Coleman, 1988a, Coleman, 1988b).

In dimension 2, Consumption and similarity, the aspect of Consumption related to Social Capital applied to the consumer is observed, when they purchase things or services common to the group or network they belong to. It is as if the group tacitly determined what should or should not be consumed, affecting decision-making in general, and consumption in particular (Portes, 2000). There is a sharing and socialization within the network regarding consumption (Ngai, Tao, and Moon, 2015), for example

when consumers practice word-of-mouth actions about products on social networks on digital platforms, or when exchanging information about products inside a store.

Finally, this dimension also aims to capture the vicarious behavior existing among individuals in a network of contacts. Acting similar shows, a sense of belonging among individuals who accept themselves as similar, think, and act in function of this shared affinity. In terms of consumption, this is observed when people buy the same product to create a persona of themselves, or in brand communities, when fans of a brand tacitly advocate for it (Westjohn, Singh, and Magnusson 2012). The member of a group must resemble the others and distance themselves from antagonistic groups. In this sense, they share opinions, choices, worldviews, as well as habits in general (Portes, 2000).

#### 4.2. *Sample*

The study sample had 453 valid responses, after the elimination of 31 respondents due to missing data, inconsistent responses to similar items, and response time incompatible with expectations. Thus, 193 respondents were used in the data confirmation stage and 260 respondents in the scale validation stage.

The mean age was 36.5 years with a standard deviation of 11.24 years. Almost the entire sample has a college degree or is in the course (98.8%), approximately 65% of the sample has a family income of up to R\$ 10,000.00, while the remaining 35% have a family income above this level. The sample was mostly female but balanced (56% women). These data indicate a heterogeneous sample in general, which contributes to the object of this study, in developing a SC scale for consumer behavior, without seeking any specific strata.

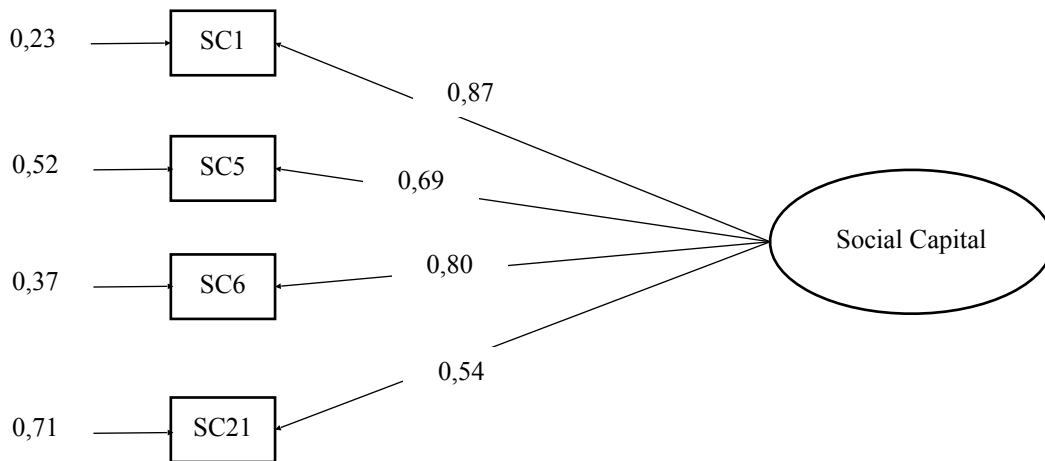
#### 4.3. *Factorial model, fit and scale reliability*

The collected base was initially explored in the Microsoft Excel software to prepare it for conducting the Confirmatory Factorial (CFA) and Structural Equation Modeling (SEM) analyses, in addition to any additional tests. Confirmatory Factor Analysis was developed in Lisrel software (Jöreskog, K.G. and Sörbom, 2018). The first condition for CFA is theoretical support for its realization, as the technique is theory-driven (Hair et al., 2009). It is the theory that supports the existence of items gathered in some dimension proposed by the researcher. The sample size ( $n=193$ ) was considered adequate as the authors suggest between 100 and 150 respondents for a correct adjustment of the CFA (Hair et al., 2009, p. 564). The data were initially estimated using the ULS (Unweighted Least Squares, or Unweighted Least Squares) technique, as this technique does not assume normality of the data, and is widely used by researchers. This technique minimizes the squared residual values (the difference between the estimated and the calculated values in the data).

After a few rounds of analysis, disposal, and retention of items, if the model's fit indicators,  $\chi^2$ , GFI, NFI and RMSEA were observed, the model stopped converging, and then the estimation technique was changed to the most used Maximum Likelihood by researchers. This technique seeks to maximize the covariance matrix, in a step-by-step way of estimating the parameters, in a comparison with parameter estimations versus calculation from the data. There was a reduction in data, retaining items that were approaching the two dimensions. As the dimensions had 1.0 covariance, they were then merged into a single dimension. However, although this solution has achieved initial model adjustments, adequate convergent and discriminant validity was not observed (AVE above 0.50, Composite reliability above 0.60, and square root of the AVE of the constructs higher than the correlation of the constructs with the others).

We then started a new round of validity adjustment indicators, in which the strategy should be to reach validity adjustments, maintaining the model adjustment. Items that could affect these adjustments were eliminated, observing the factor loadings of the items in their constructs. After this new round, the final model was reached, seen in Figure 1, resulting in a one-dimensional 4-item scale.

This final model obtained good final fit indicators ( $\chi^2=213.56$ ,  $p > 5\%$ ) GFI was 0.988, CFI was 0.989, NFI was 0.982, and RMSEA was 0.082. The AVE reached the value of 0.541, and the Composite Reliability indicator was 0.821. Discriminant validity was not evaluated as it is a one-dimensional model. These indicators suggest that the scale has achieved minimal psychometric properties for its use in the context of consumer behavior. The next step sought the nomological validity of the scale, analyzing its impact on outcome variables.

**Figure 1 – Confirmatory factorial model of the Social Capital scale applied to the consumer**

Source: The study

#### 4.4. Scale validity analysis, and dependent variables

To test the validity of the SC scale applied to consumer behavior, a SEM analysis for nomological validity was performed using the partial least squares (PLS) technique, based on a covariance matrix, using the Smart PLS M3 software (Hair et al., 2014). The impact variables chosen were the Brand Congruence with the Self (BSC), the Attitude to the product (PA), and brand Purchase Intention (PI).

These variables were chosen because they represent a consumption circuit, which goes from a motivating antecedent, Social Capital, through mechanisms that intervene in the purchase object, such as attitude to the product and brand-self congruence, leading to a behavioral intention from the conclusion of the consumption process, the purchase intention itself of brands congruent with the identity (Kudeshia and Kumar, 2017, Liu, Hu, Lin, Tsai and Xiao, 2020, Wijnands and Gill, 2020).

Social Capital leads consumers to search in consumption for objects that can represent their affiliation to a network of contacts that bring them advantages, and a way of expressing, that is, through the consumption of products and brands that strengthen the network, replicating their mode of consumption, habits, and values, mutually shared. Distinctive groups establish in the consumption of status goods and services a way to differentiate themselves from other groups, as well as a way to expose their power. The Social Capital perspective does not seek to derogate from other social groups, but rather to build bridges and solidary relationships. This leads us to formulate the first hypothesis of the scale validation test.

H1: Social Capital will have a positive and significant effect on the Intention to purchase sophisticated brands (PI);

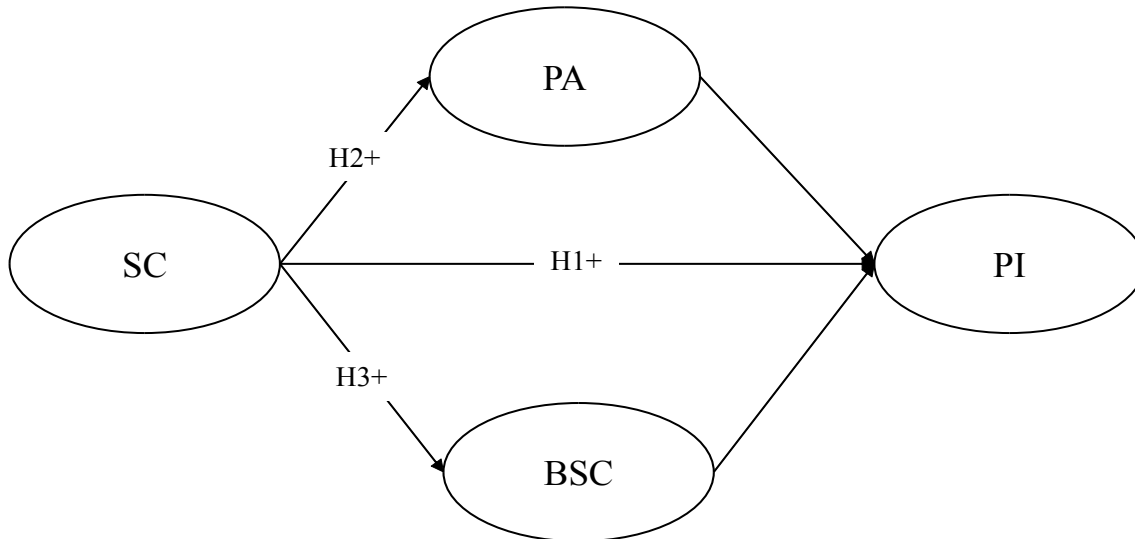
At the same time, it is expected that Social Capital stimulates individual attitudes favorable to sophisticated products and brands, as an antecedent form to the consumption of status goods, which represent power and distinction. To the extent that Social Capital brings mutual benefits to the group and individual who belong to this network of contacts, it is expected that it will be able to cause an increase in the Brand's Connection with the consumer's self.

The more the individual integrates into a network of contacts, the more he/she consumes so that there is congruence between the brands and their identity, and that of the network to which they belong.

H2: Social capital will have a positive and significant effect on attitude to sophisticated brands and products (ATP);

H3: Social capital will have a positive and significant effect on the Integration of the brand with the self (MS).

The proposed model to test for nomological validity, in a network of concepts, can be seen in Figure 2, and presents SC as an antecedent and predictor of Purchase intention (PI), Brand Congruence with the Self (BSC), and Attitude to the product (PA), through the three hypotheses formulated

**Figure 2 – Proposed structural model for nomological validity**

Source: The study

#### 4.5. Results of the nomological network

The structural model was first verified by the variance inflation factor (VIF). All items were below 5. In the debugging of the structural model, convergent and discriminant validity was observed, with AVEs above 0.50 for all constructs, and the square root of the AVE greater than the correlation of the construct with the others, as well as cross loads of the items, greater in their respective constructs than in the others. Table 2 presents these initial results.

**Table 2 – Convergent and discriminant validity**

Construct	AVE	CC	R <sup>2</sup>	Cronbach's Alpha	1	2	3	4
(1) Product Attitude	0.641	0.877	0.1	0.8124	<b>0.801*</b>			
(2) Social Capital	0.548	0.828	0	0.7513	0.317	<b>0.740*</b>		
(3) Brand Self Congruence	0.623	0.868	0.089	0.7995	0.711	0.298	<b>0.789*</b>	
(4) Purchase intention	0.709	0.924	0.502	0.897	0.67	0.367	0.602	<b>0.842*</b>

Note: AVE square root

Source: The authors

To complement the discriminant analysis, the factor loadings of the constructs versus the dimensions of the model were compared. Items must have a higher charge in their respective constructs. Table 3 presents these indicators.

**Table 3 – Discriminant validity, cross loads**

Construct	Item	1	3	3	4
Product Attitude	Atp1	<b>0.746</b>	0.231	0.513	0.456
	Atp3	<b>0.816</b>	0.258	0.605	0.562
	Atp4	<b>0,877</b>	0.252	0.588	0.631
	Atp6	<b>0.758</b>	0.278	0.571	0.477
Social Capital	SC1	0.148	<b>0.779</b>	0.126	0.263
	SC5	0.147	<b>0.631</b>	0.100	0.209
	SC6	0.136	<b>0.745</b>	0.143	0.224



	SC21	0.374	<b>0.796</b>	0.367	0.338
	IC1	0.593	0.378	0.568	<b>0.848</b>
	IC4	0.481	0.241	0.467	<b>0.815</b>
Purchase Intention	IC5	0.578	0.253	0.483	<b>0.811</b>
	IC6	0.627	0.269	0.528	<b>0.890</b>
	IC7	0.525	0.396	0.477	<b>0.842</b>
	MS1	0.578	0.236	<b>0.840</b>	0.431
Brand self congruence	MS5	0.634	0.202	<b>0.820</b>	0.496
	MS6	0.444	0.257	<b>0.708</b>	0.333
	MS7	0.567	0.250	<b>0.783</b>	0.586

Source: The study

The results indicate that, as expected, the items measure their respective constructs, confirming the discriminant validity of the structural model. Taken together, these indicators point to a fit of the data to the predicted model, allowing one to evaluate the hypothesis test, and then complete the analysis of the SC scale, and its initial predictive capacity.

#### 4.6. Hypotheses testing

For the nomological validity of the SC scale, an attempt was made to relate it to a structural model with relationships to the attitude to the product, congruence of the brand with the self, and purchase intention. In this way, it was possible to evaluate the relationship of SC applied to the consumer with 3 variables widely used in the study of brand consumption phenomena, which are a strong expression of the search for social distinction, which is expected to be related to Social Capital. Table 4 presents the test of the study's hypotheses.

**Table 4 – Hypotheses test**

Hs	Structural relationship	$\Gamma$	S.D.	t-test	p-value	Status
H1+	Social Capital → Purchase Intention	0.154	0.049	3.134	0.002	Supported
H2+	Social Capital → Product Attitude	0.317	0.05	6.335	0	Supported
H3+	Social Capital → Brand Self Congruence	0.298	0.053	5.661	0	Supported
-	Brand Self Congruence → Purchase Intention	0.231	0.069	3.359	0.001	-
-	Product Attitude → Purchase Intention	0.457	0.071	6.45	0	-

Note: S.D = Standard Deviation

Source: The authors

All hypotheses were supported, indicating that the scale obtained predictive capacity of the studys' endogenous variables, after observing the adjustment of the data to the proposed model. The results indicated that the remaining items measure their respective constructs, confirming the discriminant validity of the structural model. Taken together, these indicators point to an adjustment of the data to the predicted model, allowing one to evaluate the hypothesis test, and then conclude the analysis of the Social Capital scale, and its predictive capacity.

#### 4.7 Heterogeneity of Social Capital

The heterogeneous groups observed reached an ideal solution with three groups. Table 5 allows us to observe the adjustment indicators of the possible solutions for the heterogeneity not observed in the sample regarding Social Capital, based on the scale developed in this study.

**Table 5 – Latent class solution fit indexes**

Parameters	Class 1	Class 2	Class 3	Class 4	Class 5
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Number of parameters	24.000	49.000	74.000	99.000	124.000
Residual Density	461.000	436.000	411.000	386.000	361.000
Log-likelihood	-3365.516	-3127.311	-3040.554	-2980.109	-2951.255
AIC	6779.032	6352.621	6229.108	6158.218	6150.509
BIC	6879.451	6557.644	6538.735	6572.449	6669.344
LR/Deviance	1693.499	1217.089	1043.575	922.686	864.977

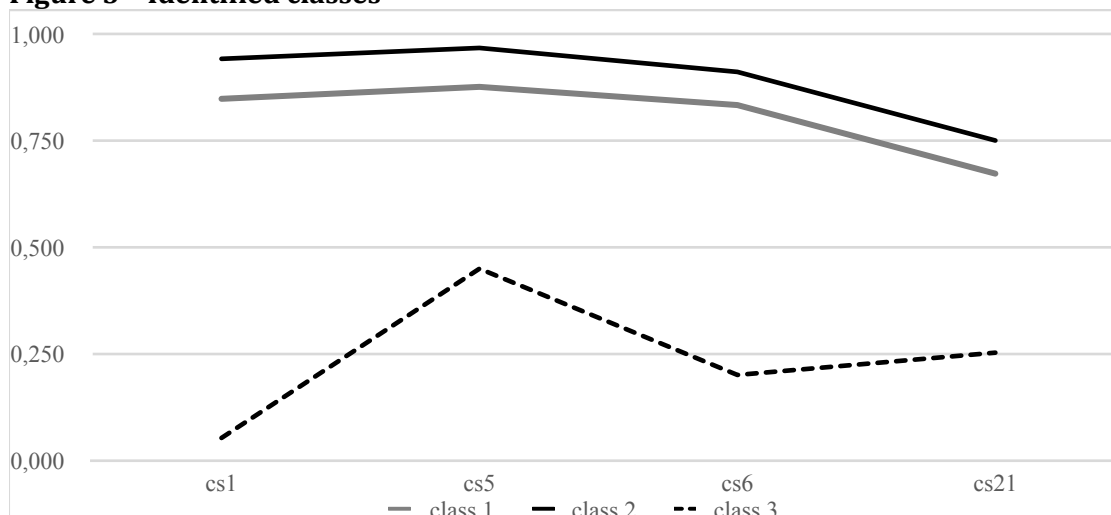
Note: n= 480;  $\chi^2 > 2.000$ ; Repetitions = 10

Source: The study

These results suggest the adjustment of an ideal solution for three classes, where there is an inflection of the BIC indicator, with a reduction of the other parameters along with the tested classes, and an increase in the number of parameters for the solution. This classification was adopted for this study and multigroup comparisons regarding Social Capital levels. Figure 3 shows the behavior of the classes regarding the items, to better understand these profiles, and name them.

These comparisons allow us to observe the capacity of the scale developed to discriminate latent profiles in the sample, in order to establish a better understanding of the instrument, not only its predictive capacity but also to analyze how it allows for consumer segmentation actions.

**Figure 3 - Identified classes**



Source: The study

Classes 1 and 2 are very similar; however, class 2 has higher scores in Social Capital, being called "Owners of SC", class 1, as it has the same attitudes as SC, but with lower scores, is identified as the "Followers of SC". Finally, class 3 has both lower scores and different agreement profiles, being then called "Non-SC, but with potential for relationships. Table 6 presents descriptive data and multiple comparisons between extreme classes, 2 and 3.

**Table 6 - Comparisons between Opposite Classes**

Construct	Class	n	Mean	sd	s.d	sig
Product attitude	Owners of SC	102	3.338	1.549	0.153	0.077
	Non-owners of SC	163	3.044	1.136	0.089	
Purchase intention	Owners of SC	102	4.967	1.620	0.160	0.001
	Non-owners of SC	163	4.298	1.447	0.113	
Brand-self congruence	Owners of SC	102	3.466	1.694	0.168	0.039
	Non-owners of SC	163	3.094	1.223	0.096	

Source: The study

These results show that the higher the level of SC in the consumer, the more favorable are their responses in terms of product attitude, purchase intention, and congruence of the private label, which is shown to be very positive for organizations' marketing strategies.

## 5. Analysis and discussion of results

Taken together, the results of this study provide evidence of the development and validation of a scale of Social Capital applied to Consumer Behavior, pioneeringly developed from the perspective of this group in society, not broadly as in other studies. The identified scale measures in a one-dimensional way, with 4 items, the phenomenon of Social Capital, developed from the specific domain of consumer behavior, from its operational conception, item pool, construction, factorial validation, and in a nomological network, also allowing the segmentation of customers into different profiles.

This scale inserts a perspective of networks in the explanation for consumption phenomena, without considering the derogation of outgroups, but its inclusion as an explanatory element of consumer choices. This perspective is consistent with the consumption phenomena of the collaborative and sharing economy, observed as a trend in consumer behavior (Gössling and Hal, 2019), and also compatible with a more collective worldview, about the challenges of organizing society itself in the face of aspirations for sustainable socioeconomic development (Hoi, Wu and Zhang, 2018).

The study advances from previous research by measuring Social Capital from the perspective of consumer behavior rather than an overview. The scale allows for measuring the capacity of groups and social networks, and the requirements that comprise them, to generate, institutionalized or not, power, influence, solidarity, reciprocity, and mutual benefits in relations involving consumption. Previous studies used Social Capital scales that were not developed from the consumer's perspective (Luo and Ye, 2019, Zhang, Zhu and Wang, 2019, Yoon, 2019), but adapted to the context of consumption. In this sense, a scale that considered, from its operational definition, the consumer's view, constituted a gap in the existing literature.

The benefits generated by the accumulation of Social Capital strengthen and politically establish themselves in society as an instrument of networks, with more empowered consumers, aware of their interrelationship with other groups and other investors. Consumption gains a perspective of collaboration, solidarity, and reciprocity, in addition to the economic transaction.

The scale's reliability is adapted to the parameters adapted in the literature (AVE = 0.541, Composite reliability = 0.821), after model adjustment (final ( $\chi^2 = 213.56$ ,  $p > 5\%$ , GFI = 0.988, CFI = 0.989, NFI) = 0.982, RMSEA = 0.088).

The validation of the scale also produced evidence of its predictive capacity for other constructs related to expressive consumption through sophisticated brands. By establishing a direct relationship with the intention to purchase sophisticated brands (H1:  $\Gamma = 0.317$ ,  $t = 6.335$ ,  $p < 5\%$ ), this study suggests that Social Capital gives rise to political power through the search for brands that represent this power. One of the mechanisms by which consumers generate power among themselves, and in the networks that participate, is by consuming common brands. The second hypothesis of the study was confirmed (H2:  $\Gamma = 0.317$ ,  $t = 6.335$ ,  $p < 5\%$ ) indicating that Social Capital elevates the individual's attitude toward sophisticated brands. This finding points to the attitude-behavior path favoring brands as a way of indicating cohesive social groups that are strong in their capacity for political influence in society.

Brands are a widely used form in the marketing strategies of organizations due to their power of influence. The choice of brands represents the individual through their identity, as indicated by the third hypothesis of the study (H3:  $\Gamma = 0.298$ ,  $t = 5.661$ ,  $p < 5\%$ ). This suggests that the power generated by Social Capital elevates the search for brands that reinforce identity. This power identity circuit allows us to assume that they are mechanisms of interdependence. The greater the power that the individual acquires by belonging to social networks, the more he seeks to reinforce this power, and brands allow this strength to be noticed, leading the consumer to assume the distinction that the brand transfers to him (Kim et al., 2018), incorporating this power to the social group, creating a circle of interdependence. Above all, the confirmation of these hypotheses establishes an initial step in the validation of the proposed Social Capital scale, which will need replication in future studies, in more contexts, and in relation to other variables, to increase its external validity.

The scale also allowed the identification of heterogeneous patterns regarding Social Capital. The identified latent solution brought three unobservable groups, named "Owners of SC", "Followers of SC", and "Non-owners of SC". These groups vary distinctly, from a larger to a smaller degree of SC in the sample, respectively in that order. These profiles also have different levels of heterogeneity in terms of Attitude to the product, Congruence of brand-self, and Intention to purchase.

## 6. Conclusion

The aim of this study was to propose and validate a Social Capital scale applied to the specific domain of consumer behavior. Throughout the study, from the generation of items, through the confirmatory analysis of the scale's dimensionality, and its reliability, to its nomological validity and segmentation generation, it was observed that the proposed instrument proved to be adjusted, which allows accepting the scale and consider the objective of the study achieved.

In its nomological validation, this study relates Social Capital to brands in a pioneering way, according to what we know, in these first hypotheses, through attitude, purchase intention and congruence with the desired or existing identity of the consumer. The power of networks, and their ability to generate influence, is related to brands as a mechanism of distinction in a social hierarchy, but at the same time as an instrument of power reproduction and instrumentalization of symbolic capital that represents Social Capital.

This study contributes in a pioneering way by proposing and validating a Social Capital scale and allows for new studies to be established in the search for the external validity of the inventory, to which the Social Capital perspective can contribute, as a theory, and now as a measurable construct, in specific consumption contexts, unlike previous studies, in which SC is widely used and not specific to the CB domain. For managers, this study contributes by signaling the relevance of fostering network relationships with consumers, and between them as a branding strategy.

This pioneering study is congruent with the consensus that SC must be measured from specific contexts, from the point of view of those involved in the phenomena related to the accumulation of value, trust, and solidarity from networks of relationships, at the individual level. This effort took the particularities of the specific domain of consumer behavior into account to develop and validate the scale. This is something not considered yet in the extant literature from both social capital and consumer behavior. This scale is able to reconcile these areas into a valid instrument to measure social capital in the consumption context.

The study also indicates that it is possible to establish different segmentations based on the SC of consumers, developing marketing strategies more appropriate to these profiles. As a limitation, this study has the dimensionality of the scale, with only 4 items remaining in this sample, reducing the amplitude of looking at the phenomenon, in addition to its confirmation in only one nomological study. New studies should use the main scale proposed, with all the items from Table 1. New studies can apply this scale in other contexts and with other related variables to increase its external validity and understanding of the phenomenon. Another limitation of the study is the nature of the construct. SC definition and measurement is not a consensus among researchers. So, this research is an effort that does not end the debate about the construct definition. Further studies must improve construct external validity, as replication is an important aspect of better understanding a phenomenon, somehow discouraged by academia, researchers, institutions, and even students (Kline, 2013). We also suggest that new studies could add variables that are coherent with the heterogeneous profile suggested in this study. As individuals vary in the degree of SC felt in the consumption context, some constructs must be more adequate to understand the functioning of distinct SC profiles. For example, for those who are low in SC as the "Non-owners of SC", constructs such as power distance, and need to belong may help understand why these individuals are contrary to SC. On the other extreme, for those who experiment with higher levels of SC, is status-seeking, or empathy, a salient characteristic, that explains the search for more networked social relationships? These questions remain open and present new avenues for new research with the SC scale. The study of Social Capital applied to consumption phenomena is still an interesting field, which does not reach a final step with this work, on the contrary, it passes through it in a promising way.

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