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# **Country image appraisal: More than just ticking boxes**

## **ABSTRACT**

Current academic research almost unquestionably adopts an attitudinal measurement approach to assess the image of a country using standardized rating scales. This study revisits the image construct and proposes an alternative approach for assessing country image based on psycholinguistics and associative networks. With this approach, new country image attributes emerge that enhance the information provided by traditional attitudinal measures. In particular, the concreteness, imageability, semantic richness, and emotionality of a country's image serve as a supplementary dimension to the attitudinal and associative network approaches. The study empirically compares the two perspectives using a random sample of consumers. The results show a lack of correspondence between the two and highlight the benefits and limitations of each approach.

Keywords: Country image; Associative network; Psycholinguistics; Attitudinal rating scale; Social network analysis.

## **1. Introduction**

While most of the existing research on nation branding and country image has focused on the development of standardized rating scales to gauge the predispositions of consumers, tourists, and investors, among others, toward a country, there has been a divergence in the theoretical underpinning and substance of country image. Roth and Diamantopoulos' (2009) evaluative review of the literature finds that country image has been defined as attitudes, schemas, or stereotypes. The authors conclude their review by asserting that country image as an attitude is a more accurate reflection of the rating measures commonly used in academic research. However, the authors do not assess how accurately such measures reflect the realities of country image. In a theoretical examination of the concept of image, Poiesz (1989) identifies three types of conceptualizations related to the emphasis placed on the cognitive or affective aspects involved: (1) high elaboration (image is a network of meaning stored in memory), (2) medium elaboration (an attitudinal perspective, where image is a set of salient beliefs and belief evaluations), and (3) low elaboration (the image of an entity is described by its relation to another entity or a referent entity, as in positioning maps). Most of the current country image research indiscriminately employs the medium elaboration perspective. Reynolds and Gutman (1984) were among the first to challenge the representativeness and meaningfulness of that approach. In their own words (p. 30), "the problems with these models with respect to studying image, center on the fact that they use a predetermined set of items that are not guaranteed of either being important to respondents, or even of being expressed in terms meaningful to the respondents." From a nation-branding perspective, a high elaboration approach may be more beneficial, as it can provide deeper and more nuanced information about the positioning of the country and the centrality of different country associations in activating positive thoughts.

In this paper, we try to redress the balance of the country image research approach toward the high-elaboration end and fill in the gaps left by the dominating medium- and low-elaboration image research. The high-elaboration approach to country image, associative networks, involves a more holistic view of image and provides more specific information about factors that shape a country's image. To our knowledge, little research exists that explains this method and compares it with the more dominant medium-elaboration methods. While several studies have proposed that brand image should

be examined from an associative network perspective (Pappu and Quester, 2010), only a few researchers (e.g., Henderson et al., 1998; Teichert and Schöntag, 2010) have used it in the field of product brands, but it has not been used for country or nation brands. This paper aims to demonstrate the use of associative networks in country image assessment and compare it with the other attitudinal country image methods. Furthermore, drawing on advances in psycholinguistics, we propose several new country image attributes beyond the metrics traditionally used in network analysis.

The main contribution of the study is to create awareness of the limitations and the reductionism of the attitudinal approach to the measurement of country image. Second, we propose an alternative high-elaboration measurement system that can accurately, inclusively, and meaningfully appraise the cloudiness and particularities of different countries' images. Finally, drawing on psycholinguistics, we press for new country image attributes, beyond the valence and strength dimensions of the attitudinal approach and the standard metrics of network analysis (e.g., centrality, density), which are more pertinent in the monitoring and design of country brands.

## **2. Background**

### *2.1. Traditional approach: country image as an attitude*

Country image has been defined from a variety of perspectives. Roth and Diamantopoulos' (2009) review of the relevant literature reveals that the country image construct has been conceptualized as perceptions, stereotypes, schemas, and attitudes. They argue that trying to understand country image as a set of perceptions fails to provide information about the extent to which those perceptions are consequential or crystallized by consumers; furthermore, the stereotype and schema conceptualizations of country image are confined to cognitions and fail to appraise the affective dimensions of image. Considering these two arguments, the researchers find support for the notion that when it comes to measurement, it is more appropriate to conceptualize country image as an attitude. It is worth noting here that there is little empirical research to support the contention of crystallization or stability of the attitudes toward a country (as a measure of country image) or their consequentiality for other criterion variables (i.e., size effects). Sears (1986) discusses attitude crystallization and finds it to be more of a

function of individual differences than of stimuli. In the next section, we examine the role of the stimuli on attitude crystallization.

As Bohner and Dickel (2011) acknowledge, attitude has been conceptualized from multiple perspectives. Eagly and Chaiken (2007) propose an umbrella definition that bridges the different perspectives. Accordingly, they define attitude as “a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (p. 582). They add that an attitude involves three features: “tendency, entity (or attitude object), and evaluation” (p. 582). These features involve some difficulties in the measurement of country image as an attitude. First, the tendency to have attitudes and its universality. Ajzen (2001) suggests that people differ in their chronic tendencies to engage in evaluations and, consequently, a new construct (need to evaluate) is proposed to assess these differences. People with a high need to evaluate are more likely to hold attitudes toward various objects than people with a low need to evaluate (Ajzen, 2001). Thus, country image appraisals, from an attitudinal perspective, may be a reflection of individual variation in the need to evaluate rather than real image scores.

The second issue has to do with the entity or the attitude object that is evaluated in country image studies. In this regard, prior research (e.g., Hsieh et al., 2004; Mossberg and Kleppe, 2005; Roth and Diamantopoulos, 2009) has seen the object of attitudes as (1) the products of a country (product image), thus defining country image at the product level (Narayana, 1981; Roth and Romeo, 1992); (2) both the products of the country and the country itself (product-country image), which treats country image and product image as two independent but related aspects (Papadopoulos, 1993); and (3) the country itself (i.e., country image) as a broad construct determined by multiple factors (Martin and Eroglu, 1993). Thus, conceptual clarity is needed with regard to the object of attitudes (the country as a nation or a state or as a group of people and organizations inhabiting that nation or state) and on what is being assessed (the country or its products and industries).

The third issue has to do with the evaluations and the evaluative judgment of a country (expression of attitude). Some authors (e.g., Martin and Eroglu, 1993) constrain country image to cognitive evaluations, whereas others propose that it should incorporate both cognitive and affective evaluations (e.g., Askegaard and Ger, 1997; Verlegh, 2001).

An existing gap in the literature is the instability and the context dependency of evaluations (country image measure). Attitude research suggests that high instability (i.e., low reliability) exists when individuals assess “nonattitudes,” for which an evaluation needs to be formulated on the spot (Converse, 1964). Attitudes that are accessible in memory are more stable and crystallized. Krosnick and Abelson’s (1992) review reveals that strong attitudes are more stable and more resistant to change than weak attitudes. This finding implies that to increase stability, country image studies need to provide evidence of the strength of the attitudes.

One way to address these issues is to adopt a more naturalistic approach and charter the network of associations held in a consumer’s memory about a country. Such an approach overcomes the issues of having no attitudes and variations in the need to evaluate. Furthermore, the attitude object (country) definition is also solved, as consumers provide their understanding of the term “country” and respond accordingly. Finally, because this study uses an approach based on the accessible associations stored in a consumer’s memory, we adopt a more stable appraisal of country image. With the help of the associative network analysis, this study provides the necessary metrics on the salience and centrality of certain associations.

Furthermore, we address the scarcity of studies at the upper end of Poiesz’s (1989) image appraisal continuum and some of the challenges involved in the “image-as-an-attitude” appraisal approach. We examine the disparities and divergences between the two measurement approaches—image as a network of associations and image as an attitude—and advocate for ways of improvement.

## *2.2. The relationship between the two approaches*

Josiassen et al. (2016) identify two approaches to the measurement of the image of a destination: “imagery” (the term they use to refer to associations) and “image” (i.e., attitudes). They postulate that associations are not independent of image measured as attitudes, and thus their model suggests a causal relationship between imagery, measured as associations, and image, measured as attitudes (Josiassen et al., 2016; Kock et al., 2016). Specifically, associations influence attitudes, and both define what they loosely call stereotypes.

To get a better understanding of the nature of the interrelationship, we need to look at the theoretical approaches to the formation of attitudes. Overall, there are three perspectives on attitude formation (Crano and Gardikiotis, 2015): (1) the dispositional or traditional perspective, (2) the constructionist perspective, and (3) the intermediate approach, which combines the other two. The dispositional approach emphasizes the evaluative function of attitudes and conceives of attitudes as stable structures of varying degrees of strength that are stored in memory (Fazio, 2007; Petty and Brinöl, 2009). They can be readily retrieved without further processing when an object is presented (e.g., the name of a country, in our case).

According to the constructionist perspective, attitudes are not stored in memory but are constructed online depending on the context (Schwarz, 2007). Constructionists support the argument that repeated encounters between an individual and a country create strong links between the country and the encountered associations. Consequently, upon the mere mention of a country's name, the associations that have become chronically linked to the country come to mind. The construction of the attitude is based on those chronically accessible associations, and there is no retrieval of stored attitudes.

Thus, the two attitude formation perspectives are distinguished by the postulated nature of the relationship between associations about the country and evaluative judgments. The constructionist perspective supports the view that evaluative judgments are constructed from country associations. Accordingly, country associations are always processed before the individual arrives at an evaluative judgment or an attitude. In contrast, the dispositional perspective suggests that individuals retrieve and use stored attitudes about a country, bypassing the need to process country associations. In the latter perspective, evaluative judgments about a country that underlie attitudes are independent of country associations. At the heart of the constructionist perspective is an interdependence between evaluative judgment and country association judgments.

Finally, the third perspective is an intermediate position that tries to combine both the dispositional and constructivist perspectives (Fishbein and Middlestadt, 1995; Crano and Prislín, 2006; Gawronski et al., 2010). Fishbein and Middlestadt (1995) present evidence that both cognitions (associations) and evaluations form the foundations of attitudes. More recently, Nayakankuppam et al. (2018) have presented evidence that the strength of attitudes moderates the extent to which people rely



on stored associations to construct an attitude. Accordingly, people who, at some point, have formed a strong attitude about a country, retrieve this attitude independently and instead of the country associations they hold. Tourangeau (1992) supports an alternative view, such that people sample from beliefs or associations stored in their memory before they arrive at an attitude. He argues that the associations sampling process is highly sensitive to the context and can explain variations in expressed attitudes. Consequently, he advises researchers to rely more on the stored associations about an object when they measure attitudes, as they are more enduring and stable.

Country image as an attitude and country image as a network of associations are not always independent and competing with each other. Given our review thus far, an unmoderated relationship between country image as associations and country image as attitudes is not guaranteed. It appears that where attitudes about a country are not strongly held, they tend to be unstable over time and in different contexts. In such cases, the constructionist perspective is more applicable (Fazio, 2007), and measures of country image as networks of associations can be useful complements (see Tourangeau 1992).

One issue with the constructivist perspective is that the spontaneous retrieval of country associations when a country's name is presented calls for an evaluation of the retrieved associations. For example, if the presentation of the cue "Italy" leads to elicitation of the association of Italy with sunny weather, one still needs to assess if sunny weather is good or bad. If no attitude toward sunny weather is stored in memory, then associations with sunny weather (e.g., the sun reduces seasonal disorder syndrome, the sun increases the risk of skin cancer) would need to be retrieved to form an evaluative judgment. The present study addresses this issue by examining the network and psycholinguistic properties of associations. Such an approach can provide answers to the association sampling challenge posed by Tourangeau (1992).

### *2.3. Desirable attributes of country image*

A key practical application of the country image measure is on the branding of countries. Country branding has become a thriving business for consultants and an academic preoccupation (Dinnie, 2015). Viewing a country as a brand means that country associations should possess the following three attributes identified by Keller (1993): favorability, strength, and uniqueness. In other words, a strong

country image should have favorable, strong (easily accessible), and unique (not shared by other countries) associations. An associative network approach is more appropriate (than the country-image-as-an-attitude approach) for ensuring that the three desirable attributes are fulfilled.

The list of the desirable attributes of brand associations can be further extended by recent advances in psycholinguistics and word association research. This body of research (e.g., Altarriba et al., 1999; Bird et al., 2001; Gilhooly and Logie, 1980) suggests that understanding country image from an association perspective can also be characterized by the following attributes: concreteness, imagery (or imageability), semantic richness (semantic neighbors and number of senses), and emotionality (defined by the norms of valence, arousal, and dominance). The inclusion of such attributes can help better characterize country image and its correlates and consequences. Concreteness is defined as the “directness of reference to sense experience” and imagery as the “word’s capacity to arouse nonverbal images” (Paivio et al., 1968, p.1); thus, a word is given a high concreteness rating if it “refers to objects, materials, or persons”; a low concreteness rating (or high abstractness rating) if it “refers to an abstract concept that cannot be experienced by the senses”; a high imagery rating if it evokes “a mental image (i.e., a mental picture, or sound, or other sensory experience) very quickly and easily”; and a low imagery rating if the word evokes “a mental image with difficulty or not at all” (Paivio et al., 1968, pp. 4-5). According to Paivio’s dual coding theory (Paivio, 1971; 2013), it is easier to remember concrete words than abstract words because they activate both verbal codes and imaginal codes. Furthermore, concrete words are easier to understand (Schwanenflugel et al., 1988). Semantic richness—the amount of information associated with a word’s meaning (Pexman et al., 2008)—has an impact on word recognition (Yap et al., 2011). Measures of semantic richness include the number of semantic neighbors for each word within a specific window (Pexman et al., 2008) and the number of senses, which is an indication of the ambiguity of a word (Yap et al., 2011). Finally, Bradley and Lang (1999) and Warriner et al. (2013), following Osgood et al.’s (1957) theory of emotions, distinguish and measure three components of emotions: valence (the pleasantness evoked by the word), arousal (the intensity of emotion created by the word), and dominance/power (whether the word evokes something that is weak or strong).

This study examines the aforementioned attributes in the context of the country-image-as-associations perspective. We also examine how well the country-image-as-an-attitude approach, as reviewed earlier, can capture such image attributes that emerge from the perspective we advocate here. If these attributes are captured by the country-image-as-an-attitude perspective, this will suggest that the country-image-as-associations approach is redundant.

#### *2.4. Country image as a network of associations*

The associative network theory considers memory a network of interconnected nodes (Anderson, 1983; Collins and Loftus, 1975). Applying that theory to our area of study and following Verlegh's (2001, p. 25) definition of country image—"a mental network of affective and cognitive associations connected to the country"—we can describe country image as a network of nodes linked together in consumers' memory networks with regard to a specific country. The retrieval of the informational nodes of the interconnected network occurs through spreading activation: one set of nodes can induce thinking about other nodes (Anderson, 1983). The likelihood of spreading activation is determined by the strength of the link between the two nodes in a consumer's mind (De Groot, 1989; Herr et al., 1996; Keller, 1993): the stronger the linkage, the greater is the likelihood of image transfer. Thus, the spreading activation process affects retrieval in the network: The higher the level of activation, the greater is the probability of recall (Anderson, 1983). The notion of accessibility is linked to the concept of automatic activation from memory of one node upon activation of the other node (Fazio and Williams, 1986; Fazio, 1995) and the concept of association strength, the latter being a key determinant of information accessibility of one of the nodes from memory when an individual encounters the other node (Fazio, 1986, 1995; Fazio et al., 1983; Keller, 1993).

#### *2.5. Identifying country associations*

Various methods can be used to identify associations and develop associative networks, such as surveys, interviews, observations, experiments, documentary sources, and ethnographic investigations (Scott, 2000; Wasserman and Faust, 1994). Both quantitative and qualitative methods are possible for eliciting country associations.

Qualitative instruments for eliciting associations range from unstructured techniques, such as free elicitation and free recall, which are commonly used in cognitive research (Olson and Muderrisoglu, 1977), to instruments in which the response format is more structured, such as the Kelly Repertory Grid (Kelly, 1955), laddering (Reynolds and Gutman, 1988), and the Zaltman Metaphor Elicitation Technique (Zaltman and Coulter, 1995). Considering Poiesz's (1989) classification of image, these qualitative research methods are used when the degree of elaboration is high, as is the case in the current study.

The free association (Krishnan, 1996), free response (Boivin, 1986), and free elicitation terms are used interchangeably to refer to the technique used to reveal an individual's cognitive structure: the content and structure of knowledge located in the minds of individuals (Olson and Muderrisoglu, 1977). They use cue phrases as a probe, such as "Tell me what comes to mind when I say..." (Olson and Muderrisoglu, 1977) and "What comes to your mind when you think about..." (John et al., 2006). The spreading activation theory (Collins and Loftus, 1975) provides the theoretical framework for free elicitation. Once the individual is exposed to a cue, the cognitive structure of that stimulus is activated and then that activation spreads to other concepts linked with the initial stimulus (Kanwar et al., 1981).

Initially developed as a tool for the elicitation of personal constructs, the Kelly Repertory Grid (Kelly, 1955) has been applied in branding for data elicitation purposes. Respondents are asked to compare groups of three brands and state how two brands are alike and different from the third (Sampson, 1972). The reasons participants provide to justify why they are different constitute the dimensions used to evaluate all brands (Henderson et al., 1998).

Laddering, which follows the means-end theory, uses in-depth personal interviews (Reynolds and Gutman, 1988) to explore brand image. Each brand attribute (the means) is linked with a number of consequences and values by asking respondents repeatedly "why is this important to you?"—resulting in a chain of meanings (Van Riel et al., 1998), a ladder of linkages between attributes, consequences, and values.

The Zaltman Metaphor Elicitation Technique involves conducting personal interviews that include several steps to understand participants' images of brands, products, or companies (Zaltman

and Coulter, 1995). Potential steps include, among others, storytelling, sorting tasks, construct elicitation, sensory metaphors, mental maps, and summary collages, thus including an elicitation stage and a mapping stage. The stimuli used in the different steps are the pictures collected by consumers before their participation in the interview. John et al. (2006) went a step further to develop the Brand Concept Maps methodology, which includes not only an elicitation stage and a mapping stage but also aggregation procedures.

This study adopts the free response technique, as it is easy to develop the list of questions, flexible, easy to administer (Boivin, 1986), and applicable to consumers with different levels of familiarity with the topic of assessment. In a comparative study, Steenkamp and Van Trijp (1997) conclude that the free elicitation procedure performs better than alternative elicitation techniques. Furthermore, we use standardized procedures (social network analysis) to develop the individual maps of associations and the aggregated map.

#### *2.6. Measures in the country-image-as-an-attitude perspective*

The measurement of country image within the country-of-origin (COO) research has been dominated by the medium-elaboration, or attitudinal, approach, which is based on rating scales (for a review of operationalizations of the country image construct, see Roth and Diamantopoulos, 2009). Such methods fail to distinguish between core/salient/relevant/primary associations and secondary associations; they do not capture connections among associations and the relative importance of the connections (Teichert and Schöntag, 2010), which associations are directly or indirectly linked to the country and the strength of the link (Brandt et al., 2011; John et al., 2006), subgroups of associations, and the flow of thoughts from the source associations to the adjacent nodes (Teichert and Schöntag, 2010). The established scales consist of a predefined list of general, common items, which require respondents to rate each attribute; they do not elicit the broad range of country associations. The items included in such forced-choice scales organize the information elicited from respondents (Joiner, 1998; Steenkamp et al., 1994) and do not allow consumers to freely describe in their own words their perceptions of the country. Therefore, employing a more open-ended, unstructured method to uncover country associations—that is, high-elaboration approaches, such as associative networks—allows

researchers to overcome the limitations of the attitudinal medium-elaboration methods. Such an approach provides better access to consumers' knowledge structures regarding the country (Joiner, 1998) and explores the richness of the consumer's mind (Teichert and Schöntag, 2010), reveals an understanding of country associations (Henderson et al., 1998), identifies new country image dimensions, obtains detailed data, gathers holistic impressions, and captures the distinctive and unique characteristics that distinguish a given country from others.

### *2.7. Metrics in the country-image-as-a-network-of-associations perspective*

The extant marketing literature contains a limited number of studies that have used network analysis to investigate relational aspects, the interdependencies of a set of entities called actors or nodes (e.g., individuals, companies, consumer perceptions, places). For example, in the branding literature Iacobucci et al. (1996) apply this technique to the analysis of brand switching data, Henderson et al. (1998, 2002) represent brand perceptions as associative networks, and Teichert and Schöntag (2010) and Wang and Horng (2016) use associative network analysis to explore consumer knowledge structures and gain deeper insights into brand images/associations.

Applying the network analysis perspective to country image, the strength of a link between two nodes can be represented by the number of times the two nodes are mentioned together (Henderson et al., 1998). The strength of a brand node in memory, known as "brand awareness" (Keller, 1993) or "salience" (Teichert and Schöntag, 2010), determines the level of activation that it can send into the network, so "more activation will accumulate in those parts of the network that have stronger units" (Anderson, 1983, p. 266). Node strength is influenced by the frequency of exposure (Anderson, 1983), as it affects the frequency of activation of the node and, thus, the likelihood of retrieving it from memory (Higgins and King, 1981). From a network analysis perspective, the strength of a node/association can be represented by the number of times an association is mentioned (Teichert and Schöntag, 2010). The relative importance of a node is based on its location within the network relative to other nodes (Henderson et al., 1998), the influential and prominent nodes being those that have direct links with many others in the network (degree centrality), are connected to other well-connected nodes

(eigenvector centrality), are close to all other nodes (closeness centrality), and frequently sit on the shortest path between two other nodes (betweenness centrality) (Bonacich, 1972; Freeman, 1979; Wasserman and Faust, 1994). A node with many direct links to other facets of the brand image is more quickly activated when another node in the network is stimulated (Teichert and Schöntag, 2010).

The total number of country nodes/associations in the associative network indicates its richness and complexity (Krishnan, 1996). The greater the number of associations, the greater is the accessibility of the brand image from memory (Teichert and Schöntag, 2010). In addition, the proportion of the actual links in a network compared with the possible links indicates its density and the cohesion of the network (Wasserman and Faust, 1994). Another notion of cohesion and the size of a network is the average geodesic distance, with a small geodesic distance suggesting the possibility that the speed of activation of the entire network may be quick (Hanneman and Riddle, 2005; Teichert and Schöntag, 2010).

### **3. Objectives**

To address some of the limitations of the country-image-as-an-attitude approach, the present study uses a more naturalistic setting, where consumers' country perceptions emerge spontaneously. This study aims to demonstrate how the associative networks applied to a country can be used to inform the image of a country or a place and to pinpoint the pivotal elements behind the attitudinal assessments used in medium-elaboration approaches of country image. This study provides a categorization of the associative components that can be used to improve standard attitudinal assessments of country image in a complementary or a standalone manner, providing specific and actionable information that can be used in the design and promotion of a country's brand.

### **4. Research method**

We used the human associative memory methodology (Anderson and Bower, 1973) to investigate country associations. We used a free-recall task with a random sample of British consumers. Participants were instructed to recall as many things as they could that came to mind about a country. Spain was the target country. Spain, due to its proximity to Britain, its popularity as a tourist destination,

and its successes in popular sports, is moderately familiar to British consumers. In addition, Spain has a rich heritage, history, and culture that allows for the elicitation of multiple and heterogeneous associations. Spain's image versatility makes it an exemplary case for the purposes of this study. After the free-recall session and a small distractive break, respondents completed a structured survey on the attitudinal measures of the country.

#### *4.1. Data collection*

The study took place in the United Kingdom and was addressed to British citizens. After identifying the nationality of respondents and their eligibility to participate in the study (we included only British participants of non-Spanish origin) through a screening question, we used the free elicitation procedure. Olson and Muderrisoglu (1979) recommend free elicitation, and it is considered superior to alternative elicitation methods (Steenkamp and Van Trijp, 1997). The method is based on the spreading activation theory (Collins and Loftus, 1975), and a cue ("What comes to your mind when you think of Spain?") is used to activate a memory structure. The initiated activation then spreads from the country to other nodes linked with the initial stimulus (Kanwar et al., 1981). Participants were asked several open-ended questions regarding general, positive, and negative associations with the country. Specifically, they were asked to mention all the associations that come to their mind when they think of Spain, to describe what is positive about Spain, to explain what they like and dislike about Spain, and so forth. Furthermore, the free-recall task helped identify the accessibility of the Spanish brands compared with other accessible information and the thoughts stored in people's minds about Spain.

The unstructured free-recall task was followed by a structured evaluation using attitudinal scales. To avoid contamination, we separated the two data collection processes by a distraction task (respondents had to read a small newspaper article about recent budget cuts in the United Kingdom and express their views on a three-item Likert scale). The questionnaire measured the cognitive and affective components of country image (i.e., economic, political, and technological beliefs; positive and negative affect toward the country). The final section of the questionnaire included demographic questions (gender, age, and education level).



To get an idea of the easiness of recall (e.g., the accessibility of associations), we calculated response latencies in milliseconds. Response latencies ranged from 106.94 milliseconds to 48,549.06 milliseconds (i.e., 0.0018 minutes to 0.81 minutes).

#### 4.2. *Sample*

We selected a screened sample of 300 British participants (of non-Spanish origin) aged 18 years and older from London or Greater London, using a multistage area sampling technique; we divided the population into postal code areas and postal code districts. The sampling involved two steps. In the first stage, we chose a random sample of postal code districts by using probability proportionate to size sampling; in the second stage, we used systematic sampling to sample residential households within each postal code district. After selecting a household in the sample, we interviewed the first eligible and available participant in the household face-to-face in his or her home. Of the 715 households contacted, 300 agreed to participate in the free-recall task. The response rate was 42%. We deemed the response rate satisfactory and in line with that reported in marketing studies, especially given the requirements on respondents.

#### 4.3. *Measurement*

##### 4.3.1. *Measures*

*Country image as an attitude.* We drew the attitudinal evaluation measures for the country-image-as-an-attitude perspective from prior studies. We measured country image using two attitudinal components: cognitive and affective. We evaluated the cognitive component of country image with a 14-item, seven-point semantic differential scale developed by Martin and Eroglu (1993). The scale identifies three dimensions of country image: economic, political, and technological. We measured the affective component of the country image using the PANAS scale from Watson et al. (1988). The PANAS scale includes two sets of 10 items (positive affect and negative affect), which we measured in this study using a seven-point rating scale.

*Country familiarity.* We measured country familiarity using two items on a 7-point semantic differential scale (1 = “not at all familiar” to 7 = “extremely familiar with the country”; 1 = “not at all knowledgeable” to 7 = “extremely knowledgeable about the country”).

*Imageability and concreteness of country image associations.* We used the MRC Psycholinguistic Database ratings (Coltheart, 1981) to measure the imageability and concreteness of the words mentioned during the free-recall task. The values of imageability and concreteness in the MRC database range from 100 to 700. If respondents mentioned more than one association, we used the mean of the associations’ imageabilities and concreteness, respectively, to obtain the values at the individual level.

*Semantic richness of country image.* We used degree centrality (Wasserman and Faust, 1994) to operationalize the number of semantic neighbors (semantic richness) for each word in the consensus map. For comparability purposes and to consider the size of the network, we report normalized degree scores.

*Country image ambiguity.* We measured lexical ambiguity as a word’s log-transformed number of senses in the WordNet database (Miller, 1990). We then estimated word ambiguity at the individual level by calculating the mean of the words’ log-transformed number of senses for each participant.

*Country image affectivity.* We measured the three components of emotions (valence, arousal, and dominance) at the word level using Warriner et al.’s (2013) database, which is based on subjective ratings using a 1–9 scale. Because we obtained data at the word level, when the respondent mentioned more than one word, we calculated the average of the valence, arousal, and dominance, respectively, of the words mentioned by each participant.

#### 4.3.2. *Model validation (country-image-as-an-attitude perspective)*

We validated our multi-item attitudinal measures of country image and country familiarity with confirmatory factor analysis using MPlus8 (Muthén and Muthén, 1998-2017). Multivariate nonnormality was corrected through the scaled Satorra–Bentler procedure (Satorra and Bentler, 1988, 1994) that we employed to estimate maximum likelihood parameters. We examined three measures of

convergent validity: factor loadings, average variance extracted (AVE), and reliability. We assessed the discriminant validity of the measures used with Fornell and Larcker's (1981) test (involving the AVE estimates). The discriminant validity assessment of the cognitive evaluations of country image indicated that the economic dimension and technological dimension are indistinguishable and form a broader one-dimensional construct. The purified measures display solid Cronbach's alpha reliability (eco-technological beliefs:  $\alpha = .717$ ; political beliefs:  $\alpha = .722$ ; positive affect:  $\alpha = .926$ ; negative affect:  $\alpha = .832$ ; country familiarity:  $\alpha = .885$ ). The purified complete measurement model showed a good fit ( $\chi^2 = 158.544$ , d.f. = 109,  $p = .001$ ; comparative fit index = .977; Tucker–Lewis fit index = .971; root mean square error of approximation = .039; and standardized root mean square residual = .037), following the cutoff values advised by Hu and Bentler (1999).

#### 4.4. Data analysis

To reduce the large number of associations and reach objectivity and reliability, two coders and thesaurus dictionaries were involved in the categorization process. This resulted in an intercoder agreement of  $k = 71\%$  (Cohen, 1960). A total of 457 general country associations (hereinafter, GCAs) were elicited (1304 total mentions) and grouped into 78 categories, 311 positive country associations (hereinafter, PCAs) were elicited (965 total mentions) and grouped into 57 categories, and 112 negative country associations (hereinafter, NCAs) were elicited (161 total mentions) and grouped into 23 categories. We adopted a proximal/proximity approach to analyze word co-occurrence within each of the three sections—in other words, a relationship between two concepts exists if they occur within a specific window (Carley, 1993; Danowski, 1982). In this study, we conducted the analysis at the sentence level using WORDij 3.0 software (Danowski, 2013). Thus, following Teichert and Schöntag (2010), we assume that two words/concepts mentioned within the same sentence are linked in the consumer's mind. We generated three symmetric adjacency matrices containing valued data, one for each of the three associative networks: general associations, positive associations, and negative associations. We imported the WORDij output files into UCINET (Borgatti et al., 2002) and NetDraw (Borgatti, 2002) for network analysis and visualization purposes, respectively. We conducted network

analysis in this study at two different levels (Wasserman and Faust, 1994; Scott, 2000; Hanneman and Riddle, 2005; Teichert and Schöntag, 2010):

1. *Node-level analysis*: node strength (proportion of the number of mentions compared with the number of all possible mentions), average tie strength (strength of the relation between two nodes; i.e., the number of times the two concepts are mentioned together), and centrality measures. Centrality reflects a node's position in a network (Borgatti et al., 2013)—that is, how individual pieces of information (e.g., brands) are positioned within the network of information recalled about Spain. When consumers are instructed to focus on a single entity (Spain), centrality measures can help identify the features of the country that are the most pivotal to the attitudinal evaluations of the country (Henderson et al., 1998). Thus, centrality offers insights into the salience of pieces of information and how influential they are compared with other available (recalled) information for a country. With the help of UCINET software, we estimated the following centrality measures: degree centrality, eigenvector centrality, closeness centrality, and betweenness centrality. Degree centrality refers to the number of nodes (pieces of recalled information) with which a specific node (i.e., a brand) is directly linked (Freeman, 1979), eigenvector centrality considers the centrality of all the other nodes that are adjacent to a specific node (Bonacich, 1972), closeness centrality is the sum of geodesic distances (the length of the shortest path between two nodes) from a node to all other nodes in the network (Freeman, 1979), and betweenness centrality measures how often a node is between two other nodes (Freeman, 1979). In layman's terms, the more central a brand is in the mind of a person's network, the more influential it will be on the attitudinal evaluations of the country.

2. *Network-level analysis*: number of nodes, average node strength, average degree, average tie strength, average geodesic distance (average minimum distance between nodes), standard deviation distance, density (proportion of all possible ties that are present in a network), and diameter (how far apart the farthest two nodes are).

Given that some measures, such as closeness centrality, require binary data, we dichotomized valued data, selecting a cutoff value of 1. Furthermore, the definition and measurement of degree and density adopted in this study are those for binary data. Closeness centrality requires a fully connected

network, and thus we removed the isolates (nodes that are not connected to any other) from the network of NCAs to calculate it.

The network analysis was followed by linear regression to compare the associative network approach with the rating scales approach.

#### 4.4.1. Reliability and validity analyses of the consensus maps

*Split-half reliability.* To assess the reliability of the obtained consensus map, we randomly split participants into two groups, produced an aggregated matrix for each group, and then computed the quadratic assignment procedure correlation coefficient. The results show acceptable levels of reliability: general associations ( $r = .80, p = .00; N = 78$ ), positive associations ( $r = .72, p = .00; N = 57$ ), negative associations ( $r = -.87, p = .99; N = 23$ ).

*Nomological validity.* To assess nomological validity, we divided respondents into high familiar and low familiar consumers and then compared their respective consensus maps. We expect knowledgeable respondents to have more complex knowledge structures of the country and thus more country associations and more links between associations than low familiar respondents (John et al., 2006). A *t*-test reveals the significant differences between the two groups (low familiar vs. high familiar):

- *GCA*s: Number of associations ( $M_{LF} = 3.363, SD = 1.748; M_{HF} = 4.410, SD = 1.601; t = -3.209, p < .01$ ); number of links ( $M_{LF} = 5.484, SD = 6.319; M_{HF} = 8.769, SD = 6.975; t = -2.633, p < .05$ ).
- *PCA*s: Number of associations ( $M_{LF} = 2.132, SD = 1.477; M_{HF} = 4.231, SD = 1.912; t = -6.775, p < .001$ ); number of links ( $M_{LF} = 2.286, SD = 3.449; M_{HF} = 8.615, SD = 7.843; t = -4.844, p < .001$ ).

## 5. Results

### 5.1. Node-level analysis: *GCA*s, *PCA*s, and *NCA*s

When exploring the content of respondents' mental structures regarding Spain, tourism-related associations were elicited by most respondents. Thus, tourism-related nodes, such as sun, beaches, and

holidays, play a key role in shaping the image that British people have of Spain. When asked to name what is positive about Spain and what they like about Spain, the strongest and most salient favorable association evoked by consumers was the weather/climate. The conclusion that can be drawn from Table 1 is that a considerable percentage of participants did not mention any unfavorable associations association with Spain.

Table 1 shows the top 10 GCAs, the top 10 PCAs, and the top 10 NCAs, respectively. Based on node strength, the first two networks, GCA and PCA, share more similarities between them, in terms of specific associations (six associations among the top 10) and activation likelihood, than between either GCA or PCA and NCA. The third network (NCA) is mainly composed of low-salience unique associations.

(Insert Table 1 about here)

A large percentage of the general nodes and the positive nodes are directly connected to many other nodes in their respective networks; thus, they are more quickly activated when another node in the network is activated. In contrast, the negative nodes are isolated (e.g., driving style, Franco) or relatively isolated. Considering the average tie strength, the likelihood of activation of the sun and holidays nodes is higher in the GCA network than in the PCA network. In addition to the low quantity of connections, the quality of the connections in the NCA network is poor as the nodes are very weakly connected. The consideration of the direct and indirect connections, as shown by the eigenvector centrality, indicates a similar pattern of the likelihood of activation of the nodes. The only main change is that of the negative food association; although it is ranked fourth on node strength and degree centrality and fifth on average tie strength, it is not connected to other nodes that are very likely to be activated (11th on eigenvector). Finally, Table 1 shows that sun and food (GCA), weather/climate and food (PCA), and bullfighting and tourism (NCA) are the nodes that are most closely connected to their entire set of nodes, thus indicating the speed of spreading activation.

The scree plot for semantic richness (see Fig. 1) shows that after the civil war association, the curve inflects. Therefore, the richest associations semantically are, among others, sun/weather, brands, food, holidays, football, beaches, Barcelona, Madrid, bullfighting, Spanish language, sea, wine, architecture, artists, and Andalucía.

(Insert Fig. 1 about here)

### *5.2. Node-level analysis: country brands*

In the previous section, the country brands mentioned by respondents as GCAs were grouped into one category (brand). To analyze the level of representation of a country's brands in the retrieved information, we included all the different country brands as separate categories in the GCAs and ran the network analysis again.

Following the procedures used in the availability heuristic studies (Manis et al., 1993), we operationalized information availability as the proportion of the information related to a country's brands compared with the total easily recalled information about the country. The average proportion of information availability was .106 (10.6%). The standard deviation of the estimated average was .009, and the 95% lower and upper confidence intervals were .088 and .123, respectively. While for some respondents, brands were not part of the information they recalled about Spain, the estimated confidence intervals confirm that easily recalled information about a country will include information about the brands from that country. On average, brands make up 10.6% of the information content people recalled about Spain.

To establish the salience of the elicited brands, it was necessary to measure how central brand information was in people's minds. Table 2 shows centrality scores of both the top five recalled nonbrand information (based on degree centrality) and the brand nodes. The participants in this study identified several brands, which we included in the analysis. The most central and influential brands appear to be Santander, SEAT, Zara, Iberia, Real Madrid C.F., and F.C. Barcelona. The most central pieces of information about Spain are sun, food, holidays, and football. The average degree centrality (normalized scores) of the 30 brands is 16.79%, which is lower than the average degree centrality of all the other pieces of recalled information (28.02%). However, the average degree centrality of the top 10 brands (35.85%) in Table 2 shows that they are at least as influential as or even more influential than the nonbrand information recalled. Thus, some businesses do play an influential role in the image people have stored in their memories about a country.

As Table 2 shows, the brands of some industries (e.g., fashion, automobile, recreation) are more central in people's minds than others. These industries, together with the commonly recalled information (sun, food, holidays, football), should influence the attitudinal evaluations of the country. It confirms to some extent the implicit assumption made in Magnusson et al.'s (2014) study that it is the prototypical brands (and thus the industries they belong to) of a country that influence attitudinal evaluations of the country. In this case, it is the most transnational industries of Spain that are the most central in people's memories. Indeed, the automobile and fashion industries account for 13.6% and 7.9% of Spanish exports, respectively. Spanish football's success, including its national team and two of the most valuable football clubs in the world (Real Madrid C.F. and F.C. Barcelona), together with the successful performance of Spanish athletes such Rafael Nadal, Fernando Alonso, and Severiano Ballesteros, make the recreation industry a highly visible sector of the country (and probably prototypical in the Magnusson et al.'s [2014] sense). The high visibility of those brands to the global citizen will likely be one of the pieces of information used to make attitudinal evaluations of the country. Given the salience of these brands in people's minds, we expect them to influence the attitudinal evaluations of the industries they belong to.

(Insert Table 2 about here)

### *5.3. Network-level analysis*

Table 3 shows measures that describe the entire networks. The total number of nodes of each of the networks shows clear differences among the three elements, the GCA network being the richest and the most complex. The NCA network consists of a relatively small number of nodes. Thus, the positive associations play a more important role than the negative associations in shaping the image that British people hold of Spain. This pattern applies to the other network-level measures. Based on the average node strength and the average tie strength, we can conclude that the levels of activation of the overall general network and the overall positive network are quite similar, unlike the overall negative network. The range and variability of the average degrees indicate, once again, significant differences among the



three networks, the nodes in the GCA network being quantitatively better connected. Considering the average geodesic distances and the diameters, the GCA network is activated slightly quicker than the PCA network and significantly quicker than the NCA network. Finally, the network densities confirm that the GCA network is the richest and most complex network (see Fig. 2).

(Insert Table 3 about here)

(Insert Fig. 2 about here)

#### *5.4. Comparison of the associative network approach with the attitudinal approach*

To understand how the associative network approach is related to the medium-elaboration attitudinal approach that we used to assess Spain's image, we performed a multiple regression analysis (see Table 4). The dependent variables are country beliefs (economic-technological beliefs and political beliefs) and country affect (positive affect and negative affect). The independent variables are imageability, concreteness, log-transformed number of senses, valence, arousal, and dominance. An examination of the  $R^2$  values and the corresponding statistical significances shows that the image characteristics explain only 1.4% of the eco-technological beliefs variance ( $p = .659$ ) and 1.9% of the political beliefs variance ( $p = .458$ ). The variance explained in positive affect and negative affect is 3.8% ( $p = .076$ ) and 1.8% ( $p = .488$ ), respectively. Most of the effects are statistically insignificant or relatively weak. Thus, the rating scales used in the country-image-as-an-attitude perspective could not capture other attributes of country image that emerged from the country-image-as-associations perspective examined here.

(Insert Table 4 about here)

## **6. Discussion and Conclusions**

### *6.1. Discussion*

This study tried to shed light on and compare two country image appraisal perspectives: the dominant country-image-as-an-attitude perspective and the country-image-as-associations perspective. The first perspective inherits many of the problems related to the measurement of the attitudes (variation in the tendency to evaluate, definition of the country, nonattitudes, and instability of measures). The advantage of this perspective (which is a standardized measurement that allows comparison) can turn into a

disadvantage by leaving out important aspects of country image and important image metrics (e.g., semantic richness, concreteness of the image).

The present study shows that recent advances in psycholinguistics and social network theory can boost the insights provided by the country-image-as-associations perspective. Henderson et al.'s (1998) and Teichert and Schöntag's (2010) studies, together with social network analysis publications (e.g., Wasserman and Faust, 1994; Scott, 2000; Hanneman and Riddle, 2005), provide the basis for the application of a network analysis approach at the country level.

The illustrative results obtained in this study, which used Spain as an example, show the practical application of the country-image-as-associations appraisal perspective. For example, our results indicate that tourism was the key lever for the image of Spain in Britain, Spain being mainly linked to sun, beaches, summer, and holidays. British consumers saw Spain as a holiday destination. These findings are positive for the tourism industry, which is one of the key sectors of the Spanish economy. Furthermore, the image spread to other sectors of the economy and can be leveraged appropriately to its benefit. This approach can be applied to other countries to identify the particular image drivers that complement standard measures of country image. Real Instituto Elcano (2017), a Spanish private foundation that analyzes the external image of Spain every year, incorporated in its 2016 and 2017 studies the use of the free elicitation technique, in addition to the previously used rating scales, and also identified tourism-related associations as the main determinants of the image British people have of Spain. However, their analysis was limited to the categorization of associations and the estimation of the percentage of respondents who mentioned each category, without evaluating the spreading of associations, centrality of associations, concreteness, imageability, richness, and affectivity.

The rating scales used in the popular country-image-as-an-attitude perspective (for a review of the key measurements of the country image construct, see Lopez et al., 2011; Roth and Diamantopoulos, 2009) focused on several general dimensions that are standardized to any country (e.g., economic environment, political environment, cultural environment, climate, natural landscape, people, products, country affect); thus, they did capture the unique determinants of a specific country's image. The image of Spain has been analyzed in numerous studies that use the country-image-as-an-attitude perspective.

Wang and Lamb (1980) examine the influence of Americans' perceptions of the level of economic development and political environment of a number of European countries on their willingness to buy products made in those countries. They measure economic development using a three-point scale (poor country, neither poor nor rich, rich country) and the political and civil freedom of people using a three-point scale (not a free country, a partly free country, a free country). Regarding Spanish economic development, 18.68% of respondents evaluated it as poor, 63.74% as developing, and finally 17.58% as developed. With regard to the political environment in Spain, 9.89% of respondents rated it as not a free country, 58.61% as a partly free country, and 31.50% as a free country.

Verlegh (2001) analyzes the impact of the COO effects on consumer product evaluations. He conceptualized and measured country image as a multidimensional construct: natural landscape (a lot of unspoiled nature, many forests and natural areas), climate (sunny, warm), competence (hardworking, efficient, meticulous), creativity (creative, imaginative, artistic), positive feelings (positive feelings, pleasant feelings, enthusiastic), and negative feelings (distrustful, irritated, hostile). He measured the image of Germany, Spain, Italy, and the Netherlands.

Roth and Romeo (1992) view country image and product image as two interrelated constructs. They operationalize country image with four dimensions: innovativeness (use of new technology and engineering advances), design (appearance, style, colors, variety), prestige (exclusivity, status, brand name reputation), and workmanship (reliability, durability, craftsmanship, manufacturing quality). They measured all items using a seven-point Likert scale. They collected data in Ireland, Mexico, and the United States. The mean scores (averages of the four-dimension evaluations) for Spain were as follows: Irish respondents, 3.60; Mexican respondents, 4.34; U.S. respondents, 3.63.

Finally, Brijs (2006) distinguish three country image components: a cognitive component (geocultural: language, landscape, and climate; socio-economic: politics, history, and economy), a positive feelings component (enthusiastic, interested, excited, inspired, proud, attentive), and a conative component (buying, business, investing). He measured the images of Spain and Denmark. These country-image-as-an-attitude studies for Spain only capture specific aspects of possible associations of the country. Our results show that many of the attitude objects used did not occur naturally to respondents and may have been subject to the "nonattitude" effect instability explained previously.

Adopting a country-image-as-associations perspective with the help of the new analytics from social network theory allows researchers to capture a broader and richer understanding of a country's image. The findings of our study show that in addition to tourism, other concrete factors that affect the image that British consumers have of Spain and that are not integrated into the main country image scales are, for example, country brands, being a member of the European Union, and Spain's links with Latin America. Many of the items available to measure the image of a country's people are work-oriented items: hardworking, competent, efficient, meticulous, imaginative, artistic, creative, motivated, and well-educated. However, when analyzing the associations linked with Spanish people, there was a work-life balance: family-oriented, laidback way of life, welcoming, warmth, considerate, happy, and so forth.

In this study, we establish that a country's brands may form a part of the country's associative network. Although some people were not able to retrieve any information easily from their memories about a country's brands, on average, approximately 10% of the retrieved information about a country was related to the brands of the country. This further expands the definitional boundaries of the country as an attitude object and helps with more accurate and practically oriented measurement.

The reviewed dispositional and constructionist approaches to attitude formation (Fazio, 2007; Schwarz, 2007) prescribe different roles to country image, as associations and as attitudes depending on contextual factors. A combination of both approaches is theoretically proposed (Crano and Prislin, 2006; Gawronski et al., 2010) to deal with contextual sensitivity and improve stability and validity. Within the context of destination image, Kock et al. (2017) also propose a complementarity in using country image as associations and country image as attitudes. Chaiken's (1980) and Evan's (2008) dual-process model suggests that the two image measurement approaches correspond to two co-existing mental systems. Images as attitudes are theoretically anchored to the intuitive and heuristic mental processing mode, whereas images as associations involve a reflective and systematic processing of image associations. Country image is an umbrella construct that affects judgment on various subsidiary image constructs (e.g., regional, product category, corporate, and brand images), which are closer to the consumer's choice and, as a result, more influential. Each of these subsidiary constructs increases the gamut of contextual factors (e.g., different regions, different product categories, different corporations,

different brands, different buying situations) within which the country image construct will be processed and may be used to make predictions. The increased and fragmented nature of the contextual applications of the country image construct together with the reported (Schwarz, 2007) high context sensitivity of attitudes increase the utility of the country-image-as-associations measure, as it has been found to provide greater stability and be more resistant to contextual influences (Tourangeau, 1992).

The comparison results from this study indicate that the two country image appraisal perspectives are not aligned. The two methods measure different aspects of a country's image. While attitudinal measures are more appropriate to obtain individuals' overall evaluations of a country, compare countries across each of the attributes included as scale items, and capture rational and verbal aspects of a country; a network perspective is recommended to capture the holistic and unique components of a country, uncover rich and meaningful data, access consumers' knowledge structures for the country, and identify country image dimensions. The two approaches can therefore be used as complementary methods. The case for complementarity is supported by Glasman and Albarracín's (2006, p. 815) meta-analytical study, which found that "attitudes predict behavior better when they rely on information relevant to a behavioral decision." Similarly, Dalege et al. (2017) show that when applying a network perspective (in what they call "causal attitude network," or CAN), high connectivity of attitude nodes improves the strength of attitudes. Complementary use of the associative network perspective can address the problem of attitudinal measure stability. Overwhelmingly, evidence (see Lavine, et al., 1998; Holland, 2003; Howe and Krosnick 2017) suggests that the measurement of attitudes is stable only when they are strong. More recently, Nayakankuppam et al. (2018, p. 64) empirically asserted that "once a strong attitude has been formed, it is retrieved independently and instead of attribute information." Because the strength of attitudinal country of origin image (COI) measures is not assessed using either meta-attitudinal or operative indices of strength reviewed by Bassili (2008), their strength cannot be assumed. Thus, when attitudes about a country are not strongly held, they tend to be unstable over time and in different contexts. Following Tourangeau's (1992) arguments, in many circumstances, respondents may be able to retrieve specific associations (about a country) rather than an attitude (toward the country) previously formed and stored in memory. He explains that respondents who are unfamiliar with a country may not have preformed and readily accessible attitudes toward the country.

In other cases, respondents may have developed an attitude toward the country, but it may be inaccessible at the time that the question is asked. Only highly accessible preformed attitudes are activated automatically and can be accurately reported in such measures. Alternatively, respondents may have preformulated attitudes that are ordinarily accessible but may nonetheless retrieve specific associations about the country. Finally, even if respondents do have a preformed attitude about the country and do retrieve it from memory in response to a question, they may still base their answers on more specific associations. It is possible that an attitudinal measure by itself is not informative enough to evaluate a country, at least not accurately.

It appears that familiarity with the country is important to the formation of both attitudes and elicitation of associations. A post hoc correlation analysis indicates that familiarity with the country is not correlated with the cognitive aspects of the COI (eco-technological and political dimensions) and the negative affect dimension (.084,  $p = .362$ ; .049,  $p = .592$ ; and .005,  $p = .957$ , respectively). However, familiarity is positively correlated with the positive affect dimension of the COI (.388,  $p < .001$ ). It appears that people who like a country tend to become more familiar with it (through more frequent visits or more frequent consumption/use of the country's products) without changing their cognitive evaluations of the country. The study identifies differences in the associative networks with familiar consumers who elicited richer associative networks. Familiarity is negatively correlated with imageability (-.171,  $p < .001$ ) and positively correlated with the arousal dimension of country affectivity (.173,  $p < .001$ ) and the semantic richness (.248,  $p < .001$ ) of elicited country associations. Country familiarity was not related to image concreteness (-.023,  $p = .693$ ), the valence and dominance dimensions of image affectivity (-.006,  $p = .920$  and -.032,  $p = .584$ , respectively), and image ambiguity (.034,  $p = .554$ ). People who are familiar with a country hold semantically richer associations than less familiar consumers. The associations held by people who are familiar with the country are less imageable (arouse less imagery about the country) and induce more intense emotions (i.e., arousal dimension of affectivity) compared to unfamiliar with the country people.

Tourangeau (1992) suggests that when an attitude is inaccessible or nonexistent, when it is less relevant than more specific associations or uninformative, respondents may retrieve and base their judgments on specific associations rather than on general attitudes toward the country. On the basis of

our foregoing discussion, it is evident that the association perspective is more appropriate for measuring COI when the conditions favor weaker and inaccessible attitudes toward a country. A review of the literature reveals three categories of conditions that favor one or the other perspective: country stimulus, respondent, and context specific.

*Country stimulus-specific condition.* The level of familiarity with the country underlies the usefulness of attitudinal measures, as the attitudes formed by people unfamiliar with the country can be unstable (Tourangeau, 1992). Attitudes become more accessible when they are repeatedly expressed (Powell and Fazio, 1984). Howe and Krosnick (2017, p. 330) present evidence that attitudes are stronger when the stimulus activates strong (positive or negative) emotions. Thus, for less-known, obscure, and emotionally indifferent countries that are unfamiliar to most consumers and are less frequently encountered by consumers (e.g., tourist destinations or countries whose products are not widely available in international markets), the attitudinal perspective may not be adequate. This refers to less globalized, less exciting, and more obscure countries, as well as countries that receive limited international media attention. In such cases, the association perspective may provide a supporting role to the COI assessment.

*Respondent-specific condition.* Studies have shown that attitudes based on direct experience are more accessible from memory than attitudes based on indirect experience (Fazio and Zanna, 1978; 1981). Howe and Krosnick's (2017, p. 330) review of attitude strength reveals that attitude strength depends on the amount of information the person has about the attitude object (e.g., the higher the volume of knowledge about a country, the stronger is the attitude), the vested interests (the degree to which the country is perceived to be of personal consequence), and the extent to which the respondent attaches priority to his/her attitude toward a country (attitude importance).

In general, more important attitudes are more stable over time. People who care about a country selectively expose themselves to relevant information at the expense of information relevant to unimportant attitudes. Attitude importance can be assessed by directly asking respondents how important to them their attitudes toward a country (COI) are or how much they care about it (Howe and Krosnick, 2017). The importance of an attitude is higher in people who have a greater need to evaluate and people who socially identify with the attitude object (e.g., with the country). Thus, attitudinal COI

measures will be weaker when respondents lack direct experience with the country or its products, have limited knowledge of the country, do not have vested interests in the country, attach little importance to their attitudes toward the country, have a low need to evaluate, and do not socially identify with the country. As we have mentioned, images as attitudes are theoretically anchored to the intuitive and heuristic mental processing mode, whereas images as associations involve reflective and systematic processing of image associations (Kock et al., 2017). This suggests that respondents' thinking styles (Epstein et al., 1998) are also important. Accordingly, the attitudes perspective may be more appropriate for respondents with an intuitive-experiential thinking style, as identified by Epstein et al. (1998). In contrast, the analytical-rational thinking style fits better with the association perspective of COI measurement.

*Context-specific condition.* Tourangeou (1992) suggests that people rely on associations when attitudes are not sufficiently informative to make a judgment. This poses the issue of attitude representations and content validity of general attitudinal measures of COI. Existing attitudinal measures of COI, according to Costa et al. (2016), are developed with technological or utilitarian industrialized products in mind. It explains why in many cases such attitudinal COI measures are not informative for behavioral intentions and evaluations of the products offered by different countries (Roth and Romeo, 1992; Costa et al., 2016). Costa et al.'s (2016) findings suggest that standardized attitudinal COI measures alone may not be sufficiently informative for the divergence of product types originating from different countries. When general standardized attitudinal measures of COI are applied to atypical products or to a mismatched product category (in Roth and Romeo's [1992] sense) to measure contexts, they may have limited diagnostic value. In such cases, the association perspective may be relevant.

Furthermore, the study shows that the country-image-as-associations perspective provides several useful metrics about the quality of a country's image that can be used as an input in nation branding. Keller's (2003) pyramid model emphasizes the need to evaluate the attributes of brand associations. Accordingly, brand associations should be strong, favorable, and unique to have an impact. Network analysis and the development of aggregate consensus maps used in this study help determine the strength (centrality) of the identified country associations. In addition, through comparison of the



aggregate consensus maps of other countries, it is possible to establish how unique the central (strong) and other associations are. The favorability attribute of brand associations prescribed by Keller (2003) is more nuanced and can have several facets. Advances in psycholinguistics and neuroscience offer a more elaborated view of the attributes of associations that have evaluative implications. Specifically, drawing on findings from those disciplines, we identify the following attributes of associations: semantic richness, concreteness, imageability, and affectivity. Empirical evidence from neuroscience shows that these attributes are important for recall, recognition, and comprehension of stimuli information, as well as for affect toward the stimulus, which is the country in our case (Schwanenflugel et al., 1988; Pexman et al., 2007; Pexman et al., 2008; Kounios et al., 2009; Yap et al., 2011; Amsel and Cree, 2013). Recall that recognition and comprehension underlie brand equity development processes (Keller, 1993).

## *6.2. Implications*

Both quantitative meta-analytical evidence (e.g., Peterson and Jolibert, 1995; Verlegh and Steenkamp, 1999; Samiee et al., 2016) and qualitative syntheses of past empirical research (e.g., Pharr, 2005; Magnusson and Westjohn, 2011) converge to demonstrate that COO significantly affects consumers' evaluations and buying intentions. More recently, Herz and Diamantopoulos (2017, p. 63) concluded that the effects are underestimated, as "a brand's COO may indeed influence consumers' brand evaluations and behavioral intentions despite consumers' explicit denial of such influence." However, there seems to be widespread confusion between COO effects and COO image research that requires clarification.

COO effects are based on categorical cognition theory and categorical thinking (e.g., it examines the effects of a country as a categorical variable). Bloemer et al.'s (2009) and Magnusson and Westjohn's (2011) reviews identify three theoretical perspectives of COO effects: COO as a halo effect, COO as a summary construct, and COO as a hybrid approach. In the halo perspective, a COO cue activates stored country associations that are subsequently used (when a COO is presented to a respondent) and influence respondents' attitudes towards a product from that country. In the summary construct perspective, attitudes about the COO (formed gradually or at some point in the past and then

stored in memory) are directly accessible (when a COO cue is presented to the respondent), and they are transferred to a consumer's attitudes toward a product from that country. According to Bloemer et al. (2009), in the hybrid approach both country associations and direct country attitude stored in memory interact with each other (when a country cue is presented) and influence one's final attitude toward a product from that country. Evidence suggests (see Magnusson and Westjohn, 2011) that COO as a summary construct (i.e., direct attitude transfer) occurs when consumers have developed strong and easily accessible attitudes (country image) about the country. Thus, standardized attitudinal country image measures are pertinent only in that situation but are less pertinent in the other two cases (the halo effect and the hybrid perspective), where country associations play an important role in the evaluation of products and purchase intentions.

Despite our elucidations and these theoretical stipulations, most existing research uncritically uses the country-image-as-an-attitude approach to assess country images. There are implications for academic research, agencies measuring and monitoring country images, and consultants and governmental organizations responsible for the building of a country's brand.

First, this study contributes to the literature by illustrating the benefits of a high-elaboration approach to country image, namely, the country-image-as-a-network-of-associations perspective. The espoused approach has been underresearched, and our results show that it provides an advantageous measurement. The approach provides a holistic view of country image by exposing important consumers' image aspects that are not included in standardized attitude scales. Attitude-based survey measures of country image are subject to inaccurate completion of the questionnaires from respondents who are unfamiliar with the assessed country. Fazio et al.'s (1984, p. 230) findings highlight the inaccurate measures of attitudes towards a country when such attitudes do not exist or are not developed. They conclude (p. 230) that "after exposure to novel objects, individuals do not necessarily reflect upon and develop an attitude toward those objects. Instead, such processes occur only if individuals (1) are directly questioned about their feelings toward the attitude objects and/or (2) perceive some situational cue that implies that it may be functional in the future to know one's attitude toward the objects in question." Essentially, their findings suggest that individuals do not necessarily develop an attitude toward a novel country when they are asked to assess it in a survey. In such cases, country image

assessment is driven by situational cues rather than established, unwavering beliefs about the country. Measures taken from such respondents are inaccurate and unstable (subject to situational cues present at the time of measurement). Standardized country image measures fail to address the mechanisms underlying the participants' responses to survey questions (when attitudes do not exist or are not formed).

The present study provides a complement to these flaws by uncovering whether measured attitudes through surveys are firmly based on country associations. From a practical perspective, because the value of an inaccurate measure of country image is limited, the proposed approach can diagnose such inaccuracies and provide guidance on improving it. Our study reveals that respondents who are familiar with a country hold richer country associations than unfamiliar respondents. However, there are implications for both groups of respondents, as richer associations (those of familiar respondents) do not necessarily mean favorable or stronger attitudes towards the country. It implies, however, that attitudes rooted in a rich network of associations tend to be more stable. Two individuals may hold identical attitudes toward a country, but they may base them on different associations that require different influence strategies from a marketing perspective. Country attitudes reported by respondents who are unfamiliar with the country are less reliable than country associations. In such cases, standardized country image measure should be cautiously used.

In addition, the study helps uncover the key levers that determine country image, their centrality, and their impact on other associations. Furthermore, the country-image-as-a-network-of-associations approach provides the means to identify where the uniqueness of a country image lies and how it can be reinforced. Useful attribute-related metrics, such semantic richness, concreteness, imageability, and affectivity of a country's image can be calculated and compared with those of other countries to determine relative strength in the world and areas that need improvement.

This study shows that the country-image-as-a-network-of-associations perspective can be used as a complementary approach to standard rating scales, allowing researchers to develop customized measures to suit each country. This approach is theoretically aligned with the view of the country as a brand (Kotler et al., 1993; Kotler and Gertner, 2002) and Keller's (2003) pyramid model of brand image. In the pyramid model, along with attitudes, associations are an integral part of a brand's equity. Recent

models on nation/country brand image (e.g., Handayani and Rashid, 2013; Josiassen et al., 2016; Kock et al., 2016) have used Keller's framework and recognized that associations are an integral part of a country's image. As such, aligning image measurement with the theoretical underpinnings of country image should be plausible. Theory provides meaning to the measures used. The pyramid model proposes that for brand associations to have an effect, they need to be accessible, strong, and unique. The associative network approach we discuss in this paper provides measures of how influential and strong country associations are.

In our study, we show the connections among country associations, the flow of associations, the direct and indirect links, the most influential associations, the positive and negative perceptions of the country, and the distinctive characteristics of a specific country, among other things. We use a natural setting approach, such that respondents determined the country associations rather than imposing a list of items that may not be meaningful to them and may not capture their perceptions of the country. Such an approach is free of the criticisms related to research on COO effects regarding the ecological validity of designs that unnaturally ask consumers to evaluate and indicate a preference for hypothetical product–COO combinations (Samiee et al., 2005; Usunier, 2006; Samiee, 2010).

The study also has implications for market research agencies that monitor country image. Associations are important in commercial nonacademic measures of country image. FutureBrand, one of the main agencies that monitors country images, measures country image on the proprietary Hierarchical Decision Model. However, other agencies, such as Anholt-GfK, rely more on attitudinal measures. For example, Anholt-GfK's hexagon model assesses respondents' attitudes on six dimensions: exports, governance, culture, people, tourism, and immigration and investment. Anholt-GfK uses online panels in 20 countries (1,050 respondents in each panel country). Respondents are asked to rate 25 countries on approximately 30 questions for all six dimensions for each nation (in total, each respondent has to answer more than 750 questions). According to Csaba and Stöber's (2011, p.52), criticisms of Anholt-GfK's measure note that "the sheer number of questions that respondents are flooded with makes it unlikely that all of their answers are particularly thoughtful. . . . One would expect a 750+ question-questionnaire to produce 'instantaneous' responses, but it is doubtful whether these are anything but 'snap judgments' that fail to convey any deeply felt and rooted sentiments about countries."

FutureBrand (2014) recognizes the challenges of measuring attitudes toward a country with people who are not familiar with a country. Their survey is constrained to a sample of 2,530 select respondents who are familiar with the countries covered, are interested in traveling abroad, have traveled internationally at least once in the last year, and travel for a mix of business and/or leisure reasons (Futurebrand, 2014). Thus, the research does not reflect the general public perceptions of the country. Respondents to the FutureBrand survey must evaluate 75 countries on 22 items (used to estimate their country brand index) and may be afflicted with the same problems that Csaba and Stöber (2011) identify.

Both agency measurements rely on a limited number of variables and recognize the need to incorporate associations in their ratings. Anholt-GfK complements its survey measures with word associations. Respondents to the Anholt-GfK questionnaires are asked to select, from a predetermined list, words that are most associated with a country (most frequently chosen words). Only frequencies of the chosen associations are calculated. The FutureBrand (2014) methodology uses qualitative data, but the company does not provide any additional information about the type of data and how they are analyzed and incorporated into the country brand index metric. One criticism put forward by Fetscherin (2010, p. 468) about such measures is that “the use of proprietary methodologies with respect to specific questions asked and the aggregation and statistical techniques used ... makes academic and methodological scrutiny difficult.” Both agencies could benefit from using both country image measurement perspectives and a network analysis approach (instead of simple frequency calculations) as well as the new metrics in their country indices (e.g., country image concreteness, imageability, semantic richness, ambiguity, affectivity).

Gaining in-depth knowledge of country associations has a positive impact on the effectiveness of the communications strategies, country equity management, country positioning (should the country reconsider its positioning if there are associations that are inconsistent with the intended positioning?), and the development of alliances (Supphellen, 2000). Country image managers and linked consultancies can benefit from the associative network approach by obtaining a richer understanding of consumers’ memory structures for a country, identifying the strengths and weaknesses of their country, and planning marketing strategies accordingly. They could weaken (strengthen) negative (positive) associations that consumers link with a country (Kock et al., 2016) or even try to change some negative associations.

Using network analysis at the brand level can help managers identify the main brand associations and the driver brands by computing centrality, explore opportunities for cobranding by computing cohesion, avoid cannibalization and analyze the perceived brand parity by computing the intra-network position, investigate the extent of brand confusion and brand dilution by computing the density of the network, and explore brand perceptions to segment consumers by computing structural equivalence (Henderson et al., 1998).

An analysis of country image as a network of associations can be used for country image comparisons and country segmentation. By establishing an intercountry associative network equivalence using the quadratic assignment procedure (Henderson et al., 1998), practitioners can segment countries according to their associative network similarities. Pan and Li's (2011) study showed that an 80/20 rule is in play when assessing country associations: 80% of people shared the prominent associations of a country. This rule allows practitioners to manageably use the handful of prominent associations shared by the majority of people for intercountry comparisons. At the same time, the unique associations of a country that are held by the minority can be examined to increase image differentiation. Pan and Li (2011) show that unique associations are better predictors of people's intentions to visit a country. A practical strength of the proposed measure is the ability to identify associations that are unique to consumer segments and countries. Such associations can be more important in promoting the image of a country and more appealing to consumers than the shared ones held by the majority.

### *6.3. Limitations and further research*

The drawbacks of a flexible method such as free response are the coding of verbalizations (Boivin, 1986), memory decay and recall error (Conway, 2014), difficulty making comparative analyses (networks may vary from one country to another), the level of detail being affected by the participant's verbal and/or writing skills (Echtner and Ritchie, 2003), and the subjectivity of data interpretation (Nunnally, 1978), among other challenges. The generalizability of the results may be limited because we focus on only one country, Spain, and only evaluations of consumers from one country (the United Kingdom) are taken into account. Further research would benefit from replicating this study across different countries and through large-scale surveys with consumers in different international markets.

Elicitation involves the challenges of accessibility to unconscious associations and verbalization of associations; therefore, additional techniques could have been used to elicit hidden, nonverbal, sensory associations (Supphellen, 2000), thus improving the understanding of consumers' knowledge structures. Creating an aggregated map of associations involves performing analysis at the general level; however, the associative network of some individuals may be different from the consensus map (Conway, 2014), and the aggregated network may not show the structural properties of the networks of individuals (Morais et al., 2013).

An additional limitation is that we did not examine the secondary associations of the primary associations to gain a deeper understanding of consumers' memory structures. Furthermore, the use of associations-related metrics identified in this study may be limited by the availability of psycholinguistic resources and databases in languages other than English. While the parallel development of psycholinguistic databases such as the MRC (Coltheart, 1981) can facilitate the calculation of the image properties identified here, researchers of image in other languages can themselves apply the psycholinguistic methodology to a limited set of association words identified to calculate imageability, concreteness, and other properties of country image.

Future research could benefit from classifying country associations into different categories and analyzing the impact of the similarity of associations on the ties, weighting tie strength based on how close to each other the words are within the window, clustering consumers based on the similarity of their associative networks and considering the differences across segments, analyzing the impact of consumer involvement on the richness and complexity of the associative network, evaluating the types of relationships between associations (e.g., causal or correlational), examining the ordering of the elicited associations to determine the salience of the associations, conducting longitudinal research to show the dynamic structure of consumers' networks for a country, and considering valence to weight the value of the concepts.

Future research should examine the effects of country image as associations on behavior and buying intentions. Such evidence, which is not included in the current study, would allow for a comparison of the predictive validity of the two image measurement perspectives. In general, there is limited published research that examines this relationship. Herz and Diamantopoulos (2013) show that

specific types of country associations (emotional associations) could predict brand ownership. More evidence is available from the tourist destination literature. Pan and Li (2011) find that holders of “tail” image associations of China (unique associations not held by the majority of the people) are more likely to visit China. Josiassen et al.’s (2016) calculation of the average regression coefficient of destination image as associations (which they call “imagery”) on the willingness to recommend a destination is .11. The same metric for the recorded effects of image as an association on overall satisfaction with a tourist destination is .31. Although the corresponding effects of destination image as an attitude on willingness to recommend and satisfaction are higher (.36 and .45), the observed variance suggests the existence of unexplored methodological and contextual moderators.

Research on the country image’s behavioral consequences indicates the existence of a number of moderators (e.g., country familiarity, product category, involvement, public/private consumption, social visibility; see Josiassen et al., 2008) and mediators (e.g., product origin image, category origin image, brand image; see Hsieh et al., 2004; Josiassen et al., 2013). Josiassen et al.’s (2016) findings suggest that image as an attitude mediates the effects of image as associations on behavioral outcomes, but they call for researchers to further explore the nature and direction of that relationship. Future research should develop a theoretical framework that charts the nexus of relationships between country image as a network of associations and behavioral outcomes. In addition, the effects of the identified attributes of associations (semantic richness, concreteness, imageability, and affectivity) on appropriate outputs warrant further examination.



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## TABLES

**Table 1**

**Node-level analysis: country associations (top 10 associations based on node strength).**

	Node strength		Degree <sup>a</sup>		Average tie strength		Eigenvector <sup>a</sup>		Closeness <sup>a</sup>	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
General associations										
Sun	50.5	1	96.1	1	6.2	1	64.56	2	96.25	1
Brands	40.13	2	93.51	2	0.29	29	70.92	1	93.9	2
Food	36.78	3	88.31	3	3.69	2	51.31	3	89.54	3
Holidays	33.78	4	79.22	5	2.7	3	41.84	4	82.8	5
Weather/climate	29.1	5	83.12	4	2.68	4	35.06	5	85.56	4
Beaches	22.74	6	70.13	7	1.91	5	32.30	6	77	7
Football	14.04	7	71.43	6	1.56	6	23.86	7	77.78	6
Bullfighting	12.37	8	59.74	11	1.2	8	21.09	8	71.3	11
Barcelona	12.04	9	70.12	8	1.31	7	20.86	9	77	7
Friendliness	9.36	10	63.64	10	0.77	11	16.64	11	73.33	10
Positive associations										
Weather/climate	43.67	1	87.5	1	5.14	1	68.46	1	88.89	1
Food	29	2	85.71	2	4.88	2	67.16	2	87.5	2
People	22	3	75	3	3.48	3	53.68	3	80	3
Friendliness	19.67	4	67.86	4	2.55	4	35.40	5	75.68	4
Beaches	13.33	5	64.23	5	2.11	6	31.84	6	73.68	5
Sun	12.67	6	57.14	8	1.52	7	22.95	7	70	8
Culture	12.33	7	60.71	6	2.18	5	36.34	4	71.8	6
Holidays	11.33	8	60.71	6	1.48	8	22.47	8	71.8	6
Nice/beautiful country	9	9	46.43	10	1.11	11	17.34	11	65.12	10
Relaxing	8.33	10	44.64	13	1.23	10	18.26	10	64.37	11
Negative associations										
Bullfighting	7	1	18.18	2	0.18	3	16.11	5	57.9	1
Britons	5	2	13.64	3	0.36	2	90.83	2	40.74	4
Tourism	3.33	3	27.23	1	0.45	1	91.05	1	57.9	1
Food	3.33	3	9.09	4	0.09	5	0.43	11	33.33	9
Overcrowding	3	5	9.09	4	0.09	5	15.28	6	40.74	4
Weather/climate	3	5	9.09	4	0.09	5	28.93	4	39.29	6
Crime	2.67	7	9.09	4	0.09	5	2.63	9	44	3
Costa del Sol	1.67	8	9.09	4	0.14	4	43.38	3	39.29	6
Driving style	1.33	9	0	10	0	10	0	13	— <sup>b</sup>	
Franco	1.33	9	0	10	0	10	0	13	— <sup>b</sup>	

Notes:

<sup>a</sup> Data are normalized to account for size of network.

<sup>b</sup> Isolates are removed from the network to calculate closeness centrality.

**Table 2****Node-level analysis: country brands centrality**

	Degree rank	Degree <sup>a</sup>	Eigenvector <sup>a</sup>	Closeness <sup>a</sup>	Betweenness <sup>a</sup>
Top nodes					
Sun	1	93.40	65.40	93.81	14.78
Food	2	81.13	58.24	84.13	8.08
Weather	4	74.53	36.73	79.70	6.14
Holidays	5	72.64	48.61	78.52	5.15
Football	6	66.04	26.87	74.65	3.39
Brands					
Santander	3	75.47	38.05	80.30	5.43
Seat	12	52.83	20.25	67.95	2.69
Zara	14	47.17	14.38	65.43	1.45
Iberia	22	33.96	11.75	60.23	0.66
Real Madrid C.F.	22	33.96	11.30	60.23	0.34
F.C. Barcelona	29	31.13	8.85	59.22	0.22
Telefonica	32	29.25	6.50	58.56	0.41
San Miguel	38	27.36	7.02	57.61	0.32
Mango	49	21.70	5.89	56.08	0.14
El Corte Ingles	64	14.15	2.68	53.81	0.02
Massimo Dutti	74	11.32	1.90	52.48	0.03
Orbea	77	10.38	1.40	52.48	0
Cortefiel	79	9.43	1.08	52.48	0
Estrella Damm	79	9.43	1.43	51.96	0
Iberdrola	87	8.49	1.05	51.46	0
Codorniu	91	7.55	0.85	50.96	0
Repsol	91	7.55	0.80	51.71	0
Thyssen Museum	91	7.55	0.85	50.96	0
Vallehermoso	91	7.55	0.80	51.71	0
Vueling	91	7.55	0.96	51.46	0
Cepsa	96	6.60	0.93	51.21	0
Adolfo Dominguez	98	5.66	0.55	50.24	0
Teka	98	5.66	0.70	50.96	0
Don Simon	100	4.72	0.64	49.07	0
Dragados	101	3.77	0.16	44.73	0
Freixenet	101	3.77	0.65	50.00	0
Paradores	101	3.77	0.18	45.11	0
Telemadrid	104	2.83	0.47	48.62	0
Endesa	105	1.89	0.36	48.85	0

Note: <sup>a</sup>Data are normalized for comparability purposes/to account for size of network.

**Table 3****Network-level analysis**

	General associations	Positive associations	Negative associations
Number of nodes	78	57	23
Average node strength	16.7	15.09	5.43
Average degree	25.308	16.11	1.22
Average tie strength	2.33	2.6	1.36
Average geodesic distance	1.67	1.73	2.53
SD distance	0.47	0.48	1.17
Density	33%	29%	6%
Diameter	3	3	5

**Table 4****Regression results**

	Eco-tech beliefs	Political beliefs	Positive affect	Negative affect
	Beta	Beta	Beta	Beta
Imageability of country image	-0.003	-0.190	-0.231*	-0.049
Concreteness of country image	-0.047	0.125	0.059	-0.003
Country image ambiguity	-0.078	-0.033	-0.041	-0.044
Country affectivity: valence	-0.140	0.072	-0.178*	0.139
Country affectivity: arousal	0.075	-0.022	-0.060	-0.041
Country affectivity: dominance	0.047	-0.052	-0.014	-0.057
R <sup>2</sup>	0.014	0.019	0.038	0.018

\*  $p < 0.05$ .

